



**HIV/AIDS
EPIDEMIOLOGY REPORT**

2017

**KING COUNTY &
WASHINGTON STATE**



HIV/AIDS EPIDEMIOLOGY REPORT



Acknowledgements

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HIV/AIDS Reporting Requirements

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

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

Laboratories are required to report evidence of HIV infection (i.e., positive western blot assays, 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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Contents

EXECUTIVE SUMMARY	1
PUBLIC HEALTH - SEATTLE & KING COUNTY HIV/STD PROGRAM HIV GOALS AND EVALUATION METRICS (DASHBOARD)	4
HIV/AIDS DATA IN WASHINGTON STATE	6
Table 1. Linkage to Care and Late HIV Diagnosis among New HIV Diagnoses, by Demographic and Risk Characteristics, 2016	7
Table 2. Linkage to Care and Late HIV Diagnosis among New HIV Diagnoses, by County of Residence at HIV Diagnosis, 2016	8
Table 3. Case Counts and Trends among New HIV Diagnoses, by Demographic and Risk Characteristics, 2011-2016	9
Figure 1. Washington State HIV Diagnoses, AIDS Diagnoses, Deaths, and People Living with Diagnosed HIV/AIDS rates, 2003-2016	10
Table 4. Case Counts and Trends among New HIV Diagnoses, by County of Residence at HIV Diagnosis, 2011-2016	11
Table 5. Engagement in Care and Viral Load Suppression among People Living with Diagnosed HIV Infection, by Demographic and Risk Characteristics, 2016	12
Table 6. Engagement in Care and Viral Load Suppression among People Living with Diagnosed HIV Infection, by County of Residence, 2016	13
Table 7. People Living with Diagnosed HIV Infection, by Current Gender, Race/Ethnicity, and HIV Exposure Category, 2016	14
Figure 2. 2016 Washington State HIV Care Cascade, as of June 30, 2017	15
HIV/AIDS DATA IN KING COUNTY	16
Table 8. People Living with HIV Disease as of December 31, 2016 by Residence Status	17
Table 9. New HIV Cases, 2011-2016	18
Figure 3. King County HIV Diagnoses, AIDS Diagnoses, Deaths, and People Living with Diagnosed HIV Rates, 2003-2016	19
Table 10. AIDS Cases and Cumulative Deaths	20
Table 11. People Living with HIV Disease as of December 31, 2016	21
Table 12. Living HIV Cases by Exposure Category, Sex Assigned at Birth and Race/Ethnicity as of December 31, 2016	22
Table 13. HIV among Men Who Have Sex with Men and All HIV Cases	23
Table 14. HIV among People Who Identify as Transgender and All HIV Cases	24
Table 15. Characteristics and HIV Prevalence among Participants in Seattle-area National HIV Behavioral Surveys, 2014-2016	25
MONITORING THE GOALS OF THE NATIONAL STRATEGY FOR HIV/AIDS AND THE KING COUNTY HIV CARE CASCADE	26

EVALUATION OF PHSKC HIV/STD PROGRAM HIV PREVENTION EFFORTS	37
<hr/>	
HIV Testing and Case Finding	38
Pre-Exposure Prophylaxis (PrEP)	47
Condom Use	56
Needle Exchange Program	59
Seroadaptive Behaviors	63
EVALUATION OF PHSKC HIV/STD PROGRAM EFFORTS TO IMPROVE THE HIV CARE CONTINUUM AND DECREASE MORBIDITY/MORTALITY	67
<hr/>	
Data to Care	68
Enhancing Data to Care with Venue-Based Interventions	72
Antiretroviral Resistance	74
Homelessness and Inadequate Housing	79
Dental Care	81
The MAX Clinic: HIV Care for People with Complex Medical and Social Needs	84
KING COUNTY POPULATIONS OF SPECIAL INTEREST: FACT SHEETS	87
<hr/>	
Men Who Have Sex with Men (MSM)	88
People Who Use Injection Drugs (PWID)	91
People Who Exchange Sex	93
Transgender Population	96
Black and African-American Populations	100
Latino Populations	103
Women	106
LOCAL CLINICAL TRIALS	109
<hr/>	
Anal Health	110
Vesatolimod Study	111
AIDS Malignancy Trials	112
UW AIDS Clinical Trials	113
IN MEMORY OF ROBERT MARKS	119
<hr/>	

Executive Summary

Meeting World Health Organization (WHO) 90-90-90 Objectives

The WHO has established a goal of ensuring that 90% of all persons infected with HIV (PLWH) know of their infection, that 90% of diagnosed persons (PLWdH) are on antiretroviral therapy (ART), and that 90% of those on ART are virally suppressed. If each of these objectives is met, 73% of PLWH and 81% of PLWdH will be suppressed. In Washington State, we estimate 90% of PLWH are diagnosed and 90% of PLWdH are in care and 79% of PLWdH are virally suppressed. In 2015, King County became the first urban county in the US to reach the WHO objective, with an estimated 92% of PLWH diagnosed, and 81% of PLWdH virally suppressed. These estimates were essentially stable in 2016, with 93% of all PLWdH diagnosed and 82% virally suppressed.

Local Goals Informed by the U.S. National HIV/AIDS Strategy (NHAS)

We have embraced the U.S. NHAS goals to: 1) reduce new HIV infections, 2) improve health care access and HIV-related health outcomes, and 3) reduce HIV-related disparities. Key prevention interventions designed to achieve these goals include: HIV testing, ensuring that PLWdH receive medical care and are successfully treated with antiretrovirals (ART), promoting access and use of condoms and pre-exposure prophylaxis (PrEP) in people at high-risk for HIV infection, and supporting syringe exchange.

New Report Design

We have redesigned the 2017 Epidemiology Report to increase our focus on evaluating prevention interventions and our area's success meeting HIV prevention and care objectives. More specifically, our goal is to inform readers about what our community, including local and state health departments, is doing to help prevent HIV, its sequelae, and disparities related to HIV. As a result, this issue has fewer articles summarizing specific projects or surveys. Instead, we have gathered information and data on each theme (such as condom and PrEP use) from across multiple projects to address the monitoring and implementation of prevention efforts. As part of this redesign, we also hope to make the individual components of the report more accessible online, thus each section was written so that it could stand alone outside of the full report. However, we recognize that one downside of this reorganization is that some information is repeated across sections. We welcome any feedback that could help us continue to improve the report.

New Methods for Defining Prevalent and Incident Cases

As of late 2016, Washington State has followed the lead of New York and other jurisdictions in excluding individuals who are lost to follow up from the count of prevalent HIV cases. We have defined individuals with no reported laboratory test results for 10 or more years as lost, thus excluding them from prevalent case counts.

Similarly, to better describe incident cases in King County, we have increased use of supplementary data from partner services and other sources to exclude individuals who report being first diagnosed with HIV in other countries, other states, or more than six months prior to an initial HIV diagnosis in King County.

The Epidemiology of HIV/AIDS in King County and WA State

New HIV Diagnoses

In 2016, 440 persons with HIV infection were diagnosed in WA, including 219 persons (50%) diagnosed in King County. When unconfirmed earlier diagnoses are excluded, there were 382 new HIV infections among WA residents, including 180 (47%) in King County. The number of new HIV diagnoses in King County residents is at its lowest level since 1998. The rate of HIV diagnoses is decreasing overall, including decreased rates among each major HIV risk category. Between 2007 and 2016, the HIV diagnosis rate per 100,000 residents declined from 8 to 6 per 100,000 in WA (25% decline) and from 15 to 9 in King County (40% decline).

HIV Prevalence

At the end of 2016 there were an estimated 6,798 King County residents and 12,395 WA residents with diagnosed HIV infection. Approximately 0.32% of King County residents and 0.17% of WA residents have been diagnosed with HIV. King County is home to 29% of the WA population, but 55% of persons diagnosed with HIV.

Gender

The vast majority of PLWdH in King County and WA are men or were assigned male at birth. In King County, approximately 87% of PLWdH are men, 12% are women, and 1% are transgender persons.

Men Who Have Sex with Men (MSM)

HIV in King County and WA primarily affects MSM. MSM comprise more than three quarters of all PLWdH in King County and more than two-thirds of all PLWdH in WA. In King County we estimate that 11% of MSM have been diagnosed with HIV. Diagnosis rates among MSM declined from 606 to 320 per 100,000 between 2007 and 2016. The rate of new HIV diagnoses has declined steadily among White MSM since 2010 and has remained relatively stable among Black MSM since 2011.

Race

HIV disproportionately affects Black individuals. In WA 4% of residents are Black, but 16% of persons diagnosed with HIV are Black. In King County, these respective estimates are 7% and 19%. The disproportionate impact of HIV on Black persons reflects both an elevated risk of HIV among U.S.-born Blacks and a higher prevalence of HIV among foreign-born Black residents in the state. In King County, 42% of Black individuals with HIV infection are foreign-born (primarily born in sub-Saharan Africa) and 58% are U.S.-born. About 0.7% of U.S.-born Blacks and 1.3% of African-born individuals have been diagnosed with HIV.

Ethnicity

HIV disproportionately affects Hispanic and Latino individuals. In King County, 10% of residents are Hispanic or Latino, but 12% of persons diagnosed with HIV are Hispanic or Latino. In WA, these estimates are both 13%.

Nativity

HIV disproportionately affects persons born outside of the U.S. In King County, approximately 22% of residents were born outside of the U.S., while 38% of newly reported HIV diagnoses and 29% of new diagnoses (excluding unconfirmed diagnoses from out of state or out of country) in 2016 were among foreign-born persons. Among 701 women with no history of injection drug use living with diagnosed HIV in King County, 399 (57%)—including 71% of Black women—occurred in women born outside the U.S.

Age

Most people living with HIV in WA are middle-aged; 63% of people living with diagnosed HIV are age 45 or older. The majority of middle-aged people with HIV acquired and were diagnosed with HIV much earlier in their lives. Between 2012 and 2016, 26% of new HIV diagnoses were among persons age 45 or older.

Injection Drug Use

A small proportion of new HIV diagnoses are among persons who inject drugs (PWID). In King County in 2016, 6% of new HIV diagnoses (11 cases) were among PWID who did not report other HIV exposures, and an additional 7% were among MSM who also reported injection drug use.

HIV remains a relatively rare infection in King County among U.S.-born residents other than MSM and PWID.

The estimated prevalence of diagnosed HIV infection among people outside of these defined exposure groups is 0.03% among Whites and Asians, 0.22% among Blacks, and 0.02% among Hispanics/Latinos.

Snapshots

HIV Transmission Monitoring and Prevention Activities in King County

HIV Testing: The number of MSM, the population most affected by HIV, receiving publicly funded HIV testing in King County continues to increase. Between 2007 and 2016 the number of publicly funded HIV tests among MSM increased from 4,647 to 7,015 (51% increase). A high level of testing among King County residents has resulted in our estimate of a low “undiagnosed fraction”, as we estimate 7% of PLWH have not yet been diagnosed with HIV in our 2016 HIV care continuum.

PrEP Use: Use of PrEP, particularly among MSM at high risk for HIV infection, continues to increase. We estimate that approximately 15% of all MSM are currently using PrEP, including approximately 37% of MSM reporting behaviors that put them at higher risk for HIV.

Safer Sex: Individuals can reduce the risk of HIV transmission by consistent condom use, as well as by making decisions about sexual behavior based on their own and their partners’ PrEP use, HIV status, and viral suppression due to HIV medication use. Most (83%) HIV-uninfected sexually active MSM in King County have used at least one strategy to reduce their risk of HIV acquisition in the past year. For example, in the 2017 Pride survey, 39% of sexually active HIV-negative MSM reported always using condoms and an equal proportion (39%) reported only having sex with other HIV-negative partners.

Harm Reduction for People Who Inject Drugs (PWID): PHSKC and its partners exchanged over 7 million syringes in 2016. Additionally, we have promoted the use of buprenorphine for opioid users with the January 2017 launch of “Bupe Pathways” which has enrolled over 100 individuals in this low barrier treatment program located at the downtown needle exchange.

HIV Care Promotion and Monitoring Activities

HIV Care: Early linkage and retention in HIV care are associated with better health outcomes. In 2016, an

estimated 83% of all people with a new HIV diagnosis in Washington State were linked to HIV care within 1 month of their diagnosis, and the vast majority of all HIV-diagnosed persons remained in care (90%).

Viral Suppression: In 2016, an estimated 82% of people in King County with diagnosed HIV infection were virally suppressed. Among individuals diagnosed with HIV in 2014-2016, half were virally suppressed within four months of diagnosis. This represents an important acceleration in the institution of effective treatment. Among persons diagnosed 2005-2007, 50% viral suppression was not achieved until 2 years following diagnosis - approximately six times longer than at present.

Homelessness: We estimate that 11% of King County residents diagnosed with HIV were homeless in the past year. Homelessness among PLWH is a critical problem in King County, and an important barrier to ensuring that all HIV-infected persons successfully receive life-saving HIV treatment.

HIV/AIDS Mortality: The age and reporting lag adjusted mortality rates among people living with HIV in King County declined 20% between 2007 and 2016, but have been roughly stable for 5 years.

HIV-Related Disparities Monitoring in King County

Addressing disparities in HIV outcomes is a public health priority. The risk of HIV infection in King County is higher among Black and Latino MSM than among White MSM, and among U.S.-born Blacks compared to Whites. That said, rates of new HIV diagnoses have fallen for all major groups of MSM by race/ethnicity over the past 10 years (2007 – 2016): 49% overall, 45% for Blacks, and 43% for Latinos (relative to 57% among Whites). Also, among persons with diagnosed HIV infection, the proportion that are virally suppressed is lower among transgender persons (76%), U.S. born Blacks (76%), and persons who inject drugs (78%) than among all persons with HIV (82%). While racial disparities in new HIV diagnoses and viral suppression persist in King County, there have been some decreases in disparities for some high priority groups. For example, the absolute risk difference for an HIV diagnosis in Black MSM relative to White MSM decreased by 138 diagnoses per 100,000 between 2007 and 2016 and the absolute risk difference decreased by 298 per 100,000 for Latino MSM relative to White MSM.

PHSKC HIV/STD Program HIV Goals and Evaluation Metrics

2017 Dashboard

HIV TESTING, CASE FINDING, AND PREVENTION	2020 GOALS ¹			KING COUNTY DATA, 2014-2016			CURRENT TREND
	NATIONAL	WA STATE	KING Co.	2014 ¹⁴	2015	2016	
New HIV diagnoses, rate HIV testing	↓ 25%	↓ 50%	↓ 25% ¹²	11.0/100,000	10.0/100,000	8.6/100,000	<i>On pace to meet goal</i>
Know HIV status ²	90%	--	95%	92%	92%	93%	<i>On pace to meet goal</i>
Late diagnosis ³	--	--	<20%	24%	23%	24%	<i>Goal not met</i>
Recent HIV test ⁴ MSM	--	--	75%	66%	70%	68%	<i>Goal not met</i>
PrEP use, high-risk MSM ⁵	--	--	50%	9%	26% (2016)	~37% (2017)	<i>On pace to meet goal</i>
Safer sex ⁶ HIV neg. MSM	--	--	85%	78% (2015)	84% (2016)	83% (2017)	<i>On pace to meet goal</i>
HIV CARE, MORBIDITY, AND MORTALITY⁷							
HIV care							
Linked to care ⁸ in 1 mo	85%	--	90%	88%	93%	87%	<i>Goal met¹⁶</i>
Linked to care ⁸ in 3 mo	--	--	95% ¹³	92%	96%	96%	<i>Goal met</i>
In HIV care ⁹	90%	90%	95%	89%	90%	91%	<i>On pace to meet goal</i>
Viral suppression	80%	80%	90%	79%	81%	82%	<i>Goal met¹⁶</i>
Homelessness ¹⁰	<5%	--	<5%	14%	12%	11%	<i>Goal not met</i>
HIV/AIDS mortality ¹¹	↓ 33%	↓ 25%	↓ 33% (0.8/100)	1.2/100	1.2/100	1.1/100 ¹⁵	<i>Goal not met</i>
DISPARITIES: VIRAL SUPPRESSION⁷							
White Non-Hisp PLWDH				81%	84%	83%	
Black Non-Hisp PLWDH				72%	75%	79%	
Hispanic/Latino PLWDH	--	<i>Reduce absolute difference by 50%</i>	<i>No difference between groups</i>	75%	76%	80%	<i>On pace to meet goal</i>
Transgender PLWDH				71%	75%	76%	
People who inject drugs PLWDH				78%	76%	78%	

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

Technical Notes to Dashboard

¹All 2020 goals use 2014 as the baseline;

²Based partly on an estimation method developed by the University of Washington (see Undiagnosed Fraction Estimation section of HIV Testing and Case Finding article);

³AIDS within 1 year of HIV diagnosis (see HIV Testing and Case Finding article in this report);

⁴Among MSM with new HIV diagnoses, last HIV test within prior 2 years (see HIV Testing and Case Finding article);

⁵In King County, “high-risk MSM” are defined as HIV-uninfected MSM with any: methamphetamine/popper use, 10+ sex partners, non-concordant condomless anal sex, bacterial STI diagnosis in the past year. The 2017 estimate of PrEP use among high-risk MSM is an average across multiple contemporaneous surveys including Pride (35%), a WA State internet survey of MSM (37%), STD clinic patients (37%), and preliminary NHBS data (39%);

⁶Defined as sexually active HIV-uninfected MSM who reported any of the following risk reduction strategies: PrEP use, serosorting, seropositioning, only having sex with HIV-negative partners on PrEP, only having sex with HIV-positive partners who were undetectable, consistent condom use with all partners, or used a condom with partners who had a positive or unknown HIV status. Estimate is restricted to sexually active MSM, which includes men who reported ≥ 1 anal sex partner in the past year and excludes men who checked separate boxes indicating either no sex in the past 12 months or “did not have sex” as a risk reduction strategy (Pride data);

⁷Among HIV-infected persons with diagnosed HIV infections (see NHAS article);

⁸Among person with a new HIV diagnosis (see NHAS article);

⁹In King County, defined as 1+ HIV care visit in a calendar year (see NHAS article);

¹⁰From Medical Monitoring Project (MMP), which is an annual cross-sectional survey conducted among people with diagnosed HIV. Facility-based sampling was used in 2014, which resulted in a sample limited to people receiving HIV care. In 2015-16, surveillance-based sampling was used, enhancing the representation of people less engaged in care. “Homelessness” was defined as living on the street, in a car, or in a single-room occupancy hotel in the 12 months preceding the MMP interview. The 2014 estimated prevalence of homelessness was weighted to account for probability of selection and non-response; survey weights have not yet been released for 2015 and 2016 MMP data;

¹¹Age- and lag-adjusted mortality rates per 100 people living with HIV/AIDS (see NHAS article);

¹²The King County 2020 goal for a 25% reduction in the rate of new HIV diagnosis was established prior to End AIDS Washington, which has a goal of a 50% reduction for the same measure. The King County goal was based on data from 2008 to 2014 (19% decline in rate of new HIV diagnoses) and assumes an accelerated rate of decline in new HIV diagnoses with approximately 25% of new HIV cases imported from outside the U.S.;

¹³The original King County goal of 85% was increased to 95% due to early achievement of this objective;

¹⁴Some 2014 estimates differ from previously published estimates due to enhanced methods and data cleaning efforts;

¹⁵2016 mortality data are estimated to be 50% complete;

¹⁶ National/state goal met; local goal not yet met.



HIV/AIDS DATA IN WASHINGTON STATE



Table 1. Linkage to Care and Late HIV Diagnosis among New HIV Diagnoses, by Demographic and Risk Characteristics, WA State, 2016

	NEW HIV DIAGNOSES			LATE HIV DIAGNOSES*		INITIAL LINKAGE TO HIV CARE**	
	NO.	COLUMN %	RATE	NO.	ROW %	NO.	ROW %
TOTAL	440	100%	6.1	111	25%	365	83%
GENDER CATEGORY							
Male	341	78%	10.0	84	25%	280	82%
Female	95	22%	2.3	25	26%	82	86%
Transgender male	0	0%	n/a	n/a	n/a	n/a	n/a
Transgender female	4	1%	n/a	n/a	n/a	n/a	n/a
CURRENT AGE (YEARS)							
< 13	3	1%	0.3	n/a	n/a	n/a	n/a
13-24	73	17%	6.5	5	7%	57	78%
25-34	136	31%	14.1	29	21%	115	85%
35-44	98	22%	11.3	27	28%	84	86%
45-54	73	17%	8.0	31	42%	55	75%
55-64	44	10%	4.9	13	30%	38	86%
65+	13	3%	1.2	5	38%	13	100%
RACE/ETHNICITY							
American Indian / Alaska Native	10	2%	12.0	5	50%	7	70%
Asian	36	8%	6.8	13	36%	34	94%
Black	91	21%	37.3	26	29%	70	77%
Foreign-born ^α	47	11%	n/a	16	34%	41	87%
U.S.-born ^α	33	8%	n/a	7	21%	22	67%
Hispanic	71	16%	8.0	19	27%	62	87%
Foreign-born ^α	40	9%	n/a	14	35%	37	93%
U.S.-born ^α	21	5%	n/a	2	10%	16	76%
Native Hawaiian / Pacific Islander	4	1%	8.3	n/a	n/a	n/a	n/a
White	211	48%	4.3	44	21%	174	82%
Multiple race	17	4%	5.7	2	12%	15	88%
MODE OF EXPOSURE							
MSM	225	51%	n/a	46	20%	193	86%
IDU	29	7%	n/a	9	31%	23	79%
MSM/IDU	26	6%	n/a	6	23%	17	65%
Heterosexual	45	10%	n/a	8	18%	38	84%
Blood/pediatric	6	1%	n/a	n/a	n/a	n/a	n/a
No identified risk	109	25%	n/a	42	39%	88	81%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017

*Late HIV diagnoses = AIDS diagnoses within 12 months of HIV diagnoses

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

^α Country of origin data are missing for approximately 10% of newly diagnosed cases.

Table 2. Linkage to Care and Late HIV Diagnosis among New HIV Diagnoses, by County of Residence at HIV Diagnosis, WA State, 2016

COUNTY OF RESIDENCE	NEW HIV DIAGNOSES			LATE HIV DIAGNOSES*		INITIAL LINKAGE TO HIV CARE**	
	NO.	COLUMN %	RATE	NO.	ROW %	NO.	ROW %
ADAMS CO.	0	0%	0.0	n/a	n/a	n/a	n/a
ASOTIN CO.	0	0%	0.0	n/a	n/a	n/a	n/a
BENTON CO.	5	1%	n/a	n/a	n/a	n/a	n/a
BENTON-FRANKLIN HD	10	2%	n/a	3	30%	5	50%
CHELAN CO.	6	1%	n/a	n/a	n/a	n/a	n/a
CHELAN-DOUGLAS HD	6	1%	n/a	n/a	n/a	n/a	n/a
CLALLAM CO.	3	1%	n/a	n/a	n/a	n/a	n/a
CLARK CO.	24	5%	4.8	5	21%	19	79%
COLUMBIA CO.	0	0%	0.0	n/a	n/a	n/a	n/a
COWLITZ CO.	2	0%	n/a	n/a	n/a	n/a	n/a
DOUGLAS CO.	0	0%	0.0	n/a	n/a	n/a	n/a
FERRY CO.	1	0%	n/a	n/a	n/a	n/a	n/a
FRANKLIN CO.	5	1%	n/a	n/a	n/a	n/a	n/a
GARFIELD CO.	0	0%	0.0	n/a	n/a	n/a	n/a
GRANT CO.	0	0%	0.0	n/a	n/a	n/a	n/a
GRAYS HARBOR CO.	1	0%	n/a	n/a	n/a	n/a	n/a
ISLAND CO.	2	0%	n/a	n/a	n/a	n/a	n/a
JEFFERSON CO.	2	0%	n/a	n/a	n/a	n/a	n/a
KING CO.	219	50%	10.3	50	23%	193	88%
KITSAP CO.	8	2%	n/a	n/a	n/a	n/a	n/a
KITTITAS CO.	1	0%	n/a	n/a	n/a	n/a	n/a
KLICKITAT CO.	0	0%	0.0	n/a	n/a	n/a	n/a
LEWIS CO.	0	0%	0.0	n/a	n/a	n/a	n/a
LINCOLN CO.	0	0%	n/a	n/a	n/a	n/a	n/a
MASON CO.	5	1%	n/a	n/a	n/a	n/a	n/a
NE TRI-COUNTY HD	1	0%	n/a	n/a	n/a	n/a	n/a
OKANOGAN CO.	1	0%	n/a	n/a	n/a	n/a	n/a
PACIFIC CO.	0	0%	0.0	n/a	n/a	n/a	n/a
PEND OREILLE CO.	0	0%	n/a	n/a	n/a	n/a	n/a
PIERCE CO.	49	11%	5.7	15	31%	35	71%
SAN JUAN CO.	0	0%	0.0	n/a	n/a	n/a	n/a
SKAGIT CO.	9	2%	n/a	n/a	n/a	n/a	n/a
SKAMANIA CO.	0	0%	0.0	n/a	n/a	n/a	n/a
SNOHOMISH CO.	49	11%	6.2	14	29%	41	84%
SPOKANE CO.	23	5%	4.7	8	35%	20	87%
STEVENS CO.	0	0%	0.0	n/a	n/a	n/a	n/a
THURSTON CO.	11	3%	n/a	2	18%	7	64%
WAHIAKUM CO.	0	0%	0.0	n/a	n/a	n/a	n/a
WALLA WALLA CO.	1	0%	n/a	n/a	n/a	n/a	n/a
WHATCOM CO.	2	0%	n/a	n/a	n/a	n/a	n/a
WHITMAN CO.	0	0%	0.0	n/a	n/a	n/a	n/a
YAKIMA CO.	11	3%	n/a	3	27%	9	82%
TOTAL	440	100%	6.1	111	25%	365	83%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017

* Late HIV diagnoses = AIDS diagnoses within 12 months of HIV diagnoses

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

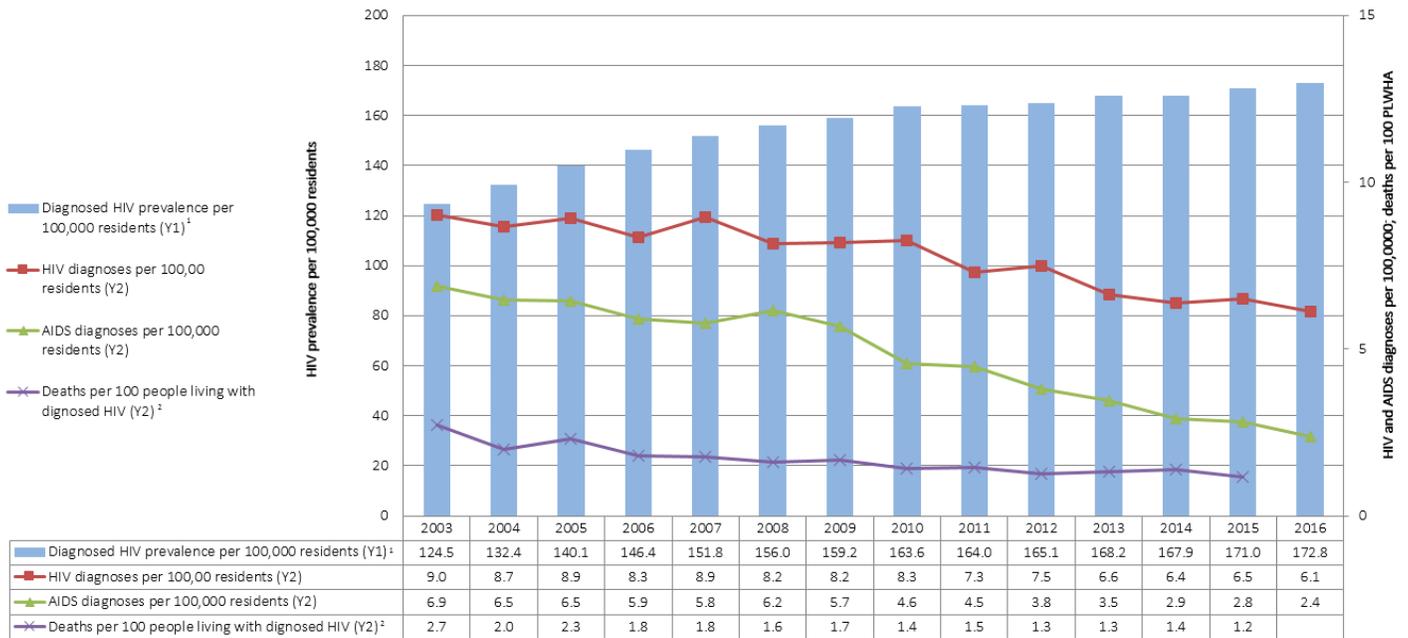
Table 3. Case Counts and Trends among New HIV Diagnoses, by Demographic and Risk Characteristics, WA State, 2011-2016

	2011	2012	2013	2014	2015	2016	TOTAL NO.	2012-2016		
	NO.	NO.	NO.	NO.	NO.	NO.		AVG. NO.	%	RATE
TOTAL	493	509	455	444	458	440	2306	461	100%	6.7
GENDER CATEGORY										
Male	419	417	379	365	380	341	1882	376	82%	11.0
Female	68	87	72	75	73	95	402	80	17%	2.3
Transgender male	0	0	1	1	0	0	2	0	0%	n/a
Transgender female	6	5	3	3	5	4	20	4	1%	n/a
AGE AT HIV DIAGNOSIS (YEARS)										
< 13	6	8	8	3	4	3	26	5	1%	0.5
13-24	68	80	73	67	72	73	365	73	16%	6.6
25-34	146	158	131	137	166	136	728	146	32%	15.2
35-44	126	131	130	108	102	98	569	114	25%	12.7
45-54	91	89	84	92	75	73	413	83	18%	8.7
55-64	44	41	26	25	33	44	169	34	7%	3.8
65+	12	2	3	12	6	13	36	7	2%	0.7
RACE/ETHNICITY										
American Indian / Alaska Native	4	5	4	6	5	10	30	6	1%	6.8
Asian	24	30	24	38	35	36	163	33	7%	6.3
Black	89	95	88	95	92	91	461	92	20%	38.0
Foreign-born*	40	50	45	50	39	47	231	46	10%	n/a
U.S.-born*	46	40	36	37	43	33	189	38	8%	n/a
Hispanic	77	64	78	61	85	71	359	72	16%	8.5
Foreign-born*	43	35	43	40	50	40	208	42	9%	n/a
U.S.-born*	26	17	23	14	20	21	95	19	4%	n/a
Native Hawaiian / Pacific Islander	5	7	5	5	4	4	25	5	1%	12.7
White	280	284	243	228	225	211	1191	238	52%	4.8
Multiple race	14	24	13	11	12	17	77	15	3%	5.1
MODE OF EXPOSURE										
MSM	297	282	266	251	272	225	1296	259	56%	n/a
IDU	30	22	20	22	36	29	129	26	6%	n/a
MSM/IDU	47	42	33	29	22	26	152	30	7%	n/a
Heterosexual	39	40	36	34	36	45	191	38	8%	n/a
Blood/pediatric	6	3	4	3	4	6	20	4	1%	n/a
No identified risk	74	120	96	105	88	109	518	104	22%	n/a

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017.

*Country of origin data are missing for approximately 10% of newly diagnosed cases.

Figure 1. Washington State HIV Diagnoses, AIDS Diagnoses, Deaths and People Living with Diagnosed HIV/AIDS Rates, 2003-2016



1. Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.
2. Due to reporting delays of 18 months or longer, 2016 death rates are likely highly incomplete and thus not presented.

Table 4. Case Counts and Trends among New HIV Diagnoses, by County of Residence at HIV Diagnosis, WA State, 2011-2016

COUNTY OF RESIDENCE	2011	2012	2013	2014	2015	2016	2012-2016			
	NO.	NO.	NO.	NO.	NO.	NO.	TOTAL NO.	AVG. NO.	%	RATE
ADAMS CO.	1	0	0	0	1	0	1	0	0%	n/a
ASOTIN CO.	1	0	1	0	1	0	2	0	0%	n/a
BENTON CO.	12	5	7	8	1	5	26	5	1%	2.7
BENTON-FRANKLIN HD	13	7	7	9	6	10	39	8	2%	2.9
CHELAN CO.	4	3	3	4	5	6	21	4	1%	5.6
CHELAN-DOUGLAS HD	5	3	5	4	8	6	26	5	1%	4.6
CLALLAM CO.	3	4	3	1	4	3	15	3	1%	4.1
CLARK CO.	28	26	25	23	20	24	118	24	5%	5.3
COLUMBIA CO.	0	0	0	0	0	0	0	0	0%	n/a
COWLITZ CO.	3	5	1	5	2	2	15	3	1%	2.9
DOUGLAS CO.	1	0	2	0	3	0	5	1	0%	n/a
FERRY CO.	0	0	0	1	0	1	2	0	0%	n/a
FRANKLIN CO.	1	2	0	1	5	5	13	3	1%	3.0
GARFIELD CO.	0	0	0	0	0	0	0	0	0%	n/a
GRANT CO.	3	3	0	0	0	0	3	1	0%	n/a
GRAYS HARBOR CO.	4	7	1	3	4	1	16	3	1%	4.4
ISLAND CO.	1	3	3	2	1	2	11	2	0%	n/a
JEFFERSON CO.	0	1	1	2	1	2	7	1	0%	n/a
KING CO.	270	286	252	272	234	219	1263	253	55%	12.7
KITSAP CO.	6	11	7	6	10	8	42	8	2%	3.4
KITTITAS CO.	0	0	2	1	1	1	5	1	0%	n/a
KLICKITAT CO.	0	1	0	0	0	0	1	0	0%	n/a
LEWIS CO.	5	1	1	1	1	0	4	1	0%	n/a
LINCOLN CO.	0	0	0	0	0	0	0	0	0%	0.0
MASON CO.	7	9	3	1	5	5	23	5	1%	7.4
NE TRI-COUNTY HD	1	0	2	1	1	1	5	1	0%	1.5
OKANOGAN CO.	1	3	0	0	0	1	4	1	0%	n/a
PACIFIC CO.	0	2	0	1	0	0	3	1	0%	n/a
PEND OREILLE CO.	0	0	0	0	1	0	1	0	0%	n/a
PIERCE CO.	56	51	59	44	67	49	270	54	12%	6.6
SAN JUAN CO.	0	0	2	0	0	0	2	0	0%	n/a
SKAGIT CO.	5	4	9	5	1	9	28	6	1%	4.7
SKAMANIA CO.	0	0	0	1	1	0	2	0	0%	n/a
SNOHOMISH CO.	33	39	28	35	40	49	191	38	8%	5.1
SPOKANE CO.	24	25	21	6	24	23	99	20	4%	4.1
STEVENS CO.	1	0	2	0	0	0	2	0	0%	n/a
THURSTON CO.	7	4	8	5	8	11	36	7	2%	2.7
WAHKIAKUM CO.	0	0	0	1	0	0	1	0	0%	n/a
WALLA WALLA CO.	0	3	0	0	0	1	4	1	0%	n/a
WHATCOM CO.	7	4	8	5	9	2	28	6	1%	2.8
WHITMAN CO.	1	0	0	1	2	0	3	1	0%	n/a
YAKIMA CO.	8	7	6	9	6	11	39	8	2%	3.1
TOTAL	493	509	455	444	458	440	2306	461	100%	6.7

NOTE: Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017
Rates are per 100,000 residents

Table 5. Engagement in Care and Viral Load Suppression among People Living with Diagnosed HIV Infection, by Demographic and Risk Characteristics, WA State, 2016

	PEOPLE LIVING WITH DIAGNOSED HIV INFECTION			ENGAGED IN CARE*		SUPPRESSED VIRAL LOAD**	
	NO.	COLUMN %	RATE	NO.	ROW %	NO.	ROW %
TOTAL	12395	100%	172.6	11106	90%	9807	79%
GENDER CATEGORY							
Male	10489	85%	295.3	9398	90%	8335	79%
Female	1807	15%	50.5	1620	90%	1405	78%
Transgender male	6	0%	n/a	n/a	n/a	n/a	n/a
Transgender female	93	1%	n/a	83	89%	63	68%
CURRENT AGE (YEARS)							
< 13	42	0%	3.6	39	0%	39	93%
13-24	286	2%	25.8	260	2%	198	69%
25-34	1592	13%	160.2	1396	11%	1153	72%
35-44	2531	20%	274.8	2204	18%	1926	76%
45-54	4225	34%	443.6	3784	31%	3392	80%
55-64	2810	23%	296.8	2585	21%	2372	84%
65+	909	7%	84.8	838	7%	727	80%
RACE/ETHNICITY							
American Indian / Alaska Native	147	1%	163.2	131	89%	109	74%
Asian	448	4%	78.0	389	87%	354	79%
Black	1966	16%	755.4	1750	89%	1501	76%
Foreign-born ^α	739	6%	n/a	672	91%	629	85%
U.S.-born ^α	1142	9%	n/a	1009	88%	814	71%
Hispanic	1582	13%	173.1	1400	88%	1235	78%
Foreign-born ^α	815	7%	n/a	713	87%	646	79%
U.S.-born ^α	626	5%	n/a	562	90%	486	78%
Native Hawaiian / Pacific Islander	61	0%	135.2	53	87%	41	67%
White	7597	61%	152.0	6832	90%	6099	80%
Multiple race	594	5%	192.4	544	92%	468	79%
MODE OF EXPOSURE							
MSM	7676	62%	n/a	6972	91%	6229	81%
IDU	763	6%	n/a	670	88%	539	71%
MSM/IDU	1116	9%	n/a	1015	91%	854	77%
Heterosexual	1482	12%	n/a	1312	89%	1173	79%
Blood/pediatric	163	1%	n/a	152	93%	132	81%
No identified risk	1195	10%	n/a	1030	86%	880	74%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017. Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

* Engaged in care = at least one reported CD4 or VL result within calendar year

** Suppressed viral load = last reported viral load result in calendar year was < 200 copies/mL

^α Country of origin data are missing for approximately 10% of newly diagnosed cases.

Table 6. Engagement in Care and Viral Load Suppression among People Living with Diagnosed HIV Infection, by County of Residence, WA State, 2016

COUNTY OF RESIDENCE	PEOPLE LIVING WITH DIAGNOSED HIV			ENGAGED IN CARE*		SUPPRESSED VIRAL LOAD**	
	INFECTION, 2016			NO.	ROW %	NO.	ROW %
	NO.	COLUMN %	RATE				
ADAMS CO.	12	0%	61.5	12	100%	9	75%
ASOTIN CO.	21	0%	94.8	18	86%	16	76%
BENTON CO.	109	1%	56.2	96	88%	86	79%
BENTON-FRANKLIN HD	173	1%	62.0	154	89%	136	79%
CHELAN CO.	55	0%	73.8	47	85%	41	75%
CHELAN-DOUGLAS HD	71	1%	60.9	60	85%	51	72%
CLALLAM CO.	70	1%	94.0	64	91%	51	73%
CLARK CO.	606	5%	131.0	515	85%	438	72%
COLUMBIA CO.	8	0%	n/a	n/a	n/a	n/a	n/a
COWLITZ CO.	109	1%	105.9	95	87%	77	71%
DOUGLAS CO.	16	0%	39.3	13	81%	10	63%
FERRY CO.	2	0%	n/a	n/a	n/a	n/a	n/a
FRANKLIN CO.	64	1%	72.2	58	91%	50	78%
GARFIELD CO.	3	0%	n/a	n/a	n/a	n/a	n/a
GRANT CO.	39	0%	41.2	34	87%	30	77%
GRAYS HARBOR CO.	76	1%	103.0	67	88%	60	79%
ISLAND CO.	77	1%	92.9	68	88%	59	77%
JEFFERSON CO.	38	0%	122.2	31	82%	25	66%
KING CO.	6798	55%	323.6	6155	91%	5579	82%
KITSAP CO.	283	2%	107.4	250	88%	217	77%
KITTITAS CO.	25	0%	57.2	23	92%	20	80%
KLICKITAT CO.	11	0%	56.4	9	82%	9	82%
LEWIS CO.	54	0%	70.2	49	91%	41	76%
LINCOLN CO.	8	0%	n/a	n/a	n/a	n/a	n/a
MASON CO.	65	1%	102.7	56	86%	49	75%
NE TRI-COUNTY HD	33	0%	50.7	29	88%	28	85%
OKANOGAN CO.	22	0%	52.7	17	77%	12	55%
PACIFIC CO.	28	0%	136.9	22	79%	17	61%
PEND OREILLE CO.	11	0%	n/a	9	82%	9	82%
PIERCE CO.	1324	11%	156.2	1159	88%	970	73%
SAN JUAN CO.	21	0%	128.7	20	95%	17	81%
SKAGIT CO.	93	1%	76.1	79	85%	60	65%
SKAMANIA CO.	5	0%	n/a	n/a	n/a	n/a	n/a
SNOHOMISH CO.	1018	8%	132.0	933	92%	837	82%
SPOKANE CO.	560	5%	113.7	480	86%	401	72%
STEVENS CO.	20	0%	43.1	18	90%	17	85%
THURSTON CO.	265	2%	97.2	243	92%	205	77%
WAHKIAKUM CO.	4	0%	n/a	n/a	n/a	n/a	n/a
WALLA WALLA CO.	51	0%	85.6	46	90%	42	82%
WHATCOM CO.	176	1%	82.3	155	88%	112	64%
WHITMAN CO.	22	0%	45.9	18	82%	17	77%
YAKIMA CO.	226	2%	90.5	219	97%	197	87%
TOTAL	12395	100%	172.6	11106	90%	9807	79%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017. Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

* Engaged in care = at least one reported CD4 or VL result within calendar year

** Suppressed viral load = last reported viral load result in calendar year was < 200 copies/mL

Table 7. People Living with Diagnosed HIV Infection, by Current Gender*, Race/Ethnicity, and HIV Exposure Category, WA State, 2016

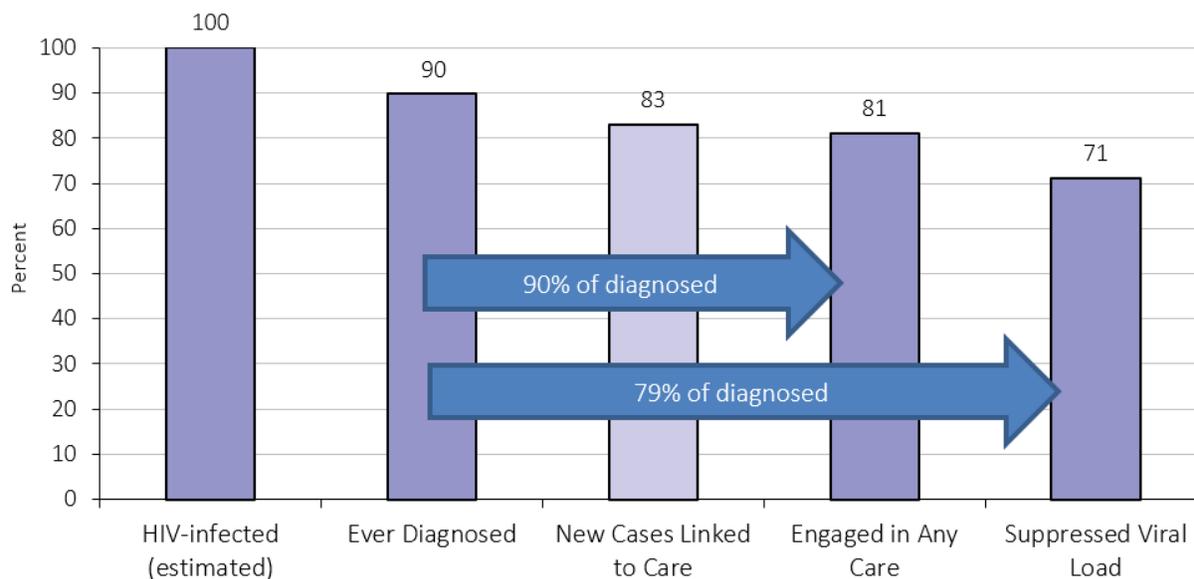
CURRENT GENDER	EXPOSURE CATEGORY	WHITE		BLACK		HISPANIC		ASIAN		OTHER	
		No.	%	No.	%	No.	%	No.	%	No.	%
MALE	MSM	5,285	77%	643	51%	979	72%	256	70%	451	68%
	IDU	296	4%	87	7%	50	4%	9	2%	35	5%
	MSM and IDU	780	11%	90	7%	112	8%	9	2%	103	16%
	Heterosexual Contact	113	2%	144	11%	62	5%	13	4%	29	4%
	Pediatric	14	0%	28	2%	4	0%	2	1%	4	1%
	Transfusion/Hemophiliac	28	0%	3	0%	2	0%	0	0%	2	0%
	No Identified Risk	331	5%	262	21%	146	11%	77	21%	40	6%
	Total	6,847	100%	1,257	100%	1,355	100%	366	100%	664	100%
FEMALE	Injecting Drug Use (IDU)	180	26%	45	6%	20	10%	2	3%	35	28%
	Heterosexual Contact	427	61%	424	61%	139	70%	51	65%	78	62%
	Pediatric	15	2%	40	6%	6	3%	2	3%	0	0%
	Transfusion/Hemophiliac	4	1%	6	1%	1	1%	2	3%	0	0%
	No Identified Risk	79	11%	182	26%	34	17%	22	28%	13	10%
	Total	705	100%	697	100%	200	100%	79	100%	126	100%
FEMALE (TRANSGENDER)	Male sex partner	25	61%	11	92%	17	63%	2	67%	7	70%
	Male sex partner and IDU	11	27%	1	8%	7	26%	1	33%	2	20%
	Other	2	5%	0	0%	2	7%	0	0%	0	0%
	No Identified Risk	3	7%	0	0%	1	4%	0	0%	1	10%
	Total	41	100%	12	100%	27	100%	3	100%	10	100%

Abbreviations: IDU, injecting drug use; MSM, men who have sex with men.

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2017. Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

* Due to the small number of transgender male cases (n=6), further stratification is not possible.

Figure 2: 2016 Washington State Care Continuum (data reported through June 30, 2017)



- Based on HIV Surveillance data reported to the Washington State Department of Health as of June 30, 2017.
- Ever diagnosed (prevalent cases) exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.
- Linked to care is defined as report of an HIV related test (CD4 or viral load) within 30 days of diagnosis.
- Engaged in care designates laboratory evidence of at least one HIV care visit in 2016.
- Suppressed viral load indicates the last viral load test result in 2016 was < 200 copies mL.



HIV/AIDS DATA IN KING COUNTY



Table 8. People Living with HIV as of December 31, 2016 by Residence Status, King County

	ALL CASES OF HIV DISEASE		OOJ* RESIDENTS AT DIAGNOSIS, NOW IN KING CO.		KING CO. RESIDENTS AT DIAGNOSIS, STILL IN KING CO.		OUT-MIGRANTS DIAGNOSED IN KING CO. BUT NOW LIVING OUT OF JURISDICTION	
	No.	%	No.	%	No.	%	No.	%
TOTAL	6,798	100%	4,824	100%	1,974	100%	2,920	100%
GENDER CATEGORY								
Male	5,944	87%	4,184	87%	1,760	89%	2,628	90%
Female	796	12%	602	12%	194	10%	273	9%
Transgender	58	1%	38	1%	20	1%	19	1%
CURRENT AGE								
< 13	17	<1%	14	<1%	3	<1%	2	<1%
13 - 24	126	2%	101	2%	25	1%	46	2%
25 - 34	883	13%	565	12%	318	16%	266	9%
35 - 44	1,454	21%	959	20%	495	25%	571	20%
45 - 54	2,313	34%	1,637	34%	676	34%	1,100	38%
55+	2,005	29%	1,548	32%	457	23%	935	32%
RACE AND HISPANIC ORIGIN								
White	3,992	59%	2,859	59%	1,133	57%	1,862	64%
Black	1,263	19%	875	18%	388	20%	470	16%
U.S.-Born Black	712	10%	446	9%	266	13%	265	9%
Foreign-Born Black	512	8%	406	8%	106	5%	190	7%
Hispanic (all races)	845	12%	572	12%	273	14%	353	12%
U.S.-Born Hispanic	352	5%	210	4%	142	7%	145	5%
Foreign-Born Hispanic	442	7%	330	7%	112	6%	186	6%
Asian	305	4%	249	5%	56	3%	76	3%
Native Hawaiian / Pacific Islander	24	<1%	17	<1%	7	<1%	4	<1%
American Indian / Alaska Native	52	1%	40	1%	12	1%	33	1%
Multiple Race	317	5%	212	4%	105	5%	122	4%
EXPOSURE CATEGORY BY SEX ASSIGNED AT BIRTH								
Assigned Male Only:								
Male / Male Sex (MSM)	4,598	68%	3,280	68%	1,318	67%	2,034	70%
Injecting Drug Use (IDU)	187	3%	119	2%	68	3%	70	2%
MSM and IDU	601	9%	356	7%	245	12%	294	10%
Heterosexual Contact	176	3%	126	3%	50	3%	71	2%
Pediatric	22	0%	15	<1%	7	0%	2	<1%
Transfusion / Hemophiliac	14	<1%	10	<1%	4	0%	5	<1%
No Identified Risk	401	6%	316	7%	85	4%	169	6%
Assigned Female Only:								
Injecting Drug Use	98	1%	68	1%	30	2%	40	1%
Heterosexual Contact	480	7%	360	7%	120	6%	166	6%
Pediatric	29	0%	20	0%	9	0%	7	0%
Transfusion / Hemophiliac	8	0%	6	0%	2	0%	5	0%
No Identified Risk	184	3%	148	3%	36	2%	57	2%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017. Prevalent cases exclude individuals with no reported laboratory test results for 10+ years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

*OOJ = Out of jurisdiction.

Table 9. New HIV Cases, King County, 2011-2016

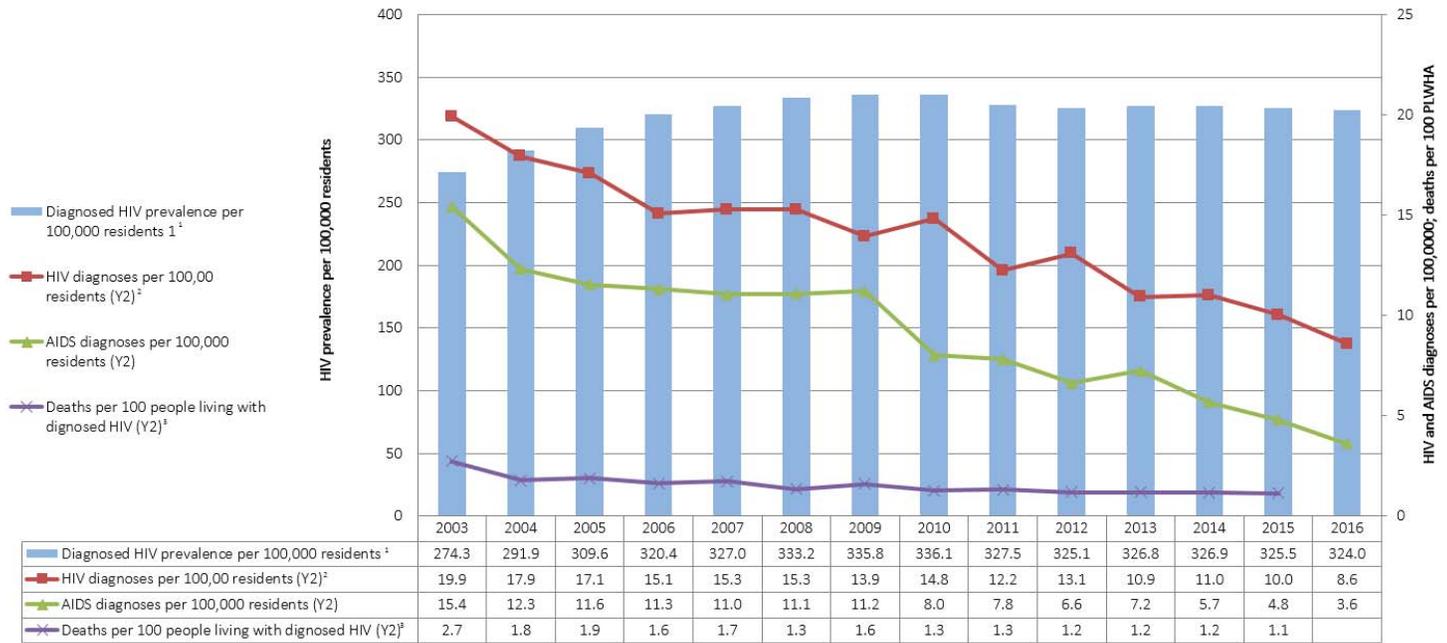
YEAR OF HIV DIAGNOSIS	NEWLY DIAGNOSED CASES OF HIV DISEASE						2012-2016		RATE	LATE HIV DIAGNOSES 2011-2015*
	2011 No.	2012 No.	2013 No.	2014 No.	2015 No.	2016 No.	No.	%		
TOTAL	272	286	252	272	234	219	1,263	100%	12.5	26%
GENDER CATEGORY										
Male	237	234	213	229	201	178	1055	84%	20.9	25%
Female	33	48	38	39	31	39	195	15%	3.8	33%
Transgender	2	4	1	4	2	2	13	1%	---	15%
AGE AT HIV DIAGNOSIS										
< 13	3	4	3	0	2	0	9	1%	0.6	<1%
13 - 24	42	42	32	42	33	39	188	15%	12.8	13%
25 - 34	86	97	72	89	81	75	414	33%	24.8	21%
35 - 44	67	81	81	61	56	50	329	26%	21.9	28%
45 - 54	48	42	47	54	41	27	211	17%	14.7	39%
55+	26	20	17	26	21	28	112	9%	4.5	43%
RACE AND HISPANIC ORIGIN										
White	150	163	130	127	107	88	615	49%	9.7	24%
Black	55	57	53	68	59	55	292	23%	46.3	30%
U.S.-Born Black	25	25	21	29	29	21	125	10%	---	22%
Foreign-Born Black	30	32	31	37	25	32	157	12%	---	38%
Hispanic (all races)	44	32	40	31	39	43	185	15%	19.0	24%
U.S.-Born Hispanic	19	7	12	8	11	17	55	4%	---	12%
Foreign-Born Hispanic	23	21	28	21	25	23	118	9%	---	30%
Asian	16	18	15	33	25	22	113	9%	7.2	31%
Native Hawaiian / Pacific Islander	2	1	3	2	1	0	7	1%	8.7	67%
American Indian / Alaska Native	0	0	3	5	0	2	10	1%	15.1	63%
Multiple Race	5	15	8	6	3	9	41	3%	9.2	22%
EXPOSURE CATEGORY BY SEX ASSIGNED AT BIRTH										
Assigned Male Only:										
Male / Male Sex (MSM)	177	174	161	171	152	126	784	62%	---	22%
Injecting Drug Use (IDU)	6	6	4	4	6	8	28	2%	---	46%
MSM and IDU	28	27	17	16	7	15	82	6%	---	16%
Heterosexual Contact	2	3	3	3	4	6	19	2%	---	47%
Pediatric	3	1	2	0	1	1	5	<1%	---	14%
Transfusion / Hemophiliac	0	0	0	0	0	0	0	0%	---	---
No Identified Risk	23	27	27	38	33	24	149	12%	---	44%
Assigned Female Only:										
Injecting Drug Use	4	6	1	4	2	3	16	1%	---	24%
Heterosexual Contact	13	17	14	7	11	9	58	5%	---	40%
Pediatric	1	2	0	1	1	1	5	<1%	---	20%
Transfusion / Hemophiliac	0	0	0	0	0	0	0	0%	---	---
No Identified Risk	15	23	23	28	17	26	117	9%	---	31%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017.

*Late HIV diagnoses based on new HIV cases diagnosed between 2011 and 2015.

Rates are per 100,000 residents.

Figure 3. King County HIV Diagnoses, AIDS Diagnoses, Deaths and People Living with Diagnosed HIV/AIDS Rates, 2003-2016



¹Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

²HIV diagnosis rates in this figure exclude individuals with self-reported earlier diagnoses out of jurisdiction or 6 months or more prior to a confirmed HIV diagnosis.

³Due to reporting delays of 18 months or longer, the 2016 death rate is likely highly incomplete and thus not presented.

Table 10. AIDS Cases and Cumulative Deaths, King County

	RECENT AIDS CASES 2012-2016			CUMULATIVE AIDS CASES 1981-2016		CUMULATIVE DEATHS* 1981-2016	
	No.	%	RATE	No.	%	No.	%
Total	560	100%	5.5	8,946	100%	5,238	100%
Gender Category							
Male	449	80%	8.9	8,195	92%	4,944	94%
Female	105	19%	2.1	711	8%	283	5%
Transgender	6	1%	---	40	<1%	11	<1%
Age at AIDS Diagnosis						AGE AT DEATH	
< 13	0	0%	0.0	14	<1%	7	<1%
13 - 24	26	5%	1.8	287	3%	38	1%
25 - 34	136	24%	8.1	3,044	34%	1,144	22%
35 - 44	147	26%	9.8	3,537	40%	2,099	40%
45 - 54	169	30%	11.8	1,541	17%	1,223	23%
55+	82	15%	3.3	523	6%	727	14%
Race and Hispanic Origin							
White	253	45%	4.0	6,244	70%	4,100	78%
Black	154	28%	24.4	1,255	14%	562	11%
Hispanic (all races)	76	14%	7.8	776	9%	301	6%
Asian	41	7%	2.6	213	2%	68	1%
Native Hawaiian / Pacific Islander	4	1%	5.0	25	<1%	10	<1%
American Indian / Alaska Native	6	1%	9.1	105	1%	64	1%
Multiple Race	26	5%	5.8	328	4%	133	3%
Exposure Category by Sex Assigned at Birth							
Assigned Male Only:							
Male / Male Sex (MSM)	297	53%	---	6,223	70%	3,785	72%
Injecting Drug Use (IDU)	21	4%	---	371	4%	262	5%
MSM and IDU	47	8%	---	946	11%	603	12%
Heterosexual Contact	11	2%	---	190	2%	56	1%
Pediatric	0	0%	---	7	<1%	4	<1%
Transfusion / Hemophiliac	0	0%	---	65	1%	55	1%
No Identified Risk	79	14%	---	433	5%	189	4%
Assigned Female Only:							
Injecting Drug Use	13	2%	---	166	2%	111	2%
Heterosexual Contact	44	8%	---	424	5%	136	3%
Pediatric	2	<1%	---	11	<1%	4	<1%
Transfusion / Hemophiliac	0	0%	---	23	<1%	18	<1%
No Identified Risk	46	8%	---	87	1%	15	<1%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017.

*Includes 295 cases with an HIV-only Diagnosis and 4,943 AIDS Cases. 3,812/5,238 (72.8%) deaths had HIV listed as an underlying condition. Rates are per 100,000 residents.

Table 11. People Living with HIV Disease as of December 31, 2016, King County

	HIV (NOT AIDS)			STAGE 3 (AIDS)			ALL CASES OF HIV DISEASE		
	No.	%	RATE	No.	%	RATE	No.	%	RATE
TOTAL	3,276	100%	162.0	3,522	100%	174.1	6,798	100%	336.1
GENDER CATEGORY									
Male	2,882	88%	285.5	3,062	87%	303.4	5,944	87%	588.9
Female	367	11%	36.2	429	12%	42.3	796	12%	78.5
Transgender	27	1%	---	31	1%	---	58	1%	---
CURRENT AGE									
< 13	16	<1%	5.1	1	<1%	0.3	17	<1%	5.5
13 – 24	111	3%	37.7	15	<1%	5.1	126	2%	42.8
25 – 34	638	19%	190.8	245	7%	73.3	883	13%	264.1
35 – 44	855	26%	284.1	599	17%	199.0	1,454	21%	483.1
45 – 54	960	29%	334.2	1,353	38%	471.0	2,313	34%	805.3
55+	696	21%	140.8	1,309	37%	264.8	2,005	29%	405.5
RACE AND HISPANIC ORIGIN									
White	1,993	61%	156.9	1,999	57%	157.3	3,992	59%	314.2
Black	563	17%	446.2	700	20%	554.8	1,263	19%	1001.0
U.S.-Born Black	318	10%	---	394	11%	---	712	10%	---
Foreign-Born Black	218	7%	---	294	8%	---	512	8%	---
Hispanic (all races)	416	13%	214.0	429	12%	220.6	845	12%	434.6
U.S.-Born Hispanic	187	6%	---	165	5%	---	352	5%	---
Foreign-Born Hispanic	203	6%	---	239	7%	---	442	7%	---
Asian	148	5%	47.3	157	4%	50.1	305	4%	97.4
Native Hawaiian / Pacific Islander	8	<1%	49.8	16	<1%	99.5	24	<1%	149.3
American Indian / Alaska Native	20	1%	151.1	32	1%	241.7	52	1%	392.8
Multiple Race	128	4%	143.6	189	5%	212.0	317	5%	355.6
EXPOSURE CATEGORY BY ASSIGNED SEX AT BIRTH									
Assigned Male Only:									
Male / Male Sex (MSM)	2,376	73%	---	2,222	63%	---	4,598	68%	---
Injecting Drug Use (IDU)	61	2%	---	126	4%	---	187	3%	---
MSM and IDU	238	7%	---	363	10%	---	601	9%	---
Heterosexual Contact	53	2%	---	123	3%	---	176	3%	---
Pediatric	16	<1%	---	6	<1%	---	22	<1%	---
Transfusion / Hemophiliac	4	<1%	---	10	<1%	---	14	<1%	---
No Identified Risk	159	5%	---	242	7%	---	401	6%	---
Assigned Female Only:									
Injecting Drug Use	36	1%	---	62	2%	---	98	1%	---
Heterosexual Contact	204	6%	---	276	8%	---	480	7%	---
Pediatric	21	1%	---	8	<1%	---	29	<1%	---
Transfusion / Hemophiliac	2	<1%	---	6	<1%	---	8	<1%	---
No Identified Risk	106	3%	---	78	2%	---	184	3%	---

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017.

Rates are per 100,000 residents.

Prevalent cases exclude individuals with no reported laboratory test results for 10+ years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

Table 12. Living HIV Cases* by Exposure Category, Sex Assigned at Birth and Race/Ethnicity as of December 31, 2016, King County

EXPOSURE CATEGORY	WHITE		BLACK		HISPANIC		ASIAN		AMERICAN INDIAN / ALASKA NATIVE	
	No.	%	No.	%	No.	%	No.	%	No.	%
ASSIGNED MALE										
Male / Male Sex (MSM)	3,108	82%	443	53%	605	79%	189	71%	23	62%
U.S.-Born	2,867	76%	397	48%	270	35%	51	27%	20	54%
Foreign-Born	98	3%	29	3%	295	38%	121	45%	0	0%
Injecting Drug Use (IDU)	94	2%	55	7%	19	2%	7	3%	5	14%
MSM and IDU	411	11%	59	7%	64	8%	9	3%	7	19%
Heterosexual Contact	41	1%	95	11%	25	3%	7	3%	0	0%
U.S.-Born	35	1%	26	3%	3	<1%	0	0%	0	0%
Foreign-Born	5	<1%	68	8%	21	3%	7	3%	0	0%
Pediatric	5	<1%	13	2%	1	<1%	1	<1%	0	0%
Transfusion / Hemophiliac	12	<1%	2	<1%	0	0%	0	0%	0	0%
No Identified Risk	111	3%	166	20%	53	7%	53	20%	2	5%
Total	3,782	100%	833	100%	767	100%	266	100%	37	100%
ASSIGNED FEMALE										
Injecting Drug Use (IDU)	54	26%	26	6%	4	5%	1	3%	6	40%
Heterosexual Contact	122	58%	257	60%	55	71%	21	54%	7	47%
U.S.-Born	109	52%	84	20%	12	15%	2	5%	6	40%
Foreign-Born	8	4%	169	39%	42	54%	18	46%	1	7%
Pediatric	5	2%	22	5%	1	1%	1	3%	0	0%
Transfusion / Hemophiliac	1	<1%	6	1%	0	0%	1	3%	0	0%
No Identified Risk	28	13%	119	28%	18	23%	15	38%	2	13%
Total	210	100%	430	100%	78	100%	39	100%	15	100%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017.

Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

*Table excludes 24 Native Hawaiian and Pacific Islander cases due to small numbers. Also excluded are 317 cases reported as belonging to more than one racial or ethnic group.

Table 13. HIV among Men Who Have Sex with Men (MSM) and All HIV Cases, King County

	NEW HIV DIAGNOSES (2012-2016)				MSM HIV CASES PRESUMED LIVING IN KING COUNTY AT THE END OF 2016	
	MSM HIV CASES		ALL HIV CASES		No.	%
TOTAL	No.	%	No.	%	No.	%
TOTAL	866	100%	1,263	100%	5,199	100%
RACE AND HISPANIC ORIGIN						
White	511	59%	615	49%	3,519	68%
Black	105	12%	292	23%	502	10%
Hispanic (all races)	139	16%	185	15%	669	13%
Asian	62	7%	113	9%	198	4%
Native Hawaiian / Pacific Islander	7	1%	7	1%	19	<1%
American Indian / Alaska Native	7	1%	10	1%	30	1%
Other/Unknown	35	4%	41	3%	262	5%
INJECTION DRUG USE						
Yes	82	9%	126	10%	601	12%
No	213	25%	300	24%	2,483	48%
Unknown	571	66%	837	66%	2,115	41%
AGE AT HIV DIAGNOSIS				AGE AT END OF 2016		
< 13	0	0%	9	1%	0	0%
13 - 24	160	18%	188	15%	82	2%
25 - 34	302	35%	414	33%	706	14%
35 - 44	220	25%	329	26%	1,060	20%
45 - 54	129	15%	211	17%	1,802	35%
55+	55	6%	112	9%	1,549	30%
FOREIGN-BORN STATUS						
U.S.-born	618	71%	750	59%	4,359	84%
Foreign-born	176	20%	421	33%	593	11%
Unknown	72	8%	92	7%	247	5%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017. Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

Table 14. HIV Among People Who Identify as Transgender* and All HIV Cases, King County

TOTAL**	NEW HIV DIAGNOSES (2007-2016)				TRANSGENDER HIV CASES PRESUMED LIVING IN KING COUNTY AT THE END OF 2016	
	TRANSGENDER HIV CASES		ALL HIV CASES		No.	%
	No.	%	No.	%		
	26	100%	2,786	100%	58	100%
RACE AND HISPANIC ORIGIN						
White	14	54%	1,473	53%	27	47%
Black	2	8%	574	21%	8	14%
Hispanic (all races)	7	27%	423	15%	16	28%
Other/Unknown	3	12%	316	11%	7	12%
INJECTION DRUG USE						
Yes	7	27%	297	11%	16	28%
No	7	27%	1,187	43%	24	41%
Unknown	12	46%	1,302	47%	18	31%
AGE AT HIV DIAGNOSIS				AGE AT END OF 2016		
< 13	0	0%	19	1%	0	0%
13 - 24	5	19%	408	15%	1	2%
25 - 34	9	35%	883	32%	14	24%
35 - 44	7	27%	746	27%	11	19%
45 - 54	5	19%	489	18%	20	34%
55+	0	0%	241	9%	12	21%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2017.

Prevalent cases exclude individuals with no reported laboratory test results for 10 + years, as well as those with preliminary evidence of out-of-state residence or death and no reported laboratory test results for at least 18 months.

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

** For those cases reported that identified as transgender, 92% of HIV cases diagnosed 2007-2016 and 97% of persons presumed to be living in King County at the end of 2016 were assigned male at birth.

Table 15. Characteristics and HIV Prevalence - Seattle Area National HIV Behavioral Surveillance, 2014-2016¹

	2016		2015		2014	
	WOMEN WHO EXCHANGE SEX (WES)		PEOPLE WHO INJECT DRUGS (PWID)		MEN WHO HAVE SEX WITH MEN (MSM)	
TOTAL N	296		535		503	
HIV+	3% (10/296)		5% (26/533)		17% (81/479)	
MSM/PWID HIV+	n/a		22% (13/59)		48% (15/31)	
HIV+ UNAWARE OF STATUS ²	20% (2/10)		15% (4/26)		7% (6/81)	
	Total	% HIV+	Total	% HIV+	Total	% HIV+
AGE (YEARS)						
18-29	9%	4%	24%	2%	33%	8%
30-39	26%	5%	23%	9%	28%	18%
40-49	36%	3%	23%	6%	20%	23%
50+	30%	2%	29%	4%	20%	23%
GENDER CATEGORY						
Male	n/a	-	64%	6%	100%	17%
Female	100%	3%	36%	3%	n/a	-
Transgender	excluded	-	<1%	0%	excluded	-
RACE/ETHNICITY						
White, non-Hispanic	47%	3%	66%	5%	62%	18%
Black, non-Hispanic	20%	3%	9%	6%	8%	13%
Hispanic	11%	6%	9%	4%	17%	13%
Other race, non-Hispanic	5%	0%	4%	0%	5%	18%
Multiracial, non-Hispanic	17%	4%	12%	8%	8%	27%
PREVIOUS 12 MONTHS						
Number of sex partners ³						
0	<1%	0%	18%	3%	n/a	-
1	3%	11%	32%	4%	18%	13%
2 to 4	22%	2%	34%	5%	30%	18%
5 to 9	18%	2%	8%	0%	22%	8%
10+	57%	4%	9%	15%	31%	25%
Male-male sex	n/a	-	11%	22%	100%	17%
STD diagnosis	10%	0%	5%	15%	17%	32%
Popper use	n/a	-	n/a	-	33%	26%
Meth use (non-injection)	53%	3%	60%	5%	15%	44%
Meth injection (any)	29%	1%	65%	6%	5%	54%
Injection drug use	66%	4%	100%	5%	6%	48%
Drug most frequently injected ⁴						
Heroin	64%	5%	67%	3%	30%	25%
Speedball	9%	0%	7%	3%	0%	0%
Cocaine	1%	0%	<1%	0%	0%	0%
Meth	15%	0%	19%	10%	70%	63%
Other drug ⁵	10%	5%	6%	9%	n/a	-
Receptive needle sharing ⁴	49%	1%	38%	3%	23%	57%

¹ The National HIV Behavioral Surveillance System (NHBS) is a Centers for Disease Control and Prevention funded survey of populations at elevated risk for HIV infections. Key populations are surveyed in a three-year cycle and include MSM, PWID, and heterosexuals at increased risk for heterosexually acquired HIV (HET). In 2016, the Seattle HET cycle focused on women who exchanged sex for money or drugs. The target sample size each year is 500 participants.

² By self-report

³ Women are only asked for number of male sex partners. Transgender participants are not asked.

⁴ Of those who reported injecting drugs in the last 12 months.

⁵ Mostly heroin+meth for PWID and MSM. Not specified for WES.

Monitoring the Goals of the National Strategy for HIV/AIDS and the King County HIV Care Cascade

SUMMARY

HIV diagnoses are decreasing. In 2016, 180 King County residents were diagnosed with HIV, the lowest number of new diagnoses in 21 years.

More than 80% of King County residents with diagnosed with HIV infection were virally suppressed in 2016.

Disparities in new diagnoses and in viral suppression persist. The incidence of new HIV diagnoses is higher among men who have sex with men (MSM) than among people who use injection drugs (PWID) and those with other risk factors, and also higher among Black heterosexuals (both U.S. born and foreign born) than among White heterosexuals. Also, levels of viral suppression are lower among people who use injection drugs (PWID), and among U.S. born Blacks relative to Whites and people with other HIV risks in King County.

Introduction

The U.S. National HIV/AIDS Strategy (NHAS)¹ has three major goals: 1) reducing new HIV infections; 2) increasing access to care and improving health outcomes; and 3) reducing HIV-related disparities. In this section we address each of these outcomes, focusing on the HIV care continuum, the sequential steps from HIV diagnosis to linkage to care, engagement in care, and viral suppression. In recent years, the continuum has become an important conceptual and visual framework for identifying aspects of HIV prevention and care that require improvement. As shown in **Figure 1**, an estimated 76% of persons living with HIV/AIDS (PLWHA) in King County – and 82% of diagnosed individuals – were virally suppressed in 2016. Viral suppression is defined here to mean a viral load of <200 copies/mL. Each step in the continuum is associated with attrition. We estimate 7% of PLWHA are undiagnosed, and an additional 17% are diagnosed but are either entirely out of medical care or have received at least minimal care but are not adequately treated (i.e. have not achieved viral suppression).

Goal One: Reducing New Infections

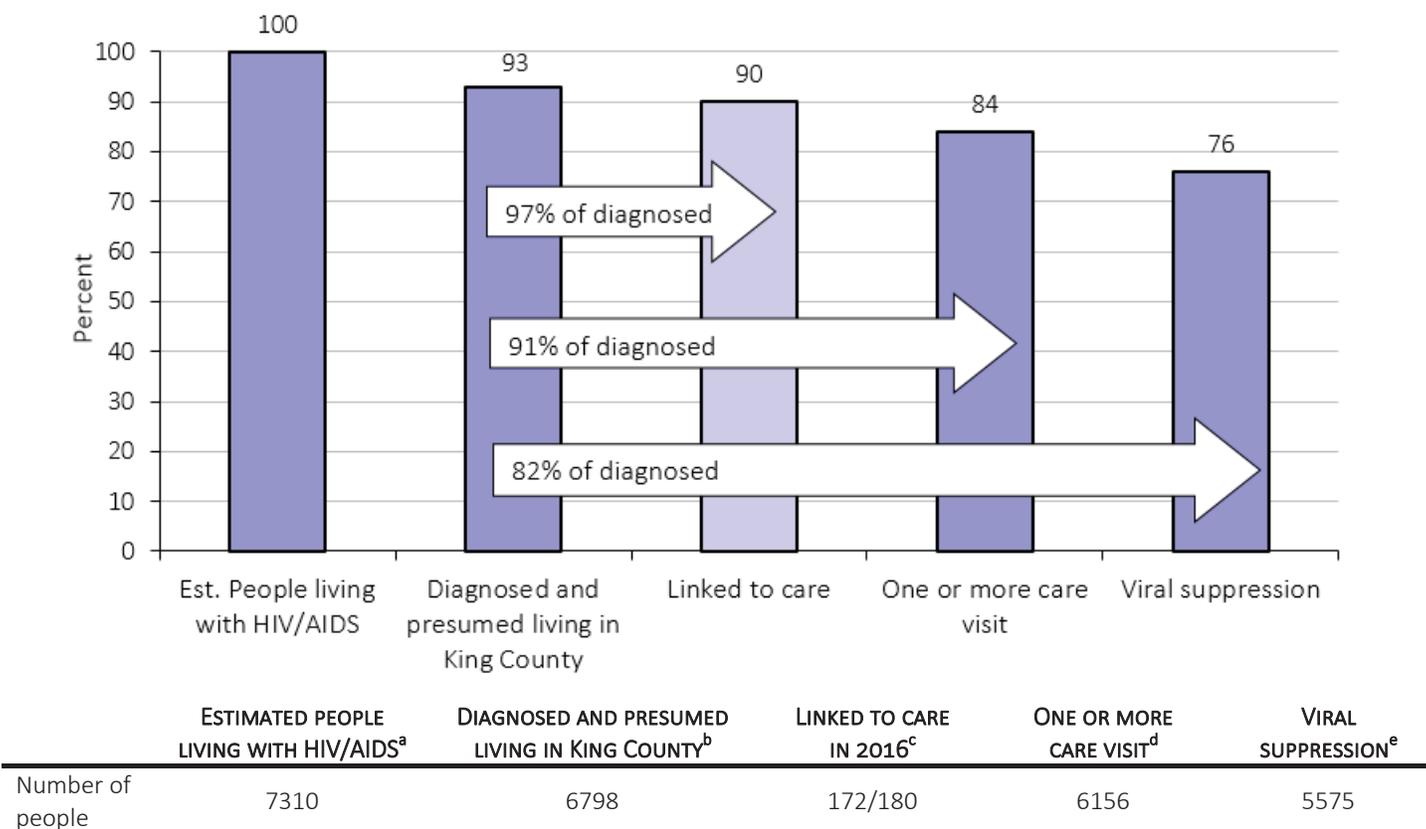
New HIV Diagnoses

In recent years, King County has invested substantial resources in improving the quality of its surveillance data. As part of this, we sought to better define which newly

reported cases of HIV are truly new diagnoses. In this section we exclude newly reported HIV cases from calculations of incident diagnoses if the person reported to surveillance told PHSKC investigators that they were previously diagnosed with HIV infection, even if surveillance staff could not confirm the prior diagnosis or if that diagnosis occurred outside of the US. For 2016, this new procedures reduced the number of new diagnoses from 219 cases (the number counted by CDC) to 180 new HIV diagnoses. Applying this approach to all newly reported cases over the past decade (2007 through 2016) excluded 13% of all cases previously

classified as new diagnoses (range 8-18% cases per year). **Figure 2a** presents trends in the new HIV diagnosis rate (number of HIV cases per 100,000 King County residents) in 2007-2016. Over the ten-year period, the rate of HIV diagnoses overall declined by 44% ($\chi^2_{trend} p < 0.001$). This decline was evident both among men (46% decline; $\chi^2_{trend} p < 0.001$) and among women (31% decline; $\chi^2_{trend} p = 0.003$), who comprise a relatively small proportion of cases.

Figure 1: 2016 King County HIV Care Cascade (Data Reported Through June 30, 2017)



^aPercent undiagnosed was calculated as 7% for King County², based on a publicly available R back calculation package (<https://github.com/hivbackcalc/package1.0/wiki>). Estimated people living with HIV/AIDS is calculated by dividing “diagnosed and presumed living in King County” residents by .93.

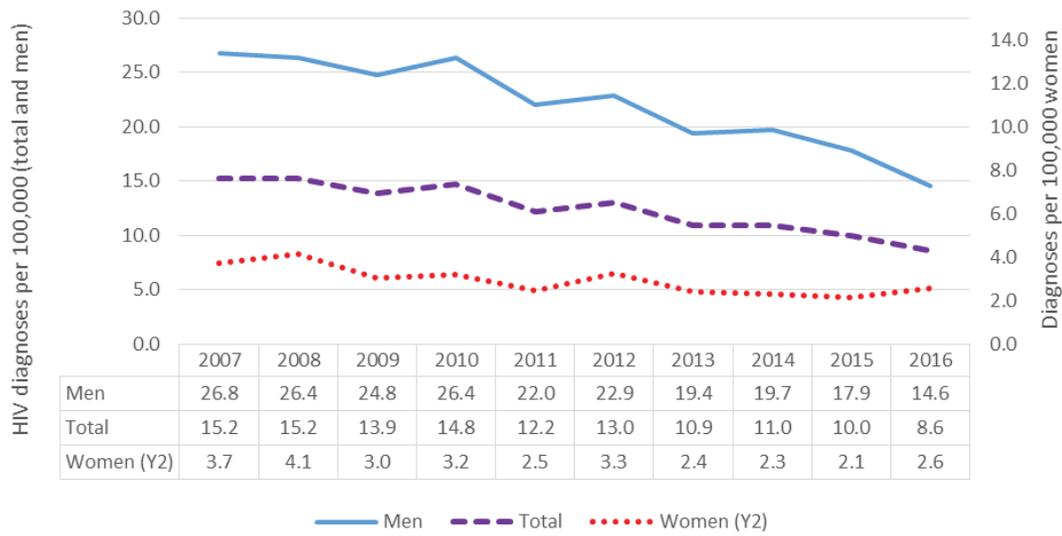
^bDiagnosed cases are those presumed living in King County during 2016. Individuals with no contact for ten or more years were presumed to have relocated or died. Others with unconfirmed relocations (identified, for example by online Internet database searches, but not confirmed by the new jurisdiction or another secondary source) and no laboratory results reported for > 18 months were also excluded.

^cLinked to care in 2016 is not a subset of earlier data (hence different color in the graph) and is based on the percent diagnosed in 2016 with a CD4 or viral load test within 3 months of diagnosis. The percent linked in the figure, 90%, is the percent of diagnosed cases in 2016 who linked (96%) multiplied by 93% to account for undiagnosed cases. One month linkage to care occurred for 87% of PLWdH.

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

^eViral suppression is defined as the most recent viral load test result in 2016 less than 200 copies.

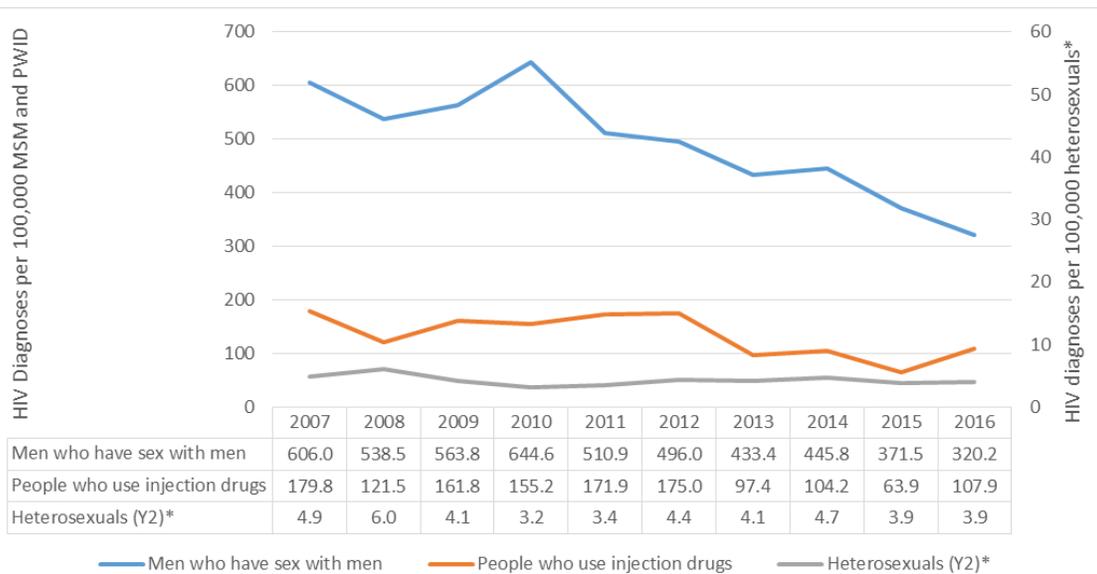
Figure 2a: Rate of New HIV Diagnoses, Overall and for Men and Women (According to Sex Assigned at Birth) per 100,000 Population per Year, 2007 through 2016, King County



HIV diagnosis rates also declined by risk categories (Figure 2b). For these calculations, 5.7% of people assigned male sex at birth over 14 years of age were assumed to be MSM and 1.4% of King County residents above 14 years of age were PWID. HIV diagnoses declined by 49% among MSM, 42% among PWID, and 38% among heterosexuals (including individuals with un-

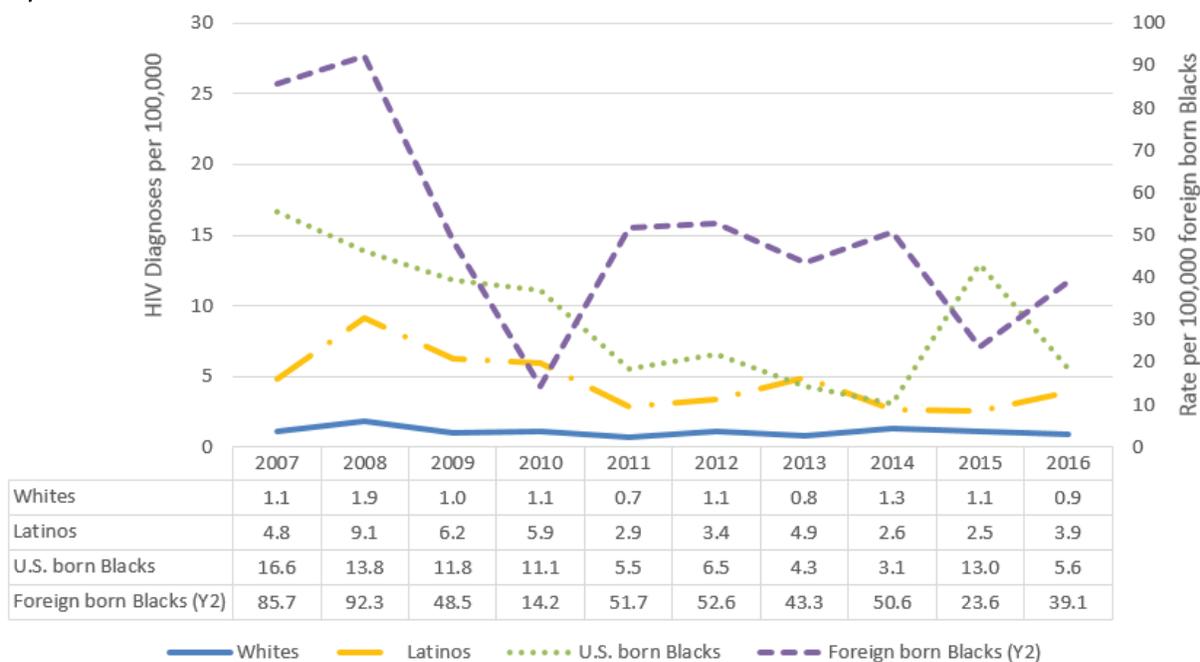
known HIV risk) (all three decreases $p < 0.001$ by X^2_{trend}). Among heterosexuals, HIV diagnosis rates declined in all major categories defined by race/ethnicity and nativity (Figure 2c), with the largest percent declines among U.S. born Blacks (67%) and foreign-born Blacks (54%).

Figure 2b: Rate of New HIV Diagnoses, for Men who Have Sex with Men (MSM), People Who Use Injection Drugs (PWID) and Heterosexuals* per 100,000 Population per Year, 2007 through 2016, King County



* Heterosexuals include individuals with unknown HIV risk.

Figure 2c: Rate of new HIV Diagnoses by Race/Ethnicity and Nativity per 100,000 Population per Year, 2007 Through 2016, King County



* Heterosexuals include individuals with unknown HIV risk.

Goal Two: Increase Access to Care and Improve Health Outcomes for All People Living with HIV

Initial Linkage to Care

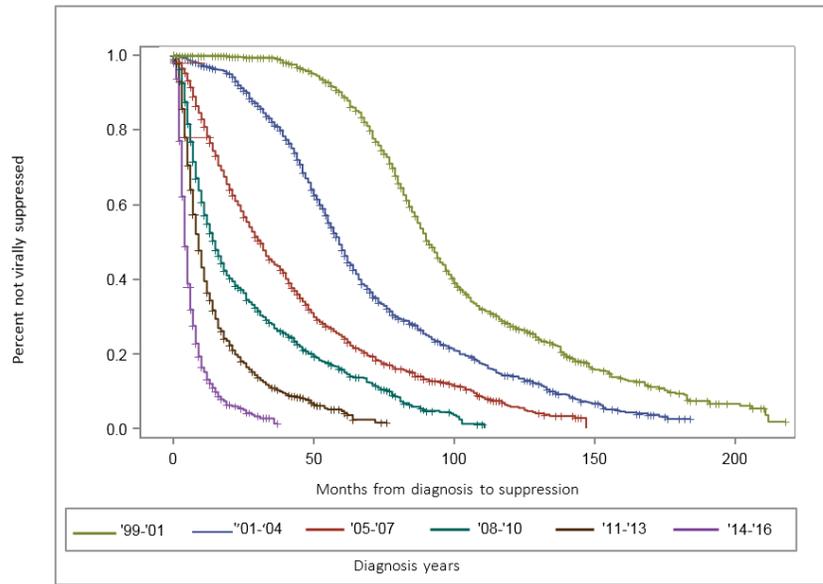
A high proportion of people newly diagnosed with HIV link to care within one or three months of diagnosis. For the past three years, more than 90% of all persons with newly diagnosed HIV infection have linked to HIV care within 3 months of diagnosis, defined as a reported CD4 count or viral load within three months of diagnosis. In 2016, 96% of people diagnosed with HIV in King County in 2016 linked to a care facility within three months. Rates of linkage to care within one month were also high (87% or greater) over the past three years, with 88% of individuals linking to care within one month of diagnosis in 2016.

Time to Viral Suppression

Over the past decade, the time between HIV diagnosis and antiretroviral treatment initiation and viral suppression has shortened considerably. In the Figure

below (Figure 4), the dramatic decrease in time to suppression is shown with a series of “survival curves”. These curves show the percent of people with HIV in three year intervals, 1999 to 2016, who remain without viral suppression at each time period, in months from diagnosis to either suppression or censoring (which can be death, relocation, or being censored as of the last reported laboratory value received by HIV surveillance). Viral suppression is based on an initial viral load < 200 copies/mL. At time of diagnosis (time 0) essentially 100% are not suppressed. For people diagnosed with HIV in 2005 through 2007, half were virally suppressed in about 2 years. For individuals diagnosed with HIV in 2014 through 2016, half were virally suppressed in about four months, 75% were suppressed within 7 months and 82% were suppressed within one year. These data were examined in September of 2017, so individuals diagnosed in the last four months of 2016 have not yet been observed for a full year, and the percent suppressed within one year may increase.

Figure 4: Differences in Time to Viral Suppression by Year of HIV Diagnosis, King County, 1999 – 2016

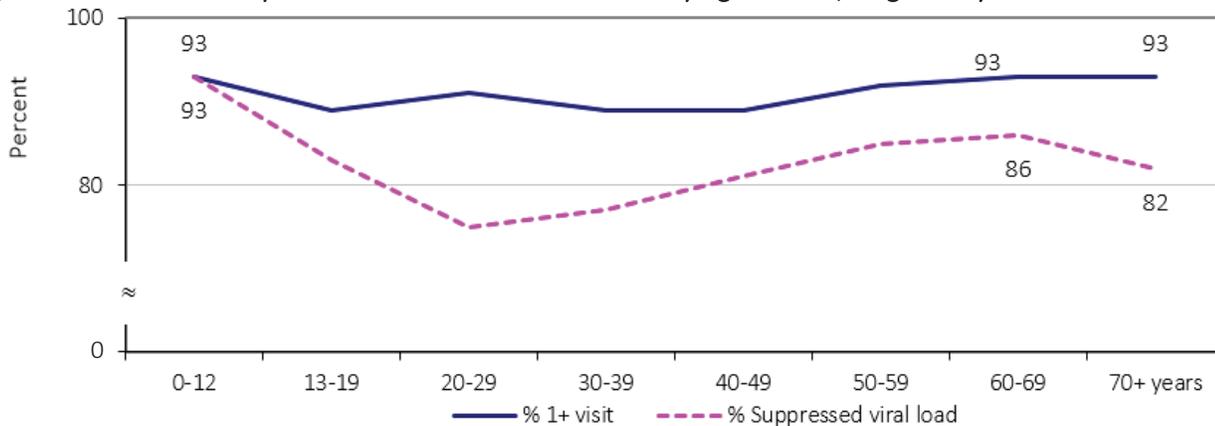


Engagement with HIV Care

Ninety-one percent of all persons with diagnosed HIV infection in King County were engaged with care as evidenced by at least one laboratory test reported to PHSKC. Figure 5 shows that engagement with care and viral suppression (viral load < 200) increased with age among adult PLWHA. Engagement was also higher

among children less than 13 years of age relative to teenagers and those in their 20’s. Note that any potential associations between age and both engagement in care and viral suppression may be partly due to the length of time it has been since an HIV diagnosis, rather than the age of the individual.

Figure 5: Percent with Any Visit and Undetectable Viral Load by Age in 2016, King County



CD4 Count and Viral Load (Figures 6a and 6b)

The CD4 lymphocyte count is a measure indicating the strength of a patient’s immune system. A normal CD4 count is about 1,000 cells/mm³ (range 500-1500 cells/mm³), and individuals with a CD4 count under 200 are considered severely immunosuppressed and are defined as having AIDS. In 2016, CD4 values were available for 78% and viral load test values available for 88% of diagnosed cases presumed living locally.

Of PLWHA for whom laboratory data were available, 60% had a CD4 count over 500 cells/mm³, and only 7% had a CD4 count under 200 cells/mm³ (Figure 6a) In 2016, 88% PLWHA with laboratory data available had an undetectable viral load, and an additional 4% had a suppressed but detectable viral load, under 200 copies (Figure 6b), making a total of 92% with viral suppression (viral load < 200).

Figure 6a: Most Recent CD4+ T-lymphocyte Counts 2016, King County (Based on 5,330 People with CD4 Tests Reported)

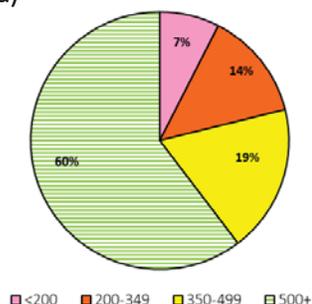
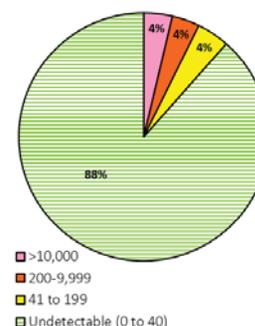


Figure 6b: Most Recent Plasma Viral Load 2016, King County (Based on 6,798 people with Viral Load Tests Reported)



Factors Associated with Not Being Virally Suppressed or in HIV Care

We used a multivariate model to investigate the factors associated with (1) being viremic (viral load greater than 200 copies per mL), (2) not being in care in 2016 or both of these outcomes. Not being in care was defined by having no viral load, CD4, or other lab test (such as a genotype assay) reported in 2016 among people diagnosed in 2015 and earlier. A multivariate model teases out the individual associations of multiple factors (predictors) with an outcome after “adjusting” for all the factors in the model. This type of model allows one to identify factors that are associated with an outcome after accounting for the impact of the other factors in the model. The results are expressed as relative risks (RR) with 95% confidence intervals (CI). A RR estimates the risk of having the outcome relative to a reference group.

RR’s below one suggest people with the factor are at lower risk of the outcome. RR’s above one suggest people with the factor are at higher risk of the outcome. A RR equal to one suggest there is neither a higher nor a lower risk of the outcome. In addition to all of the other factors listed in **Table 2**, we also adjusted for year of HIV diagnosis. Unless otherwise specified, the RR for each category is relative to all other people not in that category. For age, the reference category is people age 50 years and greater. Statistical significance is indicated with bold type and was determined by 95% CI which do not include the value of 1.0. PWID, U.S.-born Blacks, and individuals aged 20 to 49 years were at elevated risk for being out of care or not being virologically suppressed. This finding highlights the disparities that characterize the local HIV epidemic.

Table 2: Factors Associated With (1) Not Being in Care in 2016 or (2) Not Having a Suppressed HIV Viral Load (<200 Copies Per Ml), King County HIV Surveillance Data Reported As Of 6/30/2017⁺

FACTOR	PERCENT OUT OF CARE OR NOT SUPPRESSED	ADJUSTED RELATIVE RISK*	(95% CI)
Total	18%		
People who inject drugs	22%	1.16	(1.00 - 1.33)
Men who have sex with men	16%	0.64	(0.55 - 0.74)
Foreign-born Latino	19%	1.02	(0.83 - 1.25)
US-born Latino	19%	1.07	(0.86 - 1.32)
Foreign-born Black	15%	0.70	(0.55 - 0.89)
US-born Black	24%	1.35	(1.18 - 1.54)
Assigned female at birth	19%	0.77	(0.63 - 0.93)
Assigned male at birth	17%	1.0	Reference category
Less than 20 years of age	14%	1.01	(0.40 - 2.51)
20 - 29 years	22%	1.57	(1.23 - 2.01)
30 - 39 years	23%	1.50	(1.29 - 1.76)
40 - 49 years	19%	1.27	(1.11 - 1.45)
Age 50+ years	15%	1.0	Reference category

⁺ Analysis includes 5,421 persons in care and 1,159 persons who were not engaged with care or who were viremic (6,580 total). Excludes individuals diagnosed with recent HIV diagnoses (in 2016).

* Adjusted for all of the other variables in the Table plus year of HIV diagnosis.

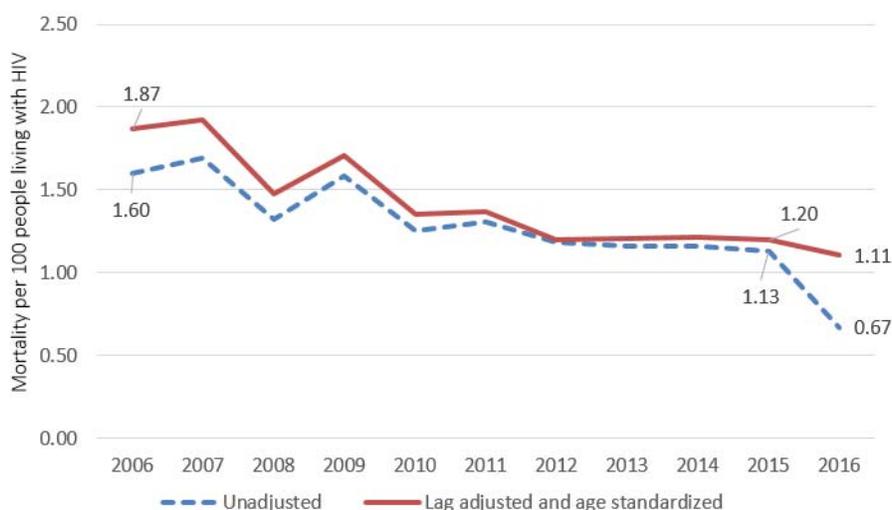
Bold type designates statistically significantly increased or decreased risk of being out of care or non-suppressed.

Mortality

Mortality rates among PLWHA have declined over the last 10 years. As shown in **Figure 10**, age and lag adjusted mortality among PLWHA in King County has declined 20% between 2007 and 2016 (death ascertainment for 2016 was estimated to be 50% complete, with completeness increasing through 2008 [99% complete] and 2007 [100% complete]). Mortality rates in 2009 may have been artificially higher due to an investigation of HIV deaths conducted for individuals who died that year. Despite the

long-term decline in the age-adjustment mortality rate seen in the figure, this rate has now been stable for more than five years, although the slowing in the decrease in death rates may be, at least partly due to over-adjustment for reporting lag. The absence of further progress on this critical metric in the face of rising levels of viral suppression highlights the need to better understand the causes of death in persons dying with HIV in King County and develop new approaches to improving their health.

Figure 10: Death Rates 2007-2016 among King County Residents Diagnosed With HIV: (1) Unadjusted and (2) Adjusted for Changes in Age Distribution and Lags in Death Reporting.



Goal #3: Reduce Health-Related Disparities

Disparities in HIV Prevalence by Race/Ethnicity, Nativity, and HIV Risk

To estimate HIV prevalence among MSM, we assumed that 5.7% of males age 15+ years across all races/ethnicities were MSM.³ Using this assumption, Black MSM were 48% more likely, Latino MSM were 33% more likely, and Asian MSM were 76% less likely to have an HIV diagnosis relative to White MSM (**Figure 11a**). (Please see the MSM fact sheet in this issue for comparisons of incident diagnoses by race/ethnicity among MSM.) HIV infection remains relatively rare among women and heterosexual men who don't inject drugs, with fewer than 3 in 1,000 persons in all groups other than foreign-born-Blacks having diagnosed HIV infection (**Figure 11b**). However, this prevalence varies markedly by race/ethnicity. In this figure, Whites and Asians are combined

as the percent with diagnosed HIV was identical (0.03%). Based on U.S. Census data, approximately 27% of Blacks and 38% of Latinos in King County are foreign born. Excluding MSM and persons who inject drugs (PWID), we estimate that 1.4% of foreign-born Blacks and 0.2% of foreign-born Latinos in King County have diagnosed HIV infection. In 2016, 31% of all new HIV diagnoses in King County occurred in persons born outside of the US, including 8% of diagnoses in Whites, 41% of diagnoses in Blacks, 54% of diagnoses Latinos, and 87% of diagnoses among Asian/Pacific Islanders (data not shown). Excluding cases occurring in MSM and PWID, the prevalence of diagnosed HIV infection is 8.3 times higher among US-born African Americans relative to Whites. Among PWID, HIV prevalence varies markedly by MSM status and methamphetamine use (**Figure 11c**). Depending on methamphetamine usage, MSM were three to 14 times as likely to have HIV infection relative to other PWID.

Figure 11: HIV Diagnosis Prevalence Among MSM (Men Who Have Sex with Men) by Race/Ethnicity in 2016, non-MSM/PWID (People Who Inject Drugs) by Race/Ethnicity and Nativity in 2016, and among PWID by MSM and Methamphetamine use in 2015, King County

Figure 11a: Estimated Percent of MSM** with an HIV Diagnosis by Race

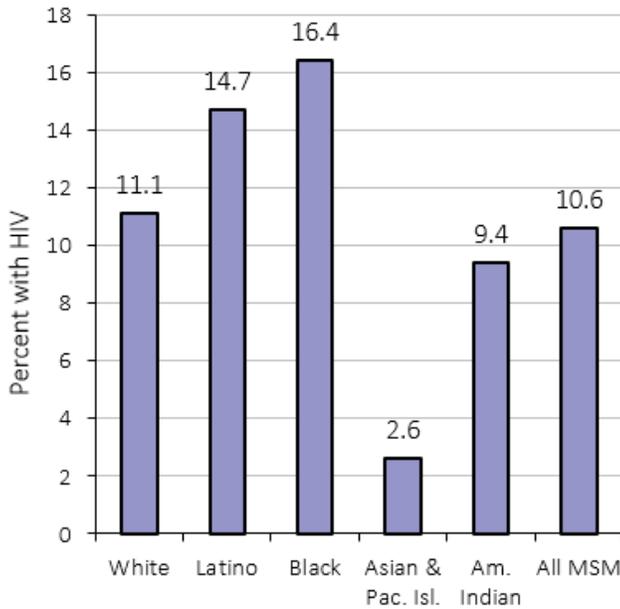


Figure 11b: Percent of non-MSM, non-PWID with an HIV Diagnosis

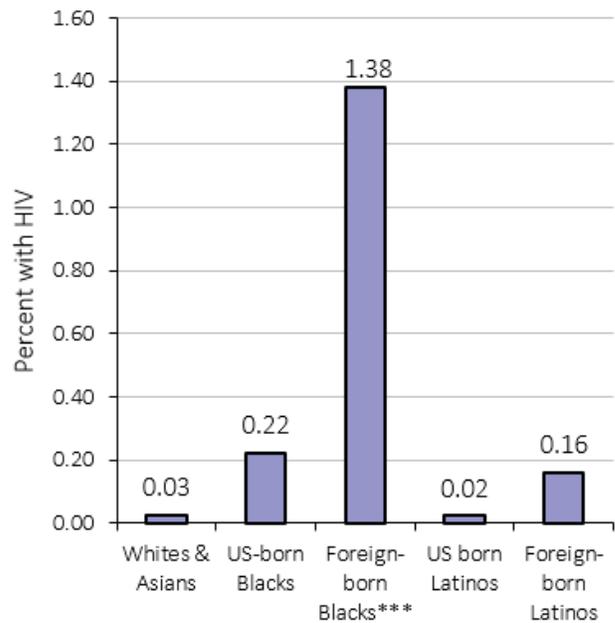
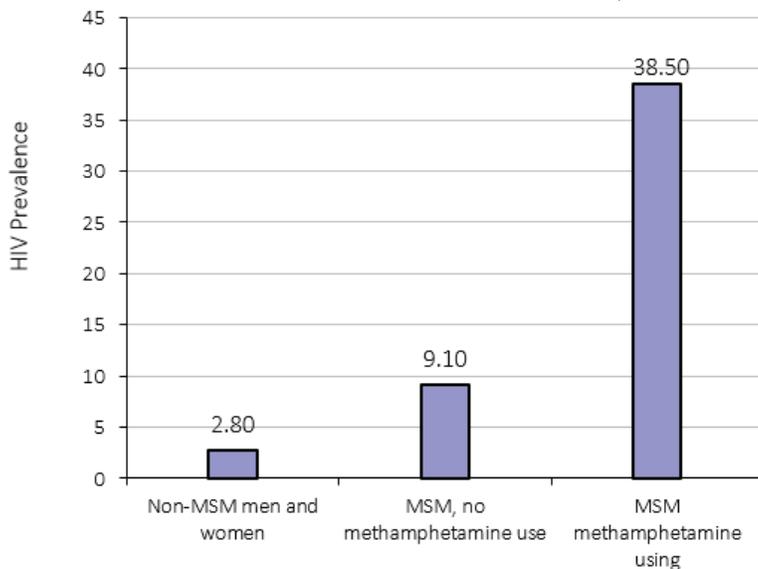


Figure 11c: HIV Seroprevalence Among People Who Inject Drugs from Seattle Area National HIV Behavioral Surveillance, 2015



Notes for Figures 11a-c

MSM = Men who have sex with men; PWID = People who use injection drugs

**MSM are estimated at 5.7% of King County 2015 male residents age 15 years and greater

***Foreign-born Blacks are estimated at 27% of Black/African/African-American residents; foreign-born Latinos are 38% of Latino residents

Disparities in HIV Care Continuum Measures by Race/Ethnicity, Nativity, and HIV Risk

Table 3 presents HIV care continuum data among diagnosed persons with HIV stratified by gender, race/ethnicity, nativity and HIV risk (among MSM, PWID and heterosexuals). (Please note that the percentages below which are limited to people diagnosed with HIV, differ from **Figure 1** in this section, which include all persons living with HIV, diagnosed and undiagnosed.) Virologic suppression is 73% or greater for all subgroups defined by HIV risk, race/ethnicity or nativity. However, suppression is approximately 8% lower among U.S. born Blacks than among Whites and 11% lower among PWID than among MSM (absolute differences). These disparities merit concerted efforts to ensure that all PLWHA receive the medical care they need. At the same time, it is worth noting that levels of viral suppression in King County, including among Blacks and PWID, are very much higher than for the U.S. as a whole¹.

Table 4 presents information on the characteristics of persons living with HIV in King County who are not virally suppressed. An estimated 1,222 King County residents have been diagnosed with HIV infection, but are not suppressed. A total of 588 (48%) of these persons saw a medical provider at least once in 2016. Of the remaining 634, 480 (76%) had a laboratory result reported in 2015 or the first half of 2017, 50 (8%) had a last laboratory result reported in 2014, and the remaining 104 (16%) have had no reported laboratory results since 2013 (these individuals have a high likelihood of relocation out of King County). While Black MSM are more likely to be unsuppressed (24%) relative to 16% of White MSM, over half of unsuppressed persons are White and other (non-Black, non-Latino) MSM.

Table 3: HIV Care Metrics, Including Linkage to Care, Being in Medical Care and Viral Suppression for Selected Groups Living With HIV Infection, King County Washington 2016.

	PEOPLE LIVING WITH DIAGNOSED HIV IN 2016 (PLWDH) (N)	NEW DIAGNOSES IN 2016	PERCENT OF PEOPLE LIVING WITH DIAGNOSED HIV (PLWDH) IN KING COUNTY IN 2016 WHO:		
			LINKED ¹ TO MEDICAL CARE WITHIN 3 MONTHS OF DIAGNOSIS (AMONG 2016 DIAGNOSES)	HAD ONE OR MORE CARE VISIT IN 2016 OF PLWDH	MOST RECENT VIRAL LOAD IN 2016 WAS SUPPRESSED <200 COPIES) OF PLWDH
TOTAL	6,798	180	96%	91%	82%
GENDER CATEGORY					
Assigned male at birth	5,999	153	97%	91%	82%
Assigned female at birth	799	27	93%	90%	81%
Transgender ²	58	7 ³	100%	93%	76%
RACE, ETHNICITY AND NATIVITY					
White	3,992	80	98%	91%	83%
Black	1,263	34	88%	91%	79%
Foreign-born	554	14	93%	91%	85%
US-born	925	20	85%	92%	75%
Latino	845	38	100%	90%	80%
Foreign born	459	19	100%	90%	81%
US-born	386	19	100%	90%	80%
Asian	305	17	100%	85%	79%
Pacific Islander ³	24	3 ³	100%	100%	96%
Native American ³	52	6 ³	83%	92%	87%
HIV RISK FACTORS					
Men who have sex with men (MSM)	4,602	112	98%	91%	84%
People who inject drugs (PWID)	286	11	100%	90%	73%
MSM-PWID	601	13	85%	93%	79%
Heterosexual	656	9	89%	89%	81%
OTHER FACTORS					
Foreign Born	1,382	53	98%	90%	83%
Meth use prior to diagnosis, first collected in 2009	314	28	93%	91%	77%
RACE/ETHNICITY AMONG MSM					
White MSM	3,519	61	97%	91%	84%
Black MSM	502	13	85%	92%	76%
Latino MSM	669	30	100%	92%	82%

¹ "Linked" is based on percent of cases diagnosed in 2016 linking to care based on CD4 or viral load tests within 3 months of diagnosis. The numbers of newly diagnosed Native Americans, Pacific Islanders, and transgender individuals diagnosed with HIV 2014-2016 were small (≤ 7) and the % linking to care should be interpreted with caution.

² Transgender category, for prevalent cases, includes transgender women (97%) and transgender men (3%); for incident diagnoses, all were transgender women.

³ Due to small numbers diagnosed in 2016 alone; recent diagnoses include 2014 and 2015.

Table 4: Number and Characteristics of Diagnosed Persons Living with HIV in King County Who are Not Virally Suppressed

GROUP	LIVING WITH DIAGNOSED HIV IN KING COUNTY	NUMBER WITHOUT A SUPPRESSED VIRAL LOAD IN 2016*	% OF UNSUPPRESSED, COLUMN %
	NO.	NO. (% OF GROUP, ROW %)	
TOTAL	6,798	1,222 (18%)	100%
TOTAL MSM	5,199	878 (17%)	76%
Black MSM	502	118 (24%)	10%
Latino MSM	669	119 (18%)	10%
White MSM	3,519	554 (16%)	45%
Other MSM	509	87 (17%)	7%
PEOPLE WHO USE INJECTION DRUGS (PWID)	886	199 (22%)	16%
FOREIGN-BORN BLACKS (FBB)	513	76 (15%)	6%
OTHER HETEROSEXUALS (EXCLUDING FBB, PWID)	419	91 (22%)	7%

* Includes individuals without a reported viral load as well as viral loads > = 200 copies / mL.
MSM = men who have sex with men; PWID = people who use injection drugs.

Contributed by Matthew Golden, Julia Hood, Sara Glick, and Susan Buskin

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EVALUATION OF PUBLIC HEALTH-
SEATTLE & KING COUNTY
HIV/STD PROGRAM HIV
PREVENTION EFFORTS



HIV Testing and Case Finding

SUMMARY

An estimated 93% of People Living with HIV in King County have been diagnosed.

HIV testing is reaching MSM in King County, with 53% of those newly diagnosed with HIV reporting a negative test in the prior year, and 68% reporting a negative test in the prior 2 years.

Public Health funded 13,276 tests in 2016, and diagnosed 39% of all newly identified cases in King County.

Despite the success of testing, 24% of persons with newly diagnosed HIV infection were concurrently diagnosed with AIDS, suggesting that they had longstanding infections. This was particularly common among HIV-infected heterosexuals born outside of the US.

HIV CASE-FINDING GOALS	2016	2020 Goal
Know HIV status	93%	≥95%
Late HIV diagnosis	24%	≤20%
Recent HIV testing in MSM	68%	≥75%
Eliminate disparities by race/ethnicity in recent HIV testing in MSM	White: 70% Black: 71% Latino: 69%	No Disparities

*Among new HIV diagnoses; tested in prior 2 years.

Background

HIV testing is a cornerstone of HIV prevention and plays a critical role in advancing both of Public Health's two primary HIV-related objectives: averting the morbidity and mortality associated with HIV infection, and preventing HIV transmission. Testing prevents HIV-related morbidity and mortality by identifying infected persons, the first step in their accessing life-saving medical care. It also prevents HIV transmission as most persons who learn they are HIV positive change their behavior to prevent transmission to partners, and initiate antiretroviral therapy which renders them noninfectious.¹⁻⁴ The goal of testing is to ensure that persons who acquire HIV infection are diagnosed as soon as possible following infection. With the advent of HIV pre-exposure prophylaxis (PrEP), testing also plays an important role in linking persons at high risk for HIV to PrEP. Working in collaboration with medical providers and community-based organizations, Public Health Seattle & King County (PHSKC) and the WA State Department of Health (WSDOH) seek to promote widespread HIV testing as part of routine medical care, and directly fund HIV testing for persons at high-risk for infection. WA State HIV Testing Guidelines are shown in **Table 1**. Men who have sex with men can also determine their recommended HIV testing frequency using a calculator at <http://www.findyourfrequency.com/>.

Monitoring the Success of HIV Case Finding at the Population-Level

Public Health monitors the success of HIV case-finding at the population level, primarily using data collected as part of investigations of persons with newly diagnosed HIV infection. Key metrics for monitoring case-finding programs relate to the goal of ensuring that HIV-infected persons are diagnosed as soon as possible following infection. With that in mind, Public Health monitors the percent of people living with HIV (PLWH) who know their HIV status (or the inverse, the undiagnosed fraction of infections), the proportion of persons diagnosed with HIV who have never previously HIV tested, the HIV inter-test interval (time from last HIV negative test to HIV diagnosis), the proportion of persons with newly diagnosed HIV-infection who are concurrently diagnosed with HIV and AIDS, and the measures of CD4 lymphocyte counts at time of HIV diagnosis. (AIDS is a clinical and laboratory diagnosis related to advanced immunosuppression typically observed in persons with long-standing HIV infection, though approximately 9% of persons with HIV develop AIDS in the first year following infection. The CD4 lymphocyte count declines over time in persons with HIV, and is another measure of longer standing infection.)

Undiagnosed Fraction Estimation

PHSKC collaborated with researchers at the University of Washington (UW) to develop a method that uses data on cases' HIV testing history to estimate the proportion of HIV-infected persons who are unaware of their status (i.e. the undiagnosed fraction). In 2015 and 2016, we estimate that 8% and 7% of King County PLWH were undiagnosed. The undiagnosed fraction for MSM was previously estimated at 6% (ranging from 6 to 11%) based on data from 2006 to 2012.⁶ The most current estimate of the undiagnosed fraction for MSM in 2016 is 4% (ranging from 4% to 8%).

HIV Testing History in Persons with Newly Diagnosed HIV, HIV Inter-test Interval and Absence of Prior HIV Testing

The HIV intertest interval (ITI) is the time between a person's last HIV negative test and first HIV positive test. Decreasing the ITI among persons with newly diagnosed HIV infection minimizes the amount of time infected persons go without treatment and may be unknowingly exposing others to HIV. Because recommendations for

frequent testing primarily affect MSM, monitoring focuses primarily on that group. Since 2010, at least 89% of MSM diagnosed with HIV have had a known testing history (either reporting a date of a last negative test, or they stated their initial diagnostic test was their first HIV test). The median ITI remained relatively stable (between 7 and 11.5 months) for MSM diagnosed with HIV between 2009 and 2016 (**Figure 1**). Three quarters of MSM had ITI of 20 months or less in 2016 (excluding those who never tested or with an unknown HIV testing history), and 32%, 54% and 68% reported testing HIV negative in the 6, 12 and 24 months prior to their HIV diagnosis. Throughout this period, 8.5% (ranging from 6% to 10%) of MSM reported never testing negative for HIV prior to an initial HIV diagnosis (**Figure 2**). King County's goal is to assure that all MSM diagnosed with HIV have tested HIV negative in the 24 months prior to diagnosis, and that no MSM over the age of 18 tests HIV positive at the time of their first HIV test.

Table 1: PHSKC & WSDOH HIV Screening Guidelines

ALL WA STATE RESIDENTS

Test at least once between the ages of 18 and 64⁵
 Test concurrent with any diagnosis of gonorrhea or syphilis
 Pregnant women

MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER PERSONS WHO HAVE SEX WITH MEN*

Indications for testing every 3 months (any of below risks)*:
 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
 MSM and transgender persons who have sex with men without the above risks should HIV test annually

PERSONS WHO INJECT DRUGS*

Annual HIV testing

*Persons should also be tested for syphilis and for gonorrhea and chlamydia at all exposed anatomical sites

Figure 1: Median and Inter-quartile Range (IQR) of Intertest Intervals (Months Between Last Negative and First Positive Test) of Newly HIV Diagnosed MSM; King County 2007-2016

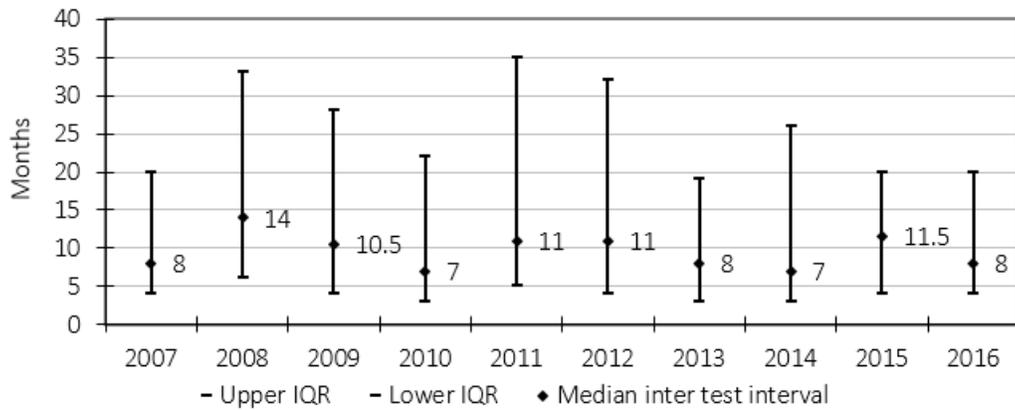


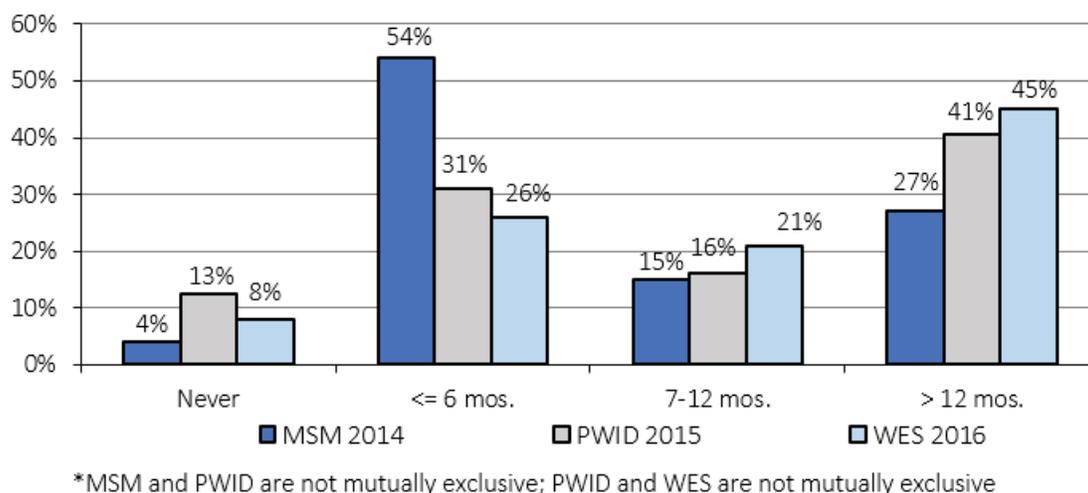
Figure 2: Percent of MSM Without an HIV Test Before an HIV Diagnosis, Tested Within Two Years or More than Two Years of HIV Diagnosis; King County, 2007-2016



Figure 3 presents HIV testing summaries from the three most recent years of the National HIV Behavioral Surveillance system, including MSM, PWID, and women

who exchange sex (WES). Of the three risk groups, MSM were most likely to have had a recent HIV test, and least likely to have never had an HIV test previously.

Figure 3. HIV Testing History (Time Since Last HIV Test) among Men Who Have Sex with Men (MSM, 2014), People Who Inject Drugs (PWID, 2015), and Women Who Exchange Sex for Drugs or Money (WES, 2016) from the Seattle Area National HIV Behavioral Surveillance System

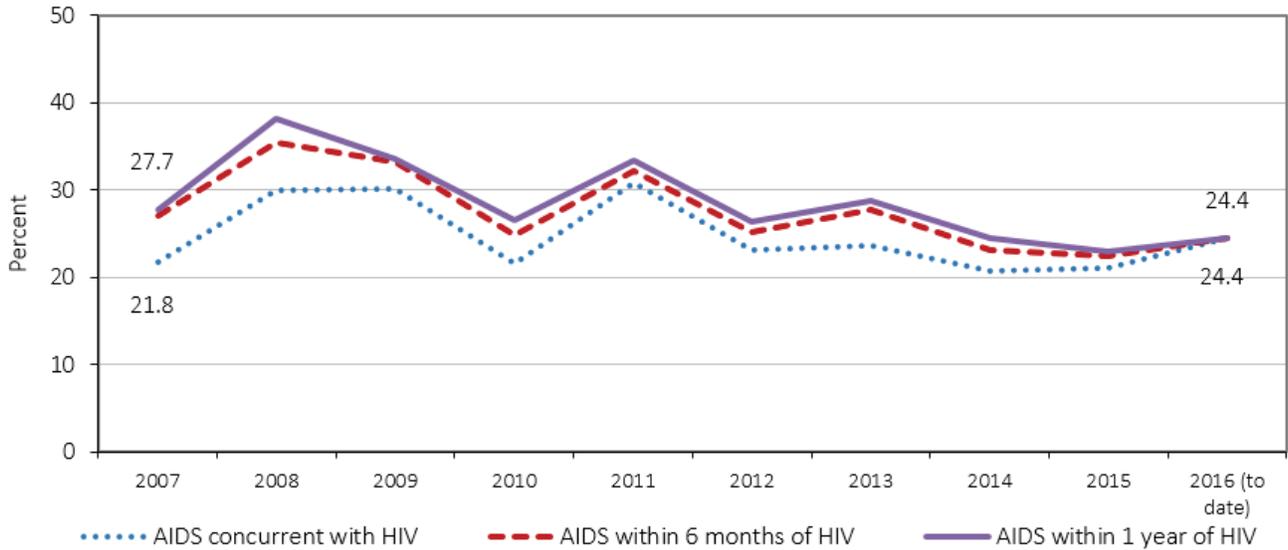


AIDS at Time of HIV Diagnosis

As shown in Figure 4, the percentage of individuals with newly diagnosed HIV infection diagnosed with AIDS within six months of, 12 months of, or concurrent with first testing HIV positive declined between 2008 and 2014 and has since been fairly stable. In 2015 (the most recent year with a full year of follow-up available), 23% of all persons diagnosed with HIV, including 17% of MSM, 27% of PWID and 25% of heterosexuals were diagnosed with AIDS within 1 year of HIV diagnosis. The median CD4 count at time of HIV diagnosis has been roughly stable

since 2007, between 351 and 414 (Figure 5) among individuals with a CD4 count within half a year of their HIV diagnosis. CD4 data demonstrate the converse of late HIV diagnosis, with roughly three-quarters of individuals being diagnosed with HIV before experiencing severe immunosuppression (CD4+ T lymphocyte less than 200 /microL). However inter quartile ranges indicate roughly half of people with a new HIV diagnosis have some degree of immunosuppression with CD4 counts between 200 and 500.

Figure 4: Late HIV Diagnoses, as Defined by AIDS Diagnosis Concurrently, Within Six Months, or Within One Year of HIV Diagnosis; King County, 2007-2016



Individuals outside known HIV risk groups (MSM, PWID), are less likely to have had a prior negative HIV test (Table 2). Among the 92 non-MSM, non-PWID diagnosed with HIV infection in 2015-16, 50%

had never previously HIV tested. Over one third (41%) of non-MSM, non-PWID diagnosed with HIV were foreign born.

Figure 5: Median and Inter-Quartile Range (IQR) of First CD4 Counts among People Newly Diagnosed with HIV; King County, 2007-2016

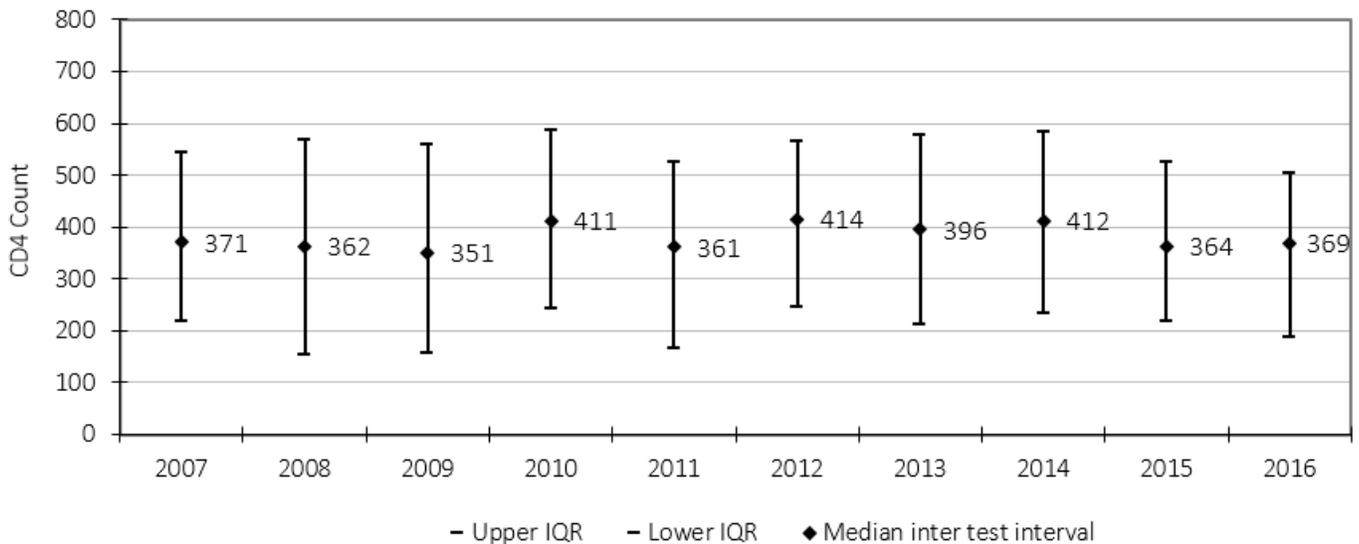


Table 2. Key HIV Testing Metrics Among Individuals Newly Diagnosed with HIV Infection in 2015 and 2016, King County, WA^{*,}**

	NEVER PREVIOUSLY HIV TESTED	MEDIAN ITI (IQR)	PERCENT TESTED IN THE PRIOR YEAR	PERCENT TESTED IN THE PRIOR 2 YEARS	MEDIAN CD4 COUNT AT DIAGNOSIS (IQR) ***	AIDS WITHIN 12 MONTHS OF HIV DIAGNOSIS
All (N=385)	18%	12 (5, 28)	43%	59%	368 (197, 517)	24%
MSM (N=274)	10%	10 (4, 20)	52%	69%	379 (244,538)	22%
White MSM (N=146)	9%	10 (5, 19)	56%	70%	410 (268,577)	17%
Black MSM (N=35)	6%	7 (4, 20)	55%	71%	338 (236, 540)	23%
Latino MSM (N=58)	7%	10 (4, 25)	52%	69%	376 (270, 520)	17%
Other MSM (N=35)	16%	16 (6, 38)	34%	62%	373 (220, 497)	17%
Transgender persons (N=19)*	13%	7 (5, 13)	60%	73%	419 (256, 522)	26%
PWID (N=39)	13%	8 (3, 19)	60%	73%	496 (157, 655)	21%
All non-MSM, non-PWID (N=92)	50%	30 (17, 58)	9%	22%	233 (127, 430)	41%
U.S. Born heterosexuals (non-PWID, N=46)**	21%	30 (10, 56)	23%	33%	387 (199, 583)	26%
Foreign-born heterosexuals (N=38)**	58%	60 (36, 98)	3%	6%	230 (147, 346)	50%

* Due to small numbers 2015-2016 (N=4), the time interval was expanded to 2010 – 2016 for transgender individuals; all transgender persons diagnosed in the 7-year period (N=19) were transgender women.

** Due to small numbers 2015-2016 (N=9 for US-born, N=8 for foreign born), the time interval was expanded to 2010 – 2016 for heterosexuals; heterosexuals exclude PWID.

***CD4 at diagnosis are limited to those within a 3 month (93 day) window (note percent with CD4 < 200 can be higher than percent with AIDS within one year due to missing CD4s in this window).

Place of HIV Diagnosis and Reason for HIV Testing

Figure 6 presents information on the facilities where persons with newly diagnosed HIV infection were diagnosed. Inclusion is limited to individuals diagnosed with HIV in 2015 or 2016 with an HIV diagnosis at a local facility (n = 370), excluding diagnoses made out of state, or among individuals self-reporting earlier diagnoses.

Sources of HIV testing were diverse, with 32% of all new diagnoses occurring in outpatient settings; this group included 68 different diagnosing sites, none of which diagnosed more than 14 cases. The Public Health –

Seattle & King County STD clinic was the largest single diagnosing site for HIV infection, diagnosing 17% of all new infections in 2015 and 2016. The second largest diagnosing facility was Gay City with 11% of 2015-2016 King County diagnoses. (Gay City is included with the 18% of diagnoses occurring at MSM and HIV specialty sites, a category that also includes medical practices that primarily serve MSM). Overall 39% of new diagnoses were diagnosed at facilities receiving public health funding for HIV testing. Inpatient and ER facilities made 11% and 4% of the HIV diagnoses in King County during these two years.

Figure 6. HIV Diagnosis Facility, 2015-2016, King County (n=370)

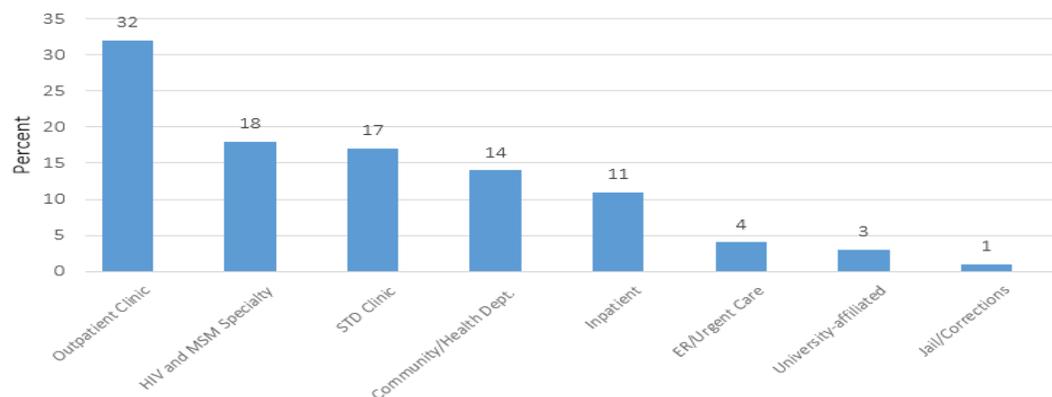


Table 3 presents data on why patients were tested when they were diagnosed with HIV. Ideally, persons with HIV would be diagnosed because of a regular pattern of testing they initiate themselves, as part of routine medical care, because of symptoms of acute HIV (very early infection) or through partner notification. Persons diagnosed because of symptoms of HIV/AIDS represent a failure of the medical system to diagnose persons with

HIV before they become ill. Among persons receiving partner services in 2016, only 13% presented with symptoms related to HIV or AIDS. Most were tested because of testing they initiated themselves, because of testing recommended by a medical provider, or symptoms or partner notification related to a sexually transmitted infection (STI).

Table 3. Reason for HIV Testing in 2016, King County, WA

	N	(%)
Patient initiated regular or risk-based testing	35	24
Medical provider initiated testing (routine testing or testing occurring in the absence of symptoms attributable to HIV)	37	25
HIV partner notification*	13	9
Symptoms of STI or STI partner notification**	14	10
Symptoms of acute HIV infection	15	10
Symptoms of HIV/AIDS	19	13
Prenatal testing	5	3
Other	8	5
Total	146	100

*Partner notification includes both partners notified by PHSKC staff and persons who tested after a partner notified them that they had tested positive for HIV or an STD.

**STI, sexually transmitted infection

Public Health HIV Testing and Case Finding Activities

HIV testing locations are prominently posted on the Public Health web site (<http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/testing.aspx>) and include the STD Clinic at Harborview which is a walk-in clinic open 5 days a week (and until 7:30pm one day per week). The STD clinic provides care on sliding fee scale and no one is turned away due to an inability to pay.

Publicly Funded HIV testing

The WSDOH and PHSKC fund HIV testing, primarily for persons at higher risk for HIV infection, at the PHSKC STD clinic and through several community-based organizations. **Figures 7a and 7b** show trends in the

number of HIV tests performed and numbers of people tested using public health funds between 2007 and 2016. Over that decade, the total number of tests performed declined 2%, while the number of tests performed among MSM increased by 51%. This change reflects a concerted effort to focus HIV testing resources on the population at greatest risk for HIV infection, MSM.

Between 2007 and 2016, the percentage of MSM testing HIV positive at publicly funded testing sites declined from 2.5% to 0.7% (**Figure 8**), while overall test positivity remained stable at approximately 0.2%. This decline occurred concurrent with a drop in the rate of new HIV diagnoses and supports the conclusion that HIV incidence among MSM in King County is declining.

Figure 7a: Publicly Funded HIV Testing in King County; 2007-2016

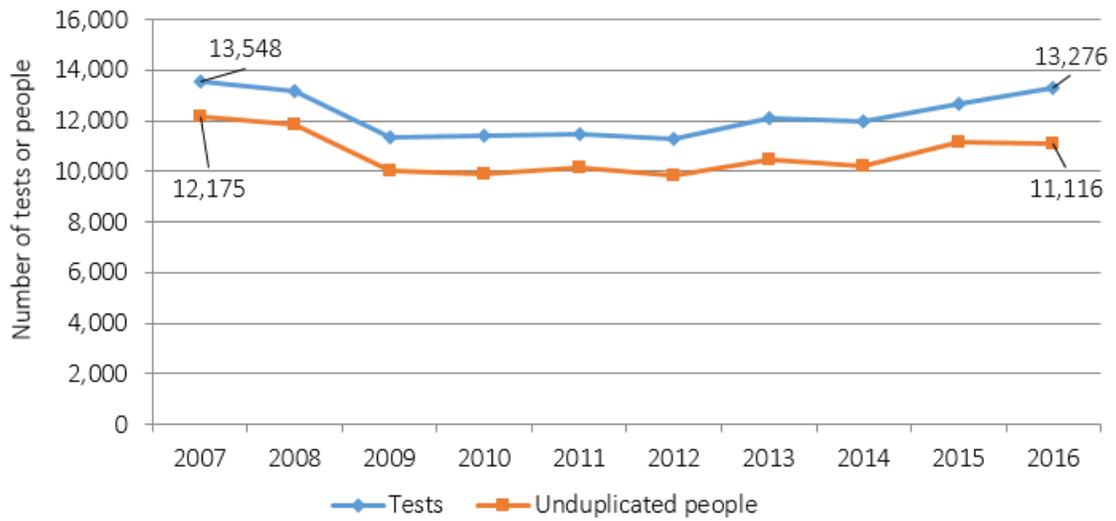


Figure 7b: Publicly Funded HIV Testing in King County Among Men Who Have Sex with Men (MSM); 2007-2016

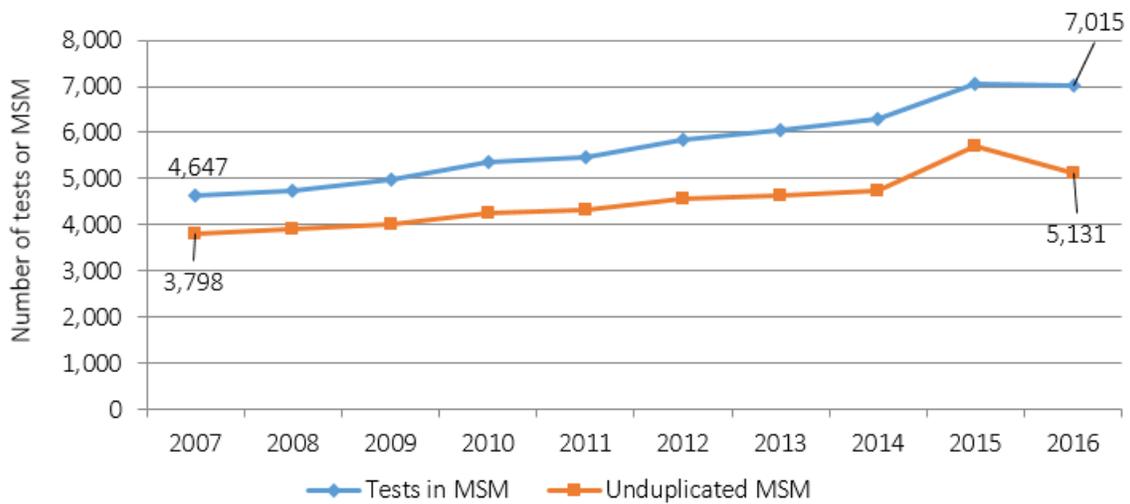
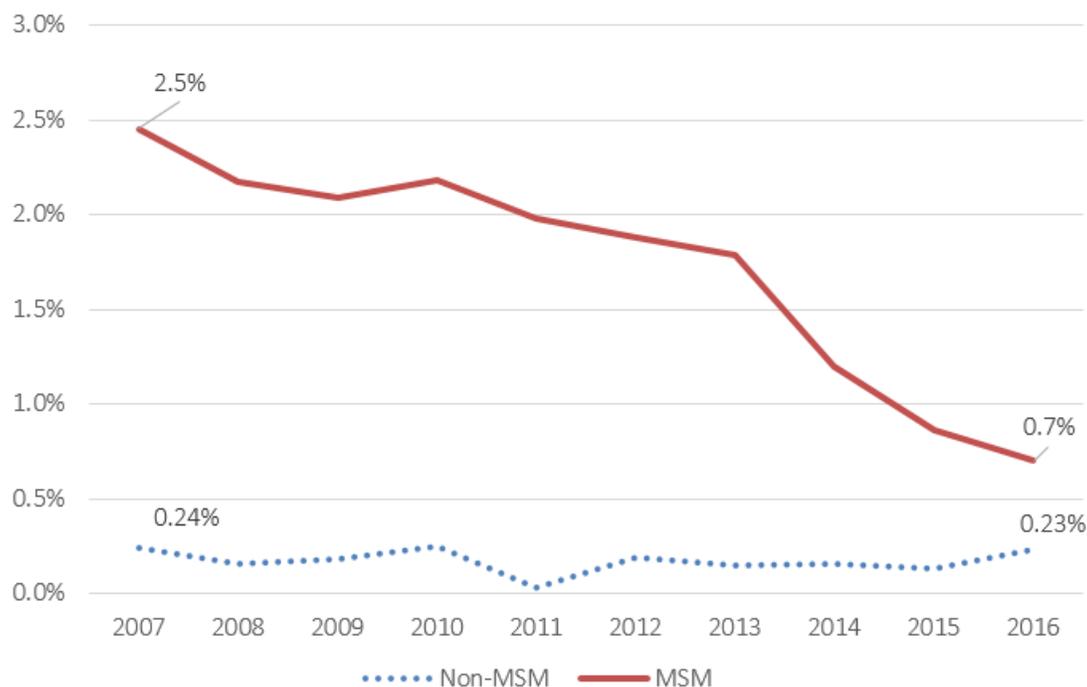


Figure 8: Positivity Rate of non-MSM and MSM Testing at Publicly Funded HIV Testing Sites, Excluding People with Prior Positive Results; King County, 2007-2016



Conclusions

HIV testing in King County has been extremely successful, reflecting the combined efforts of medical providers, community-based organizations, communities affected by HIV, and Public Health. An estimated 93% of HIV infected persons have been diagnosed. Most persons diagnosed with HIV tested because they sought testing themselves, or because of proactive efforts by their sex partners, medical providers, or Public Health. Among

MSM diagnosed with HIV in 2016, 68% had tested HIV negative in the prior 2 years. Despite these successes, 24% of persons diagnosed with HIV have a concurrent AIDS diagnosis, with the greatest risk of late diagnosis seen among foreign born heterosexuals. This finding highlights the need for sustained, focused efforts to test persons at high risk, while expanding HIV testing as part of routine medical care, particularly among persons from countries where HIV is highly prevalent.

Contributed by Matthew Golden, Richard Lechtenberg, and Susan Buskin

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Pre-Exposure Prophylaxis (PrEP)

SUMMARY

More than one in five local men who have sex with men (MSM) have ever used PrEP .

More than one in three MSM at high risk of HIV are currently using PrEP.

Washington State Department of Health makes PrEP affordable with a PrEP Drug Assistance Program (PrEP DAP).

Public Health – Seattle & King County (PHSKC) promotes PrEP in several ways, including integrating PrEP referral into partner services, providing PrEP at the STD clinic, and maintaining a map of PrEP providers.

PREP GOAL	2016	2020 GOAL
Current PrEP use, high-risk MSM	~36%	≥ 50%

Monitoring PrEP Use

Since the first licensure of antiretroviral therapy for PrEP in 2012, PrEP use has rapidly expanded in King County. Public Health uses multiple methods to monitor PrEP use among MSM in King County, including two general surveys of MSM: Seattle PRIDE and an Internet survey (The Washington HIV Prevention Project). Additional data on PrEP use in samples of higher risk MSM come from: the National HIV Behavioral Surveillance (or NHBS, where only preliminary interim results are available for 2017), clinical records at the Harborview STD Clinic, and from individuals with diagnosed sexually transmitted infections (STI) receiving Public Health partner services. Also, Public Health has conducted a PrEP provider survey for the past 4 years, which allows local epidemiologists to estimate the extent of PrEP use among local MSM. Finally, data on PrEP use among clients enrolled in the Washington State PrEP drug assistance program (PrEP DAP) are available from a 2017 survey.

The annual Seattle PRIDE survey has been collecting data on PrEP knowledge and use since 2009. Survey eligibility requires self-identification as a MSM and Washington State residence. In 2017, there were 439 self-reported HIV-uninfected MSM respondents, of whom 118 (27%) were classified as high risk of HIV based on any of these behaviors/diagnoses in the past year: 10 or more anal sex partners, meth or popper use, condomless anal sex with a positive or status unknown partner, or an STI diagnosis

(syphilis, gonorrhea, or chlamydia). Demographic characteristics are stratified by PrEP use in **Table 1**. **Figure 2** illustrates how awareness of PrEP grew rapidly

and is nearly universal among higher risk MSM; similarly use of PrEP has rapidly expanded with over one-third of the higher risk MSM reporting ever-use.

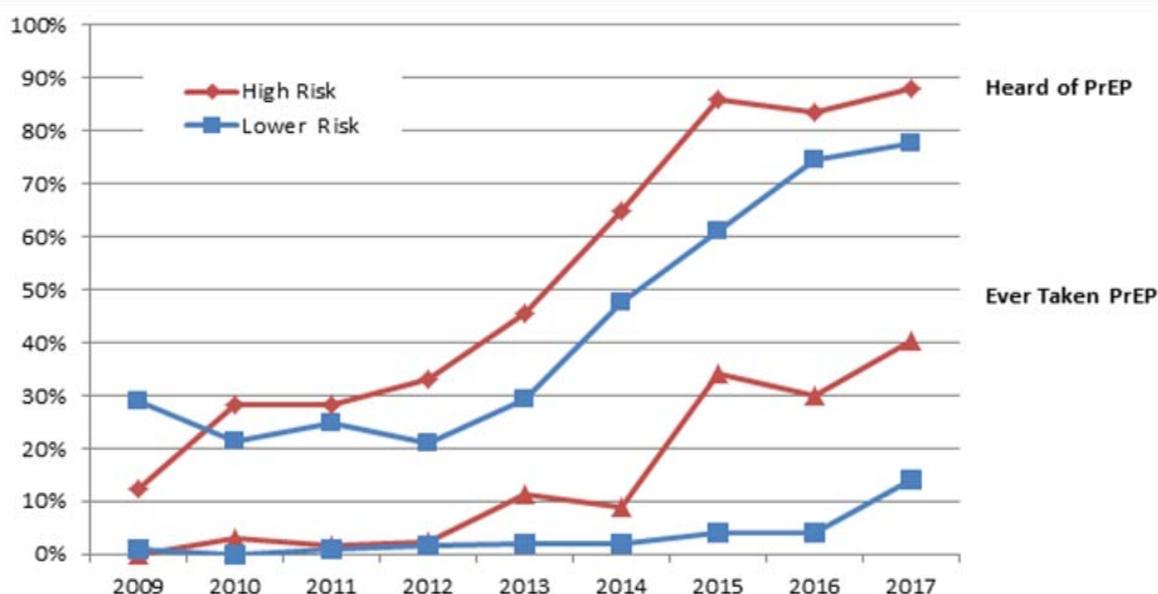
Table 1. Demographic Characteristics of 2017 Seattle Pride Men who have Sex with Men (MSM) Attendees (Excluding Self-Reported HIV-positive MSM)

	CURRENTLY TAKING PREP	DISCONTINUED PREP USE	NEVER TAKEN PREP
OVERALL (N=438)*	17.1%	3.8%	79.2%
RISK LEVEL			
Lower risk (n=309)	10.4%	2.9%	86.7%
High risk** (n=118)	34.8%	5.9%	59.3%
RACE/ETHNICITY			
White (n=313)	16.3%	4.8%	78.9%
Black (n=29)	20.7%	0%	79.3%
Hispanic (n=68)	17.7%	2.9%	79.4%
AGE GROUP			
14-29 (n=191)	12.0%	3.7%	84.3%
30-49 (n=169)	24.3%	4.7%	71.0%
50-72 (n=65)	13.9%	1.5%	84.6%

*Excludes one individual not answering question on PrEP use.

** High risk in past year = 10 or more anal sex partners, or meth or popper use, or condomless anal sex with a positive or status unknown partner, or an STD diagnosis (syphilis, gonorrhea, or chlamydia [N=4 with chlamydia as only criteria]).

Figure 1. Trends in PrEP Awareness and Use Over Time; Seattle Pride Men Who Have Sex with Men Attendees 2009-2017



The Washington HIV Prevention Project, an Internet survey, was administered to men and transgender women from January 1 to February 28, 2017. It was completed by 603 residents of King, Pierce, and Snohomish Counties who reported ever having had oral or anal sex with a man. In addition to having had sex with men, eligibility criteria included being at least 16 years of age, male sex at birth, never having tested positive for HIV, residence in Washington State, and completing the survey from a computer, tablet, or mobile device with an IP (Internet Protocol) address based in the United States.

Findings included that 23% of participants had ever used PrEP and 19% were current users. Among those at higher risk of HIV infection (46% of the sample), 42% reported ever having used PrEP, and 37% reported current use. For comparison with Pride participants, the percent of respondents who reported never, current, or past use of PrEP by demographic and behavioral characteristics are presented in **Table 2**. PrEP use varied significantly by risk level (Pearson χ^2 $p < 0.001$) and age group ($p < 0.001$), but not by race ($p = 0.636$).

Table 2. Demographic Characteristics of 2017 Men Who Have Sex with Men (MSM) Who Participated in the Washington HIV Prevention Project Online Survey and Reported Living in King, Pierce, or Snohomish County

	CURRENTLY TAKING PREP	DISCONTINUED PREP USE	NEVER TAKEN PREP
OVERALL (N=603)*	19.1%	3.5%	77.4%
RISK LEVEL			
Lower risk (n=280)	6.1%	1.8%	92.1%
High risk** (n=238)	37.0%	4.6%	58.4%
RACE/ETHNICITY			
White (n=406)	20.9%	3.2%	75.9%
Black (n=27)	14.8%	3.7%	81.5%
Hispanic (n=94)	14.9%	5.3%	79.8%
Other (n=70)	14.3%	2.9%	82.9%
AGE GROUP – OVERALL			
14-29 (n=241)	16.2%	2.9%	80.9%
30-49 (n=247)	26.3%	2.4%	71.3%
50-72 (n=115)	9.6%	7.0%	83.5%

Excluding self-reported HIV-positive MSM; MSM are men who reported ever having had sex with men

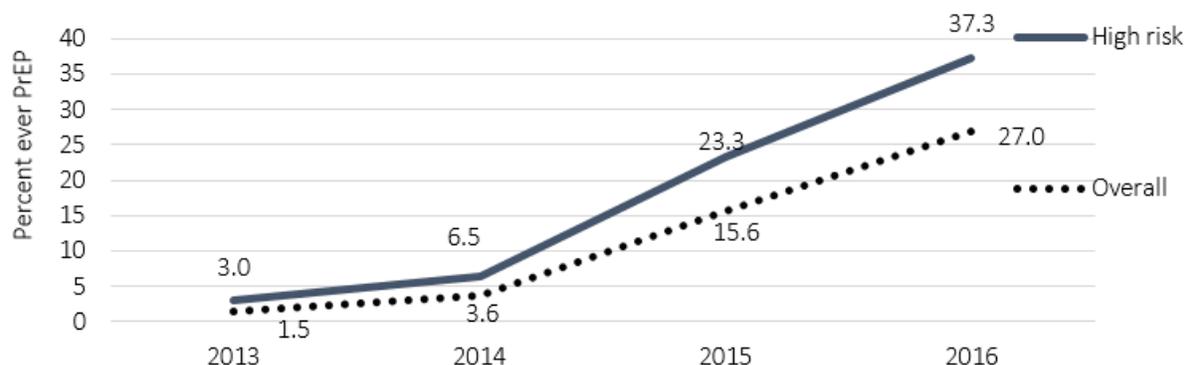
*Excludes one individual not answering question on PrEP use. ** High risk in past year = 10 or more anal sex partners, or meth or popper use, or condomless anal sex with a positive or status unknown partner, or an STD diagnosis (syphilis, gonorrhea, or

The National HIV Behavioral Surveillance (NHBS) interviews MSM every third year. As of this writing, interim PrEP related data were available for 233 self-reported HIV-uninfected MSM participating in the 2017 survey. MSM data were also available for 2014. In 2014, 5% of HIV-uninfected participants had used PrEP in the past year, 61% of those who had never used PrEP might be willing to take PrEP, and 67% had heard of PrEP previously. In 2017, 35% of MSM had used PrEP in the past year, including 30% continuing PrEP use at the time

of the survey and 5% who had discontinued PrEP. Among higher risk MSM (defined as above), 39% were current PrEP users, compared to 11% of lower risk MSM.

PrEP usage among STD Clinic patients has been captured by a self-completed survey (aka KIOSK) at each visit. The percent of HIV-uninfected patients from 2013 through 2016 whom had ever used PrEP is presented in Figure 2. In 2016, 37% of higher risk and 27% of overall STD Clinic patients had used PrEP at any time in the past.

Figure 2. Public Health—Seattle & King County STD Clinic (at Harborview) Patients' Ever Use of PrEP from 2013 through 2016 (restricted to HIV-uninfected patients)



The 2017 King County [PrEP Provider Survey](#) was sent to 230 medical providers and roughly two-thirds participated. After adjustment for non-response, we estimated that 6,289 MSM in King County were prescribed PrEP. Using an estimate of 5.7% of King County males being MSM, and after excluding prevalent HIV cases, we estimated that 14% of HIV-uninfected and undiagnosed MSM were prescribed PrEP in 2017.

The 2017 [PrEP DAP Client Survey](#) was mailed to all PrEP DAP clients in February 2017, including past participants. It was completed by 264 people, for a response rate of 26%. Eighty-five percent were currently taking PrEP and 59% were enrolled in PrEP DAP at the time they completed the survey. Adherence to PrEP was high, with 92% reporting they took it on the day they completed the survey and 65% reporting no missed doses in the last 30 days. Findings related to costs include that 98% were insured and 75% were enrolled in a patient assistance program in addition to PrEP DAP. Fifty-six percent reported no monthly costs to take PrEP, and of those that had monthly out-of-pocket expenses, the mean was \$74 per month. Cost appeared to still be a barrier to PrEP, with 14% reporting they discontinued PrEP because they couldn't afford it or they lost their health insurance.

PrEP in the Public Health—Seattle & King County STD Clinic

The PHSKC STD clinic began offering PrEP in October 2014. Clinicians and other staff at the clinic routinely discuss PrEP with all MSM and transgender persons who have sex with men. Per the [2015 Washington](#)

[Department of Health and PHSKC PrEP Implementation Guidelines](#), the PHSKC STD clinic offers PrEP to individuals at high risk for HIV infection. This includes: (1) persons in an ongoing sexual relationship with an HIV-infected partner who is not on antiretroviral therapy (ART) or is on ART but it not virally suppressed or who is within 6 months of initiation ART; and (2) MSM or transgender persons who have sex with men if they have any of the following risks in the past 12 months: diagnosis of rectal gonorrhea or early syphilis, methamphetamine or popper use, or history of providing sex for money or drugs. Due to local disparities in HIV risk and concern that PrEP might not be equally accessible to all populations, starting in 2017 the STD clinic began to offer to directly prescribe PrEP to all Black and Latino MSM, including those who do not meet the criteria above. If patients are interested in PrEP but do need meet the above criteria, STD clinic staff offer to refer to other medical providers.

The PrEP clinic is integrated into the STD clinic and all clinicians can prescribe PrEP. Field Services Staff (FSS) coordinate the PrEP program. The clinic offers same-day PrEP prescription and patients are asked to return to the clinic for follow-up at one month and thereafter every three months. Each quarterly visit includes HIV/STI screening, behavioral data collection, and check-in about adherence and side effects. Clinicians see patients at intake and every 6 months thereafter. Appointment reminders, check-ins, and communication between the patients and FSS is facilitated by two-way text messaging. FSS also assist patients in finding insurance and payment options, PrEP education and PrEP retention.

From October 2014 to December 2016, there were 348 patients who completed an initial intake for PrEP in the

STD clinic (i.e. completed all clinical procedures for initiating PrEP), including 20 (6%) in 2014, 149 (43%) in 2015, and 179 (51%) in 2016. Of all patients who completed an initial PrEP intake, 334 (96%) were MSM. Compared to MSM diagnosed with HIV in King County 2012-2015 (N=925), MSM evaluated for PrEP in the STD clinic were more likely to be Hispanic (24% of PrEP patients vs 15% of MSM diagnosed with HIV in King County; $P<0.001$) and aged 16-24 (26% vs 17% respectively; $P<0.001$) but less likely to be Black, non-Hispanic (8% vs 12% respectively; $P=0.05$).¹

Of 334 MSM patients evaluated for PrEP, 52 (16%) never filled a PrEP prescription and 27 (8%) have moved or transferred care. The remaining 255 patients have been on PrEP for a median 12 months (interquartile range 6 months to 18 months). A total of 174 (68%) were active on PrEP as of December 2016.¹

Text messaging became available to PrEP patients in September 2015. Through December 2016, 218 (79.3%) of 275 PrEP patients who had filled a PrEP prescription opted in to the two-way text message program. Retention in the PrEP clinic was higher for patients who opted-in to the text message program (76.2% retained) compared to those who did not opt in (52.6% retained) ($P<0.001$).²

Promoting and Monitoring PrEP via STD Partner Services

Partner services (PS) are an integral part of bacterial STD prevention, as they seek to ensure appropriate treatment for persons diagnosed with bacterial STDs and to elicit, notify, test, and treat their partners with the end goal of decreasing STD transmission and associated morbidity. STD partner services also present an opportunity to provide population-based HIV prevention to persons at high risk, from PrEP referrals to HIV testing to ensuring engagement in HIV care. FSS at the Harborview STD Clinic attempt to provide partner services to all individuals with HIV, gonorrhea, and early syphilis diagnoses in King County, as well as a random sample of 5% of chlamydia cases.

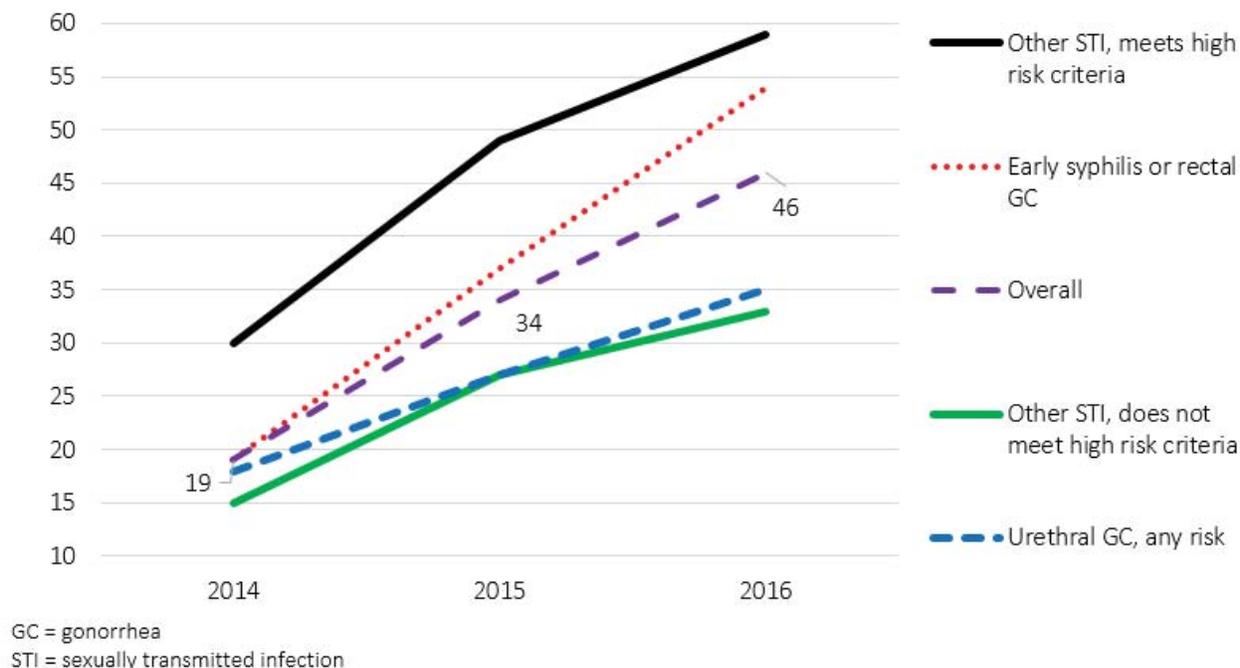
Since October 2014, FSS have assessed whether HIV-uninfected MSM and transgender people are currently

on PrEP as part of STD PS interviews. If patients are not on PrEP, FSS offer referrals to initiate PrEP at the PHSKC STD Clinic or with community medical providers based on local criteria and patient preference. Patients are eligible for referral to the STD Clinic PrEP program if they meet criteria summarized above. In May 2017, after an initial evaluation indicated that Black and Hispanic/Latino MSM with STDs were significantly less likely to be taking PrEP³, FSS began offering referrals to the STD Clinic program to these men as well in an effort to improve equitable access to PrEP.

In 2016, medical providers reported 2,633 cases of early syphilis, gonorrhea, or chlamydial infection among HIV-uninfected MSM in King County. Overall, 667 (59%) of 1,126 PS recipients were eligible to receive PrEP at the STD Clinic, of whom 642 (96%) had PrEP use assessed. Of those, 351 (53%) reported already using PrEP. Among 291 MSM not currently on PrEP, 240 (82%) were offered a referral, of whom 143 (60%) accepted. Of the 70 who accepted referral to the STD Clinic, 46 (63%) attended a first PrEP assessment visit at the Clinic within 3 months of their PS interview. Among PS recipients not eligible for PrEP at the STD Clinic, 31% were already using PrEP, and among the 137 not currently on PrEP who were offered referrals, 65 (47%) accepted referrals to community providers.

STD PS can also be used to monitor PrEP use in among MSM with bacterial STDs in King County. The percent of cases reporting already taking PrEP increased from 19% in 2014 to 54% in 2016 among early syphilis and rectal gonorrhea cases ($p<0.0001$), from 30% to 59% among other higher risk MSM ($p=0.002$), and 15% to 33% among lower risk MSM ($p<0.0001$). Because urethral gonorrhea is usually symptomatic, it provides an estimate of PrEP use that is not influenced by the frequent STI screening undertaken as part of PrEP related medical care. Among MSM with urethral gonorrhea, PrEP use increased from 18% to 35% ($p=0.0002$). The percent of HIV uninfected patients diagnosed with an STI 2014-2016 who have ever used PrEP is shown in **Figure 3**.

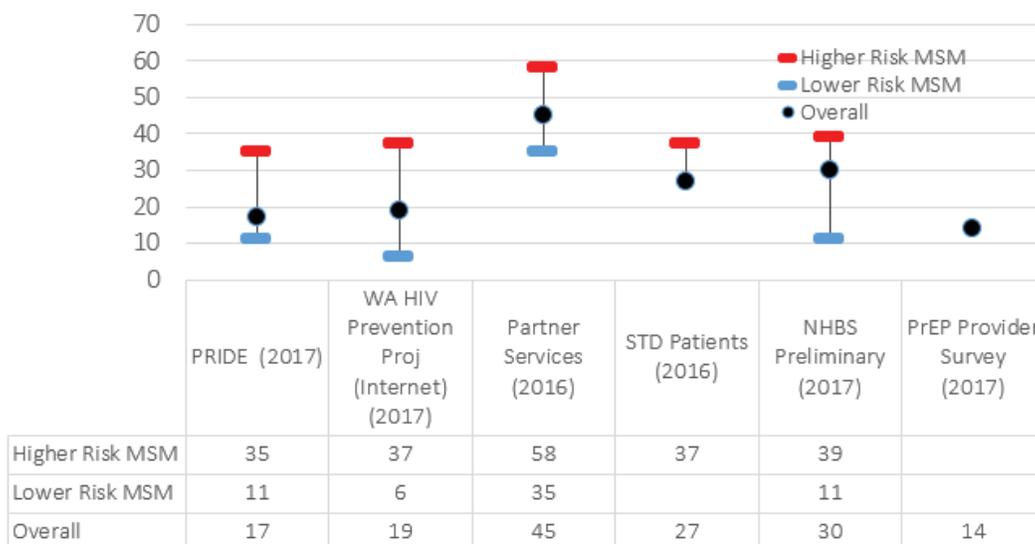
Figure 3. PrEP Usage (Ever) Among Individuals Diagnosed with a Bacterial STI in King County Completing a Partner Services Interview 2014-2016



Summary of PrEP Monitoring Data, 2016-2017: In summary, the most recent local data on current use of PrEP among MSM are given in **Figure 4**. This includes data from sources of primarily high-risk MSM including

the STD Clinic, partner services, and NHBS. (Data from these 3 sources are excluded from our overall estimates.) We estimate that 14-19% of MSM overall and 35-58% of higher risk MSM are current PrEP users.

Figure 4. Summary of Current use of PrEP from Six Sources: 2017 Seattle PRIDE Festival (General MSM); 2017 Washington HIV Prevention Project (Internet) Survey (general MSM); 2016 STD Clinic Patient Surveys (Higher Risk MSM); 2016 Partner Services Data (Highest Risk MSM); 2017 National HIV Behavioral Surveillance (NHBS) Preliminary Data (Higher Risk MSM); and the 2017 PrEP Provider Survey



Public Health Activities to Promote Access to PrEP and Use of PrEP

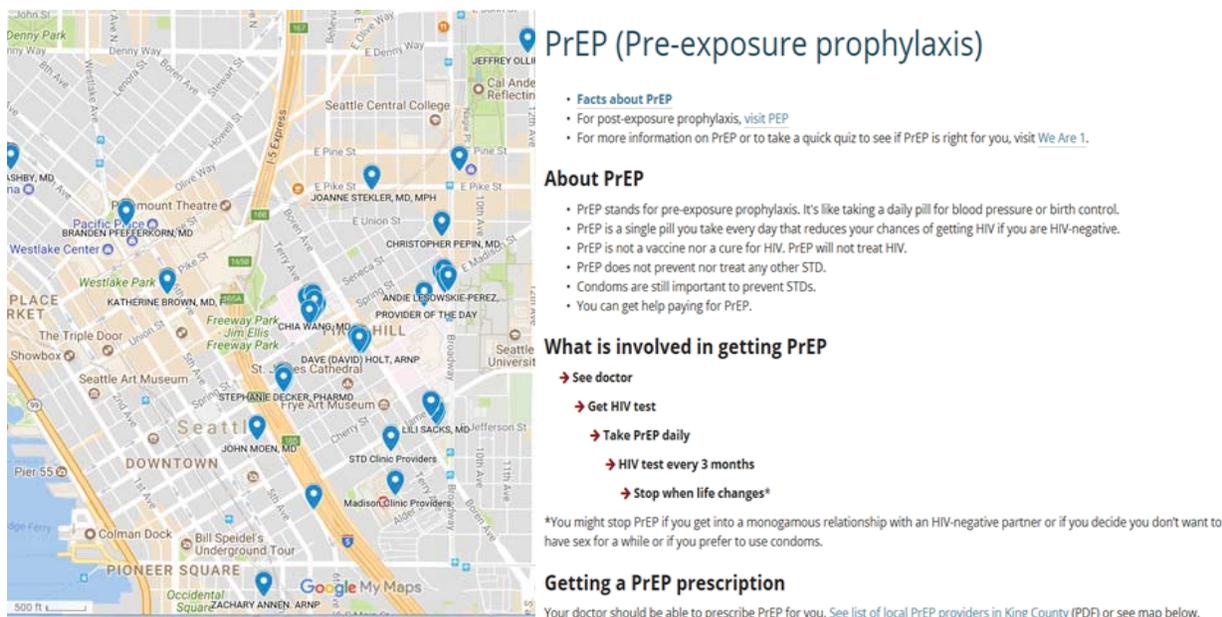
Public Health and the WA State Department of Health engage in a wide spectrum of activities to increase PrEP use among persons at higher risk for HIV, including direct provision of PrEP to high risk persons, dissemination of information, and financial assistance to make PrEP more accessible to lower income persons.

PrEP Resources on the Public Health Web Site, Including Fact Sheets, Provider List, and Map

PHSKC maintains a web page with PrEP information and resources, available here: www.kingcounty.gov/prep.

Included are 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. Additionally, on the web page is list of medical providers whom have stated they are willing to screen for, prescribe, and monitor patients for PrEP, as well as a searchable map of these medical providers (Figure 5). Similar lists and/or maps are available for Snohomish County, Washington State, and the nation.

Figure 5. PrEP Provider Map and Web Page Resources from Public Health – Seattle & King County Web Site



PrEP Promotional Activities

PHSKC is part of the tri-county “We Are 1” consortium of community health agencies and health departments who are working to improve the health and wellness of gay men, bi men, trans people and straight men who have sex with men in King, Pierce and Snohomish Counties. In

2015, the consortium launched its largest social marketing campaign to raise awareness and promote PrEP among high risk men who have sex with men and trans individuals. In addition to the “Is PrEP Right for YOU?” quiz mentioned above, the campaign featured regional PrEP information and resources (Figure 6).

Figure 6: PrEP Promotional Materials and Link to “Is PrEP Right for You?” Quiz on We are 1 Website.

The screenshot displays the We are 1 website interface. At the top, there is a navigation bar with links for Resources, Safer Sex Plans, HPV, PrEP, About, and En Español. A search bar is also present. The main content area is divided into three sections:

- Left Section:** A promotional graphic featuring a smiling man in an orange tank top. The text reads: "THIS PILL CAN PREVENT HIV." Below this, it states: "PrEP is short for Pre-Exposure Prophylaxis. It's a pill you take every day if you don't have HIV to reduce your risk of becoming infected." A blue pill icon with "PrEP" written on it is also visible.
- Middle Section:** A "Quick Facts" sidebar with a list of bullet points:
 - PrEP is for HIV-negative people at risk for HIV infection.
 - PrEP requires a prescription from a medical provider. ONLY take PrEP if it has been prescribed for you.
 - PrEP is covered by all health insurance plans in Washington State including Apple Health. Financial assistance is available to help pay for the cost of the drug if you are un-insured or under-insured.
 - PrEP is highly effective if you take it every day (one pill, once a day).
 - PrEP can cause mild side effects like upset stomach or headaches.
 - PrEP will not protect you from other sexually transmitted infections like syphilis or gonorrhea.
 - PrEP is most effective in combination with other HIV prevention methods, like condoms.
- Right Section:** A blue box titled "IS PrEP RIGHT FOR YOU?" with the text "Take this short quiz to find out." Below this is a pink button labeled "START QUIZ" with a magnifying glass icon. At the bottom, there are links for "U.S. Public Health Service PrEP Guidelines" and "WA State PrEP Implementation Guidelines".

Paying for PrEP

The Washington State Department of Health has offered a PrEP Drug Assistance Program (PrEP DAP) since 2014. At peak enrollment and use (February – March 2016) 753 Washington residents were enrolled in PrEP DAP and 501 Washington residents were actively filling PrEP prescriptions with assistance from PrEP DAP. In January of 2016, due to increasing costs, the PrEP DAP program shifted to a payer of last resort model, helping uninsured recipients become insured and/or transferring some to all of the costs of PrEP to other payers. As of July 30, 2017, enrollment includes 337 participants, and of these, 269 (80%) are actively filling PrEP prescriptions with PrEP DAP assistance. Gilead (manufacturer of Truvada™, currently the only drug approved for PrEP), has two drug assistance plans -- one each for patients with and without insurance. Additional assistance in paying for PrEP is possible through Washington State's Medicaid expansion under the Affordable Care Act — increasing the number of insured residents, the Patient Access Network (PAN), and the Patient Advocate Foundation Copay Relief Program (PAFCRP). WA State Department of Health efforts to promote PrEP are increasingly focused on helping patients navigate the medical and drug assistance systems to improve access to PrEP.

Successes

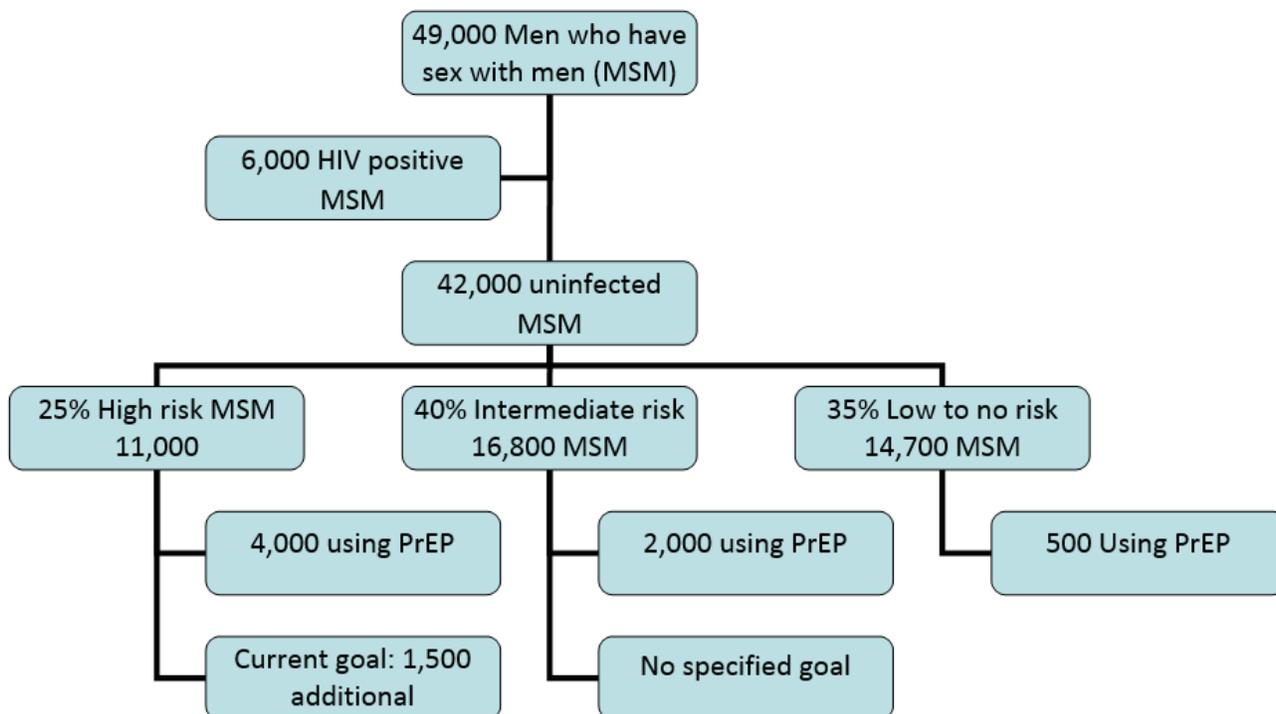
Washington State and King County have robust systems of promoting PrEP use and access, including the integration of PrEP into STD medical care and partner services, and what we believe is the first state-funded

PrEP drug assistance program in the nation. The area also has a robust surveillance system, data from which documents the rapid growth in PrEP use, particularly among higher risk MSM, since 2014. PHSKC has established a goal of having 50% of higher-risk MSM and transgender persons on PrEP by 2020, and is on pace to reach that goal.

Challenges

Based on Pride and Internet survey data, Public Health estimates that approximately 25% of MSM are at higher risk for HIV. As indicated above, King County is on pace to meet the goal of 50% PrEP use in this group. However, achieving that goal means that approximately 1,500 additional high-risk persons initiate PrEP. This will require ongoing and intensified effort to reach high risk men, link them to PrEP, and facilitate their sustained engagement with medical care. Also, there are a substantial number of MSM with an intermediate level of risk of HIV who might benefit from PrEP. We currently have limited data on the size of that population, but estimate that it may include approximately 40% of MSM. In the coming year Public Health, The WA State Department of Health, and community stakeholders will reevaluate goals related to PrEP use in intermediate risk MSM. **Figure 7** demonstrates, with estimates informed by the projects summarized within this article, the current distribution of MSM between risk groups and the use of PrEP in different groups based on risk.

Figure 7. Estimates of PrEP (Pre-Exposure Prophylaxis) use among Men Who Have Sex with Men (MSM) in King County, Washington State, USA



Although HIV diagnosis incidence continues to fall, we have thus far not seen a steep sustained downward inflection in HIV incidence that we can pinpoint as due to the increase in PrEP uptake. This may be due to increased screening related to PrEP, as some new HIV diagnoses are due to screening for PrEP. Ongoing

adherence to PrEP may be an issue for some PrEP users. Other issues may be lack of perceived HIV risk, or not knowing enough about PrEP. In sum, we hope to further increase the already high levels of awareness, availability, adherence, and access to PrEP.

Contributed by Christine Khosropour, Julia Hood, Darcy Rao, Dawn Spellman, David Katz, Christina Thibault, Lori Delaney, Jsani Henry, Kelley Naismith, Sara Glick, and Susan Buskin

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Condom Use

SUMMARY

Condoms are widely available, inexpensive, and prevent HIV, most sexually transmitted infections (STIs), and unwanted pregnancies. Public Health –Seattle & King County (PHSKC) markets and distributes condoms for harm reduction reasons.

In 2016, Public Health distributed 462,245 male condoms, 2,000 internal condoms (previously called female condoms) and 45,500 packets of lube throughout King County.

Pre-exposure prophylaxis (PrEP) users report decreased condom use, which may be associated with increases in non-HIV STIs.

Introduction

When used correctly and consistently, condoms are a highly effective method of HIV prevention, with the added benefit of preventing most sexually transmitted infections (STI) and unwanted pregnancies.¹⁻⁴ Although many persons at risk for HIV and other STIs do not use condoms every time they have sex, condom use remains very widespread, and are a central component of Public Health's and the WA State Department of Health's HIV/STI prevention strategy.

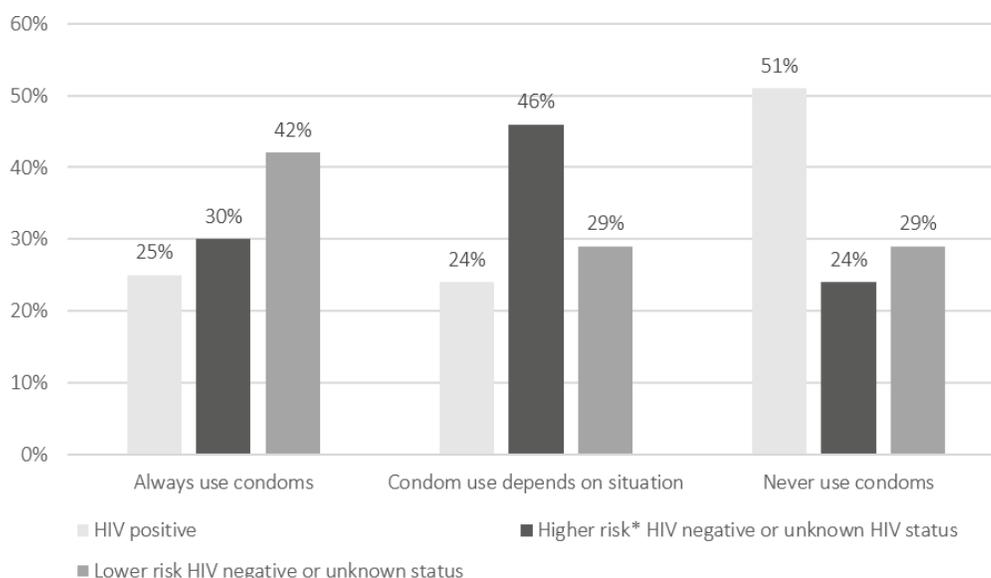
Condom Use among Men Who Have Sex with Men (MSM)

MSM are the population most impacted by HIV in King County and Washington State. Local data from the Pride survey from June 2017 provide some insight into condom use among MSM. The survey was administered anonymously to 491 Washington residents who identified as MSM at the annual Seattle Pride Parade. Overall, 37% of sexually active respondents reported always using condoms, 33% sometimes used condoms and 30% never used condoms. HIV negative and unknown status MSM were significantly more likely to report always using condoms relative to HIV-infected participants (39% versus 24%; X^2 p value =0.045). Higher risk HIV negative/unknown status MSM (e.g. men who reported in the past year: serodiscordant condomless

anal sex, 10 or more anal sex partners, methamphetamine or popper use, or an STD diagnosis) reported always using condoms less frequently than their lower risk counterparts (30% versus 42%; X^2p value =0.02; see **Figure 1**), though even in this higher risk group

most men (71%) used condoms at least some of the time. MSM who sometimes used condoms most commonly reported using them with non-primary partners (63% of sometimes-users) and partners they did not know well (53% of sometimes-users).

Figure 1. Condom Use from 2017 Seattle Pride Men Who Have Sex with Men Survey



* Higher risk MSM include those who reported in the past year: serodiscordant condomless anal sex, 10 or more anal sex partners, methamphetamine or popper use, or an STI diagnosis.

Pride participants also were asked questions regarding things they might be willing to do to reduce their chance of getting an STI other than HIV, and 78% reported they would be willing to use condoms more often. Of note, 56% of Pride survey respondents reported they would use condoms more often if free condoms were more easily available; 72% of MSM respondents under the age of 25 reported they would use condoms more if free condoms were more available. Nearly one third (31%) of Pride recipients reported that they had received free condoms in 2016.

Condom Use among a General Population of Young People

The Healthy Youth survey (HYS) is a school based survey administered in Washington State. HYS asks 8th, 10th, and 12th graders about sexual debut and condom use the last time participants had sex. In King County in 2016, 5% of 8th graders, 18% of 10th graders, and 44% of 12th graders

had had sexual intercourse at any time in the past. For Washington State, 8% of 8th graders, 24% of 10th graders, and 49% of 12th graders were sexually experienced. Just over half had used condoms at last intercourse. Of the sexually active King County participants, 51% of 8th graders, 55% of 10th graders, and 53% of 12th graders had used a condom at last intercourse. For Washington State the percents were 55%, 58%, and 53% respectively for 8th, 10th, and 12th graders.

Impact of PrEP on Condom Use

In February 2017, DOH staff mailed a survey to 1,006 current and former PrEP Drug Assistance Program (PrEP DAP) participants with valid addresses. This was an effort to collect a variety of information about participants and their experiences with PrEP DAP, including changes in sexual behavior after initiating PrEP. The survey had 264 participants (26% participation rate). Current PrEP use was reported by 85%, while 14% had discontinued PrEP,

and 1% had never initiated PrEP. After starting PrEP, 54% of participants decreased their condom use for anal sex; 42% did not change their condom use, and the remaining 4% increased their condom use. In the Pride survey summarized above, 74 PrEP users answered questions about behavioral changes since initiating PrEP. Of these, 47% reported they were more likely to have condomless sex after starting PrEP.

Distribution

In 2016, Public Health distributed 462,245 external (or male) condoms, 2,000 internal condoms (previously sometimes called women's condoms, and can be used for vaginal or anal sex) and 45,500 packets of lube throughout King County. Forty-two percent were distributed through the prevention contractors, with the majority of those being distributed through Lifelong. Agencies serving people who use injection drugs distributed 12% of the condoms. Condoms were also distributed as part of the We Are 1 campaign (about 1.5% of condoms) and through a Public Health program which provides low cost condoms through vending machines in Seattle parks and recreation centers (about 2% of condoms). The rest of the condoms were distributed through 25 other groups including college LGBTQ centers, shelters, organizations serving youth, and other HIV service agencies. Additionally, the We Are 1 consortium, which includes PHSKC, distributed 6,500 condom and lube packs in 2016, and 16,000 packs in June and July 2017. In the first 10 months of 2017, the Harborview STD clinic has distributed about 15,000 condoms.

Marketing

In an effort to improve condom usage, the Public Health – Seattle & King County (PHSKC) HIV/STD Program is

piloting new condom access and distribution projects. One approach is an interactive web page where anyone can go to learn where to get free condoms in King County and throughout Washington State. This will be a mobile-friendly web page that links to a map plotted with free condom locations. Users will be able to tap on map locations to display the name of the site, its address, hours of operation, and contact information. The map will be updated regularly to ensure that it remains accurate.

A second new project is a condom and lube variety pack that will be given to clients at the PHSKC STD Clinic. The pack, known as "The Tool Kit", features 17 varieties of condoms, 3 types of lube, information on the purpose of kit, guidelines on how to use the kit, instructions on how to correctly use a condom, and information on how to get more free condoms. The kit encourages folks to find the condom that fits the best and maximizes pleasure. The goal is to remove the perception that all condoms are the same, are restrictive, and reduce pleasure in an effort to increase usage.

Discussion and Implications

Most MSM at significant risk for HIV/STI in King County country use condoms at least some of the time, over three-fourths of Pride survey participants state they would be willing to increase their condom use to prevent STIs, and over half would use condoms more if free condoms were easily available. Although local data suggest that roughly half of men decrease their condom use after starting PrEP, existing strongly demonstrate that condoms remain a critical component of HIV/STI prevention in MSM, and suggest the need to expand condom distribution. With this objective in mind, PHSKC is developing new plans to improve and expand condom marketing and distribution.

Contributed by Susan Buskin, Julia Hood, Kelly Naismith, Jesse Chipps, and Jsani Henry

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Needle Exchange Program

SUMMARY

In 2016, PHSKC needle exchange program sites exchanged over 7 million syringes, its highest volume since its inception in 1989.

Bupe Pathways, an onsite low-barrier buprenorphine (opioid) treatment program launched in January 2017 and within the first six months has provided treatment to 100 clients.

Methamphetamine injection and homelessness/unstable housing among people who use injection drugs (PWID) is increasing.

20% of PWID reported an opioid overdose in the past year (vs. 23% in 2015) and 62% possessed naloxone.

Background

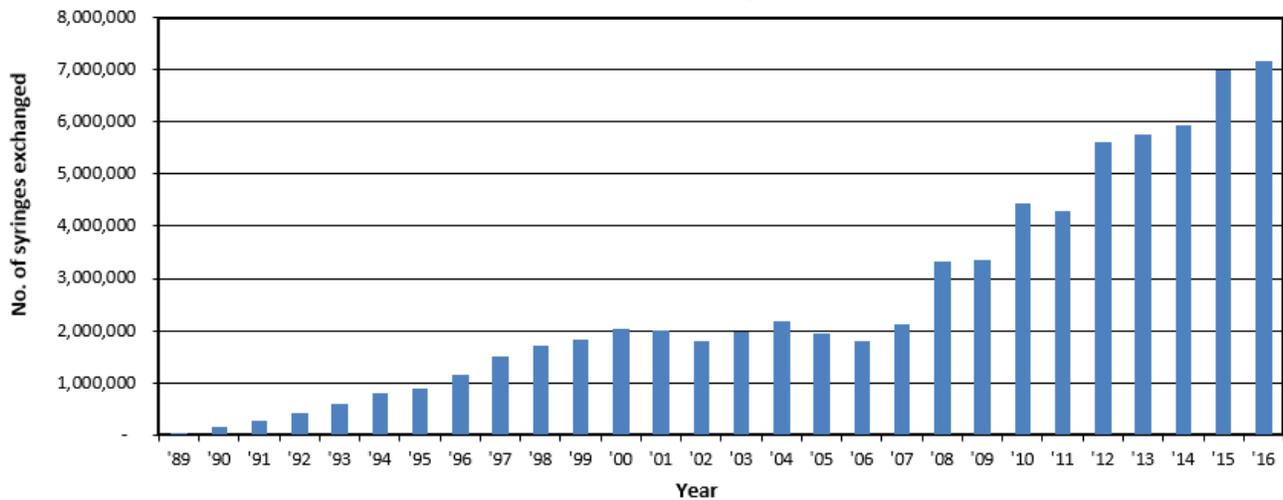
Needle exchange is a public health program for people who use drugs by injection (PWID). It is an important component of a comprehensive set of programs designed to reduce the spread of HIV and other blood-borne infections among PWID, their families, and communities. The Public Health – Seattle & King County (PHSKC) needle exchange program provides new, sterile syringes and clean injection equipment in exchange for used, contaminated syringes. They also help interested drug users find drug treatment and health care. Other services include testing for HIV, hepatitis, tuberculosis, and other infections to which drug users are prone; education and training on overdose prevention, including Naloxone distribution; treatment readiness counseling and case management services; education about harms associated with drug use and how to minimize them; and safe disposal of contaminated equipment. PHSKC's program began operating in 1989. Currently, PHSKC operates exchange programs in downtown Seattle, Capitol Hill, and South Seattle/South King County. Community-based agencies provide exchange services in other parts of the county.

Number of Syringes Exchanged and Encounters

In 2016, across all needle exchange sites within Seattle and King County, the program exchanged 7,161,085 syringes. This included 3,365,942 syringes at a PHSKC

needle exchange and 3,795,143 syringes at a community partner, People’s Harm Reduction Alliance (PHRA). These syringes were distributed during 41,345 exchange encounters: 30,658 at a PHSKC needle exchange and 10,687 at PHRA. As shown in **Figure 1**, syringe exchange volume has increased substantially over the past 10 years.

Figure 1. Public Health – Seattle & King County (PHSKC) needle exchange volumes, 1989-2016



HIV and HCV Testing

In 2016, PHSKC provided quarterly (during the first half of 2016) and then weekly (during the second half of 2016) HIV and hepatitis C virus (HCV) testing at the downtown needle exchange site. Testing includes educational interactions, linkage to care, and referral to other services. Testing services were provided to 47 syringe exchange clients in the first half of 2016, and 92 during the second half of the year. An additional 31 clients received non-testing services only. HCV/HIV test results were tracked starting in the second half of the year. During that period, 23 clients received a positive antibody test for HCV and 16 of those were a confirmed positive HCV results through RNA testing. There were no new HIV positive tests.

Naloxone Distribution

Naloxone is an opioid-antagonist medication used to reverse the effects of opioid overdose. PHSKC needle exchanges have been offering naloxone kits and training to clients since February 29, 2012. In 2016, 811 naloxone kits were distributed at PHSKC needle exchanges, and 114 clients self-reported using a kit to reverse an opioid overdose. Data from the 2017 needle exchange survey of 427 clients found that 62% of clients reported having a

naloxone kit in the past three months, an increase from 47% in 2015. Thirty percent of all clients reported using naloxone to reverse an overdose in the past three months.

Social Work Services

Social workers at the Downtown and Capitol Hill needle exchange sites provide referrals to treatment for substance use disorder (medication assisted treatment, 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 2016, social workers provided services to 1,170 unique clients, averaging 2.7 contacts per client (range=1-11 contacts).

On-site Buprenorphine Treatment and Referrals to Medication Assisted Treatment

Bupe Pathways was launched in January 2017 and provides low barrier access to buprenorphine, a type of medication-assisted treatment, for persons with opioid use disorder. PHSKC staff at the downtown exchange approach clients to gauge interest in the program, or clients can seek buprenorphine without staff referrals. Interested clients meet with a social worker followed by

a nurse at the Downtown Public Health Clinic (co-located with the needle exchange). In consultation with a prescribing physician, the nurse conducts a clinical assessment to develop a buprenorphine induction and care plan tailored to each client. The initial buprenorphine prescription is dispensed at the on-site pharmacy. Follow-up visits are scheduled with the Bupe Pathways nurse according to the clients’ care plan. When appropriate for the client, the Pathways Team coordinates to develop a plan to transition the client to a community provider for ongoing buprenorphine management.

Between January and June 30, 2017, 100 people had enrolled in Bupe Pathways, and 79 people had been placed on a waitlist for the program. Among Bupe Pathways clients, the median age is 39 years, 64% are male, 78% are non-Hispanic White, and nearly three-quarters are homeless. More than one-third of enrolled patients have completed 10 or more visits, while one-quarter of patients only completed a single visit. By June 30th, 14 patients had successfully transferred buprenorphine-related care to another clinic.

In addition to Bupe Pathways, social workers provided referrals to 908 clients for other medication assisted treatment for opioid use disorder including methadone, buprenorphine, and naltrexone.

Wound Care Services

In 2016, 747 clients at the downtown needle exchange were seen for wound care services provided by the Pioneer Square Medical Clinic.

Results from the 2017 Needle Exchange Client Survey

PHSKC conducts a biannual survey of needle exchange clients to monitor demographics, health, and behavior trends among PWID. In June 2017, PHSKC needle exchange staff surveyed 427 needle exchange clients. Results related to client demographics, injection-related behaviors, health conditions, overdose, and substance use treatment are included in **Table 1**.

Table 1. Results from the 2017 Public Health – Seattle & King County Needle Exchange Client Survey

CHARACTERISTIC	N=427 %	CHARACTERISTIC	N=427 %
DEMOGRAPHICS		HEALTH CONDITIONS, PAST 12 MONTHS	
Age, mean	37 years	Abscess	44%
Female	33%	Skin or tissue infection, <i>e.g. cellulitis, MRSA</i>	31%
Non-White race	23%	Infected blood clot or blood infection	11%
Homeless	43%	Endocarditis	3%
Unstably housed	26%	STI (not HIV or HCV)	5%
Jail or prison, past year	42%	HIV	6%
INJECTION-RELATED BEHAVIORS, PAST 3 MONTHS		OVERDOSE, PAST 12 MONTHS	
Primary drug		Self-reported opioid overdose	20%
Heroin or other opiate	64%	Had naloxone	62%
Methamphetamine	17%	Used naloxone	30%
Goofballs ¹	10%	Self-reported stimulant overamp/overdose	17%
Any heroin use	83%	SUBSTANCE USE TREATMENT	
Any methamphetamine use	75%	Currently in treatment	28%
Any goofball ¹ use	52%	Interest in reducing/stopping opioid use	78%
Any syringe sharing	22%	Interest in reducing/stopping stimulant use	62%
Any fentanyl use	13%	INTEREST IN SAFE INJECTION FACILITY	
Any equipment sharing	46%	Would use, daily	39%
Femoral injection	16%	Would use, at least weekly	20%
Neck injection	36%	Would use, less than weekly	21%
Ever inject in public	62%	Would never use	20%
Ever inject alone	79%		

¹Methamphetamine and heroin mixed together

Discussion

In an era of a national opioid crisis and local shifts in drug use patterns and interventions, the PHSKC needle exchange program continues to expand and innovate to meet the unique needs of PWID. In 2016, the program reported its highest ever levels of syringe exchange and naloxone distribution. Other elements of the program – e.g., social work services, wound care, treatment referral – also continue to serve high volumes of patients. New HIV infections among PWID in King County remain relatively rare. Data from a recent client survey, however, indicate continued risk behaviors, high levels of morbidity for other health conditions, and a desire for expanded treatment options. Specifically, dramatic increases in methamphetamine use may pose a challenge for linking PWID to appropriate treatment

services. The majority of opioid and stimulant users expressed an interest in reducing or stopping their use, demonstrating a clear demand for expanded treatment services. The launch of a low-barrier buprenorphine program co-located within a needle exchange is an attempt to meet some of that need. This program may be one of the first of its kind in the United States, and quickly reached maximum capacity. Finally, even though HIV prevalence is low, the prevalence of hepatitis C virus (HCV) is high (approximately 70%) among PWID. Yet relatively few PWID have benefitted from the current HCV treatments, which are highly effective.² Expanding the needle exchange program to include HCV treatment – using a similar model as buprenorphine treatment – has the potential to make a substantial impact on reducing morbidity and mortality among PWID.

Contributed by Sara Glick, Joe Tinsley, Julia Hood, and Kathryn Klein

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Seroadaptive Behaviors

SUMMARY

Men who have sex with men (MSM) employ a variety of seroadaptive behaviors to reduce their risk of acquiring or transmitting HIV.

Seroadaptive behaviors that incorporate factors other than partners' HIV status (e.g., partners' pre-exposure prophylaxis [PrEP] use) are becoming increasingly more common.

Introduction

Since at least the early 1990s, many men who have sex with men (MSM) have engaged in seroadaptive behaviors such as serosorting (i.e., choosing partners based on a partner's perceived HIV status) and seropositioning (i.e., choosing an insertive or receptive anal sex role based on a partner's perceived HIV status). HIV-uninfected men who report serosorting and other seroadaptive behaviors have a lower risk of HIV acquisition compared to men who engage in condomless anal sex with an HIV-infected or unknown-status partner.¹⁻³ The Public Health – Seattle & King County (PHSKC) HIV/STD Program monitors trends in seroadaptive behaviors using data from community-based surveys, behavioral surveillance surveys, research studies, and the PHSKC STD clinic. The PHSKC HIV/STD program uses these data to evaluate the impact of PHSKC HIV/STD program activities and to explain changes in population-level HIV/STI rates. This article describes findings from three of these data sources.

Methods

PHSKC STD Clinic

The STD clinic collects sexual behavior from patients as part of routine clinical care using a computer-assisted self-interview (CASI). We examined reported sexual behaviors during MSM's first visit to the clinic in a calendar year. We defined serosorting MSM as those who reported

condomless anal intercourse (CAI) with HIV-concordant partners and who always used condoms with HIV-discordant/unknown-status partners or who did not have sex with HIV-discordant/unknown-status partners. We defined men as having CAI with serodiscordant or unknown-status partners if they did not always use condoms with partners of different or unknown HIV status.

Seroadaptive Behaviors Study

From 2013-2015 we enrolled PHSKC STD clinic MSM patients aged ≥ 18 who reported at least one male sex partner in the last 12 months in a cross-sectional survey of seroadaptive behaviors.⁴ As part of the survey, we asked HIV-uninfected men to indicate which of 12 strategies they employed in the last 12 months to reduce their risk of acquiring HIV. We examined the association between reporting these behaviors and testing newly HIV positive. This survey was the basis for the survey question asked in the Seattle Pride Survey, described below.

Seattle Pride Survey

The Seattle Pride Survey is an annual survey administered to participants and spectators (who self-identify as MSM and reside in WA State) of the Seattle Pride Parade. As part of the annual Seattle Pride Survey in 2015, 2016, and 2017, trained interviewers asked MSM to indicate which behavioral strategies they used in the past 12 months to reduce their risk of acquiring or transmitting HIV.

Results

PHSKC STD Clinic

Among 10,107 HIV-uninfected PHSKC STD clinic MSM patients, the percentage reporting serosorting increased from 25% in 2010 to 40% in 2016 and the percentage reporting CAI with HIV-infected or unknown-status partners remained relatively stable (**Figure 1**). Among HIV-infected MSM (N=1,675), we observed an increase in the percentage who reported CAI with HIV-uninfected or unknown-status partners and declines in the percentage who reporting serosorting.

Seroadaptive Behaviors Study

Of 3,336 HIV-uninfected MSM who participated in the study, 92% reported engaging in at least one behavioral strategy to reduce HIV risk and the median number of

strategies in the past 12 months was 3 (interquartile range 2-4). The most commonly reported behavior was serosorting (only having HIV-concordant partners), which was reported by 66% of MSM. MSM reporting no seroadaptive strategy had a significantly higher HIV test positivity (3.5%) compared to MSM who reported at least one strategy (1.3%; $P=0.02$).⁴

Seattle Pride Survey

Among HIV-uninfected MSM, the most commonly reported risk reduction behavior was having sex only with HIV-concordant partners, which increased from 32% to 39% in 2015 to 2017 (**Figure 2**). Reporting PrEP use as an HIV prevention strategy increased from 9% to 20%. Among HIV-infected men, having sex with HIV-negative MSM only if they were on PrEP increased from 12% in 2015 to 26% in 2017. Among HIV-uninfected and -infected MSM, the percentage reporting no seroadaptive behaviors declined.

Discussion and Implications

Among Seattle MSM, behavioral strategies to reduce HIV acquisition and transmission are common and increasing, and may reduce one's risk of HIV acquisition. Condomless anal intercourse among HIV-infected MSM has increased since 2010 but nuanced seroadaptive behaviors incorporating factors other than a partner's HIV status (e.g., only having sex with HIV-negative MSM on PrEP) are becoming increasingly more prevalent.

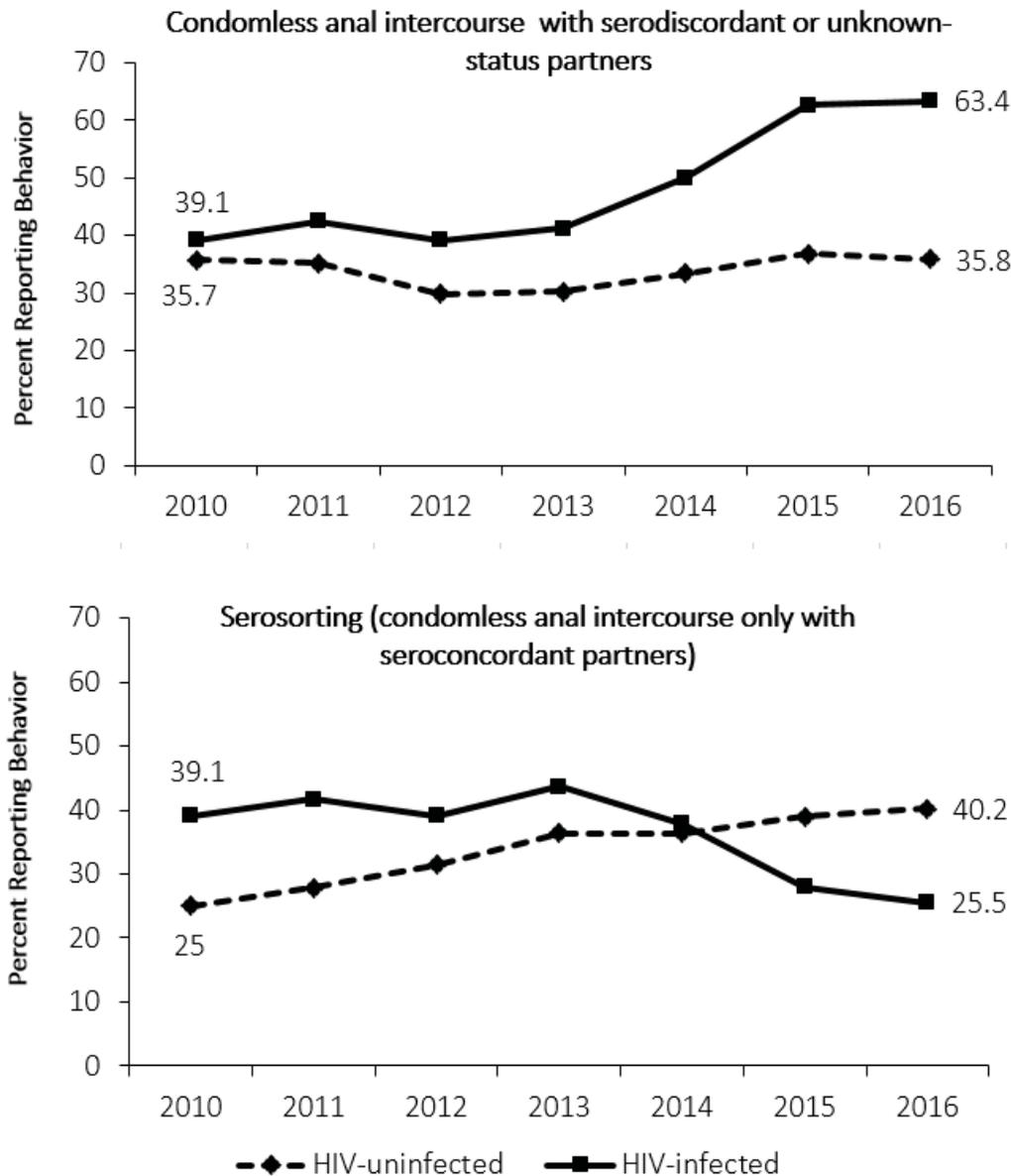
Surveillance data on the MSM population's sexual behavior demonstrates the diversity of strategies men employ to diminish their HIV/STI risk. HIV/STI testing and treatment, PrEP, and condoms are the centerpieces of Public Health's efforts to control HIV/STI, but informed sexual decision-making is clearly an important part of how most men – indeed most people – manage their HIV/STI risk. This informed decision making highlights the need for persons at risk for HIV/STI to have access to accurate scientific information, and for clear and candid discussions between sex partners and between medical providers and persons at risk for HIV/STI, about sexual behavior and risk mitigation strategies.

The PHSKC HIV/STD Program will continue to monitor seroadaptive behaviors among MSM to better understand these behaviors' impact on HIV and STI rates. Our recent monitoring and evaluating activities –

including results from the seroadaptive behaviors study and Seattle Pride survey – have called into question the utility of measuring condomless anal sex as a risk factor for HIV exclusive of other partner factors. To address this, the PHSKC STD clinic is modifying its clinical

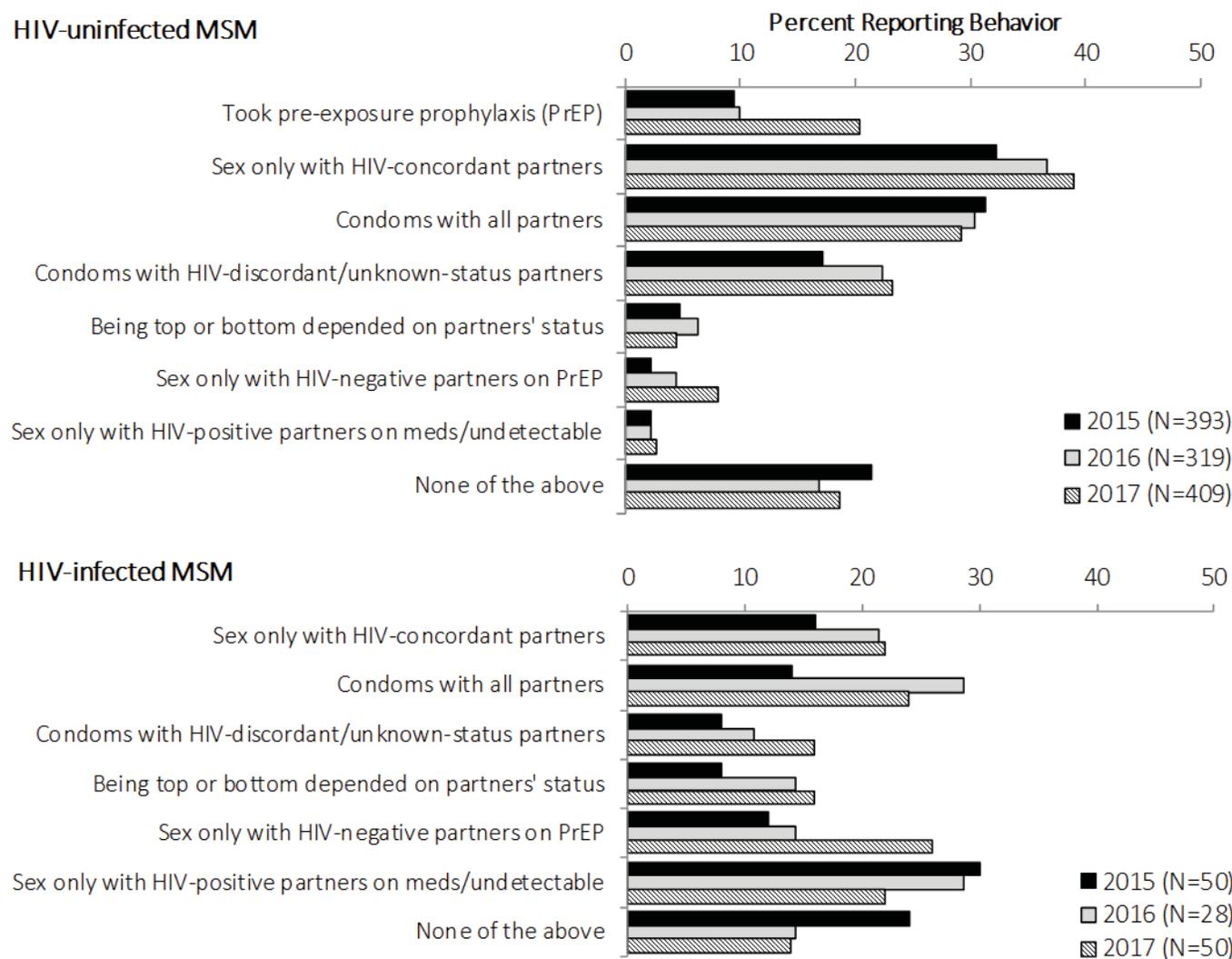
behavioral data collection for MSM patients to additionally ascertain details about MSM patients’ anal sex partners (e.g., if an HIV-negative partner was on PrEP).

Figure 1. Trends in Sexual Behaviors among Men Who Have Sex with Men (MSM) Attending the PHSKC STD Clinic, 2010 to 2016 (N=11,782)*



*HIV-uninfected MSM (N=10,107); HIV-infected MSM (N=1,675)

Figure 2. Behavioral Strategies Used by Men Who Have Sex with Men (MSM)* Participating in the Seattle Pride Survey to Reduce their Risk of Acquiring or Transmitting HIV in the Past 12 Months, by Year of Survey**



*Analysis limited to men who reported anal sex in the past 12 months

**Question was "check all that apply"; thus, bars for each year sum to greater than 100

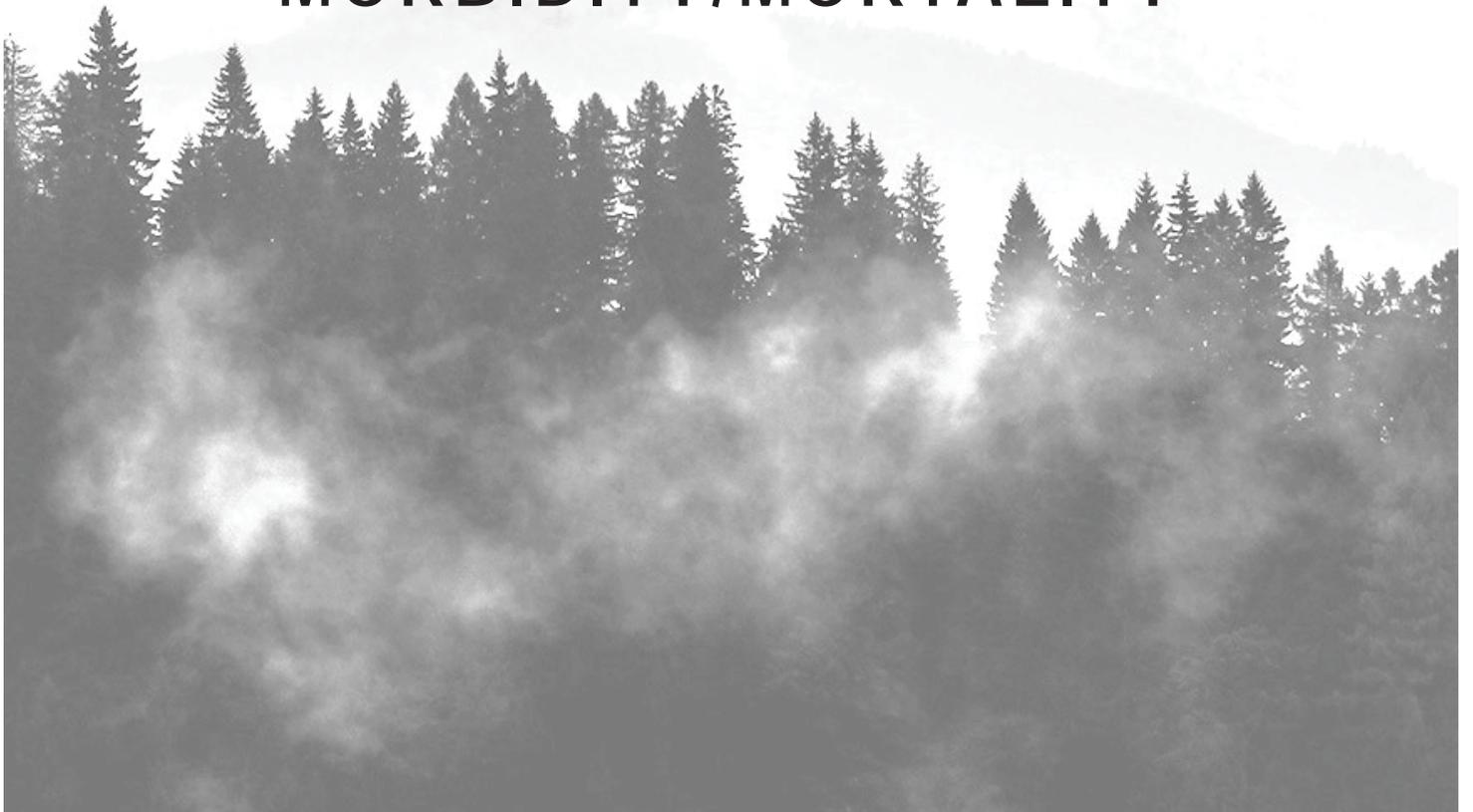
Contributed by Christine Khosropour

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**EVALUATION OF PHSKC
HIV/STD PROGRAM EFFORTS
TO IMPROVE THE HIV CARE
CONTINUUM AND DECREASE
MORBIDITY/MORTALITY**



Data to Care

SUMMARY

Data to care (D2C) activities include a dynamic set of surveillance activities aimed and promoting care engagement and viral suppression among people living with HIV.

Investigations of individuals in sub-optimal care indicate many have relocated or return to care independently.

Among D2C participants interviewed, reasons for gaps in care include depression, competing priorities, and financial issues.

LINKAGE TO CARE GOAL	2016	2020 GOAL
Linked to care within 1 month of HIV diagnosis	87%	≥ 90%
Evidence of HIV care each year	91%	≥ 95%
Viral suppression	82%	≥ 90%

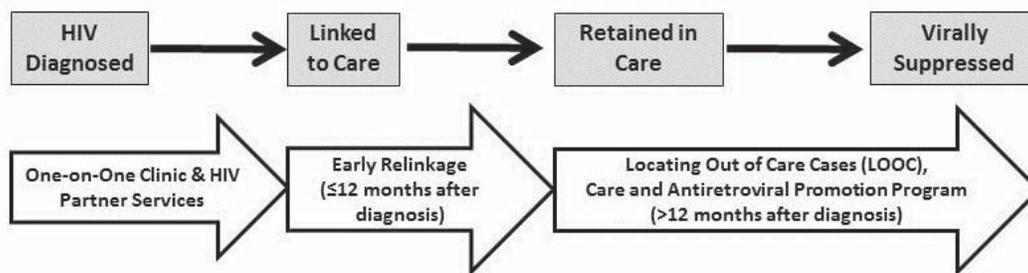
*Among people living with diagnosed HIV

Background

“Data to Care” (D2C) is a public health strategy that uses HIV surveillance data to identify diagnosed people living with HIV (PLWH or PLWDH) who are not engaged in HIV care in order to re-engage them in care. In Washington, as in most states, laboratories report the results of CD4 count and HIV RNA (viral load) tests to the health department. Public Health -- Seattle & King County (PHSKC) and the WA State Department of Health (DOH) use this information both to monitor the HIV care continuum and to direct D2C interventions. **Figure 1** shows the D2C programs described in this article below the steps in the HIV care continuum they address.

The definition of “poorly engaged in care” has evolved over time and varied between the programs summarized here. Generally, these efforts have focused on individuals who are not virally suppressed (viral load >200 copies/mL) or who appear to have a gap in HIV care of more than a year. The PHSKC D2C approach has also evolved substantially and now includes a variety of means for identifying individuals poorly engaged in care and a spectrum of interventions matched to the intensity of an individual’s need for assistance engaging in care. As we continue to improve and integrate the programs described here, we will integrate the data systems and improve the quality of our data accordingly. **Figure 2** shows a conceptual diagram of how we plan to report on these efforts in future years.

Figure 1. Overview of Public Health – Seattle & King County Linkage & Re-engagement Programs



Boxes represent steps in the care continuum and arrows represent programs impacting people at various stages of the continuum.

The One-on-One Clinic and HIV Partner Services

HIV field services staff (FSS) play a crucial role in achieving near complete linkage to care after HIV diagnosis in King County. HIV FSS attempt to contact all newly diagnosed individuals and ensure that each person successfully links to HIV care (i.e., completes a first medical appointment). HIV FSS offer newly diagnosed individuals an appointment in the One-on-One clinic, which provides initial HIV staging, individual medical counseling and orientation to HIV care and treatment as well as assistance with partner notification and referrals to community services. This clinic allows all newly diagnosed PLWH to see a medical provider within a few days of a positive HIV test. It was started in the early years of the HIV epidemic (1989), and as standards of HIV medical care have evolved to prioritize early initiation of antiretrovirals (ART) in all individuals with HIV, PHSKC is working to integrate the One-on-One program into the process of ensuring access to HIV care and ART as soon as possible after diagnosis.

Between 2010-2016, 672 individuals attended the One-on-One clinic (mean=96; range 70-120/year). Of 219 King County residents diagnosed and reported in King County in 2016, 51 (23%) had a One-on-One visit. Seventy six percent of One-on-One clients received a CD4 or viral load test within one week, and 100% within 30 days of their initial diagnosis, compared with 67% and 91% of other King County residents testing positive in 2016.

Early Relinkage

Even after successful linkage to care, some individuals do not fully engage and fail to return for a second care visit. In August 2012, we began an “early relinkage” project to investigate cases who appeared to have fallen out of care in the first year after diagnosis (CD4 or viral load results reported after diagnosis but none reported 6-12 months later). The HIV FSS who worked with the case-patient at the time of diagnosis investigates the case, and if

needed, contacts the individual to assist with HIV care re-linkage.

Through July 2017, a total of 207 individuals have been eligible for early relinkage, averaging 42 each year (range: 35-55; none in 2015 during a hiatus in the project). Nearly half were not located (**Table 1**), and the majority of located individuals had either moved or were receiving care (often with laboratory results obtained in the context of clinical trials, which are exempt from reporting requirements).

Figure 2. Plans for How Public Health – Seattle & King County (PHSKC) will Change Reporting of the Status of People Living with Diagnosed HIV (PLWDH) Who are Virally Unsuppressed or Have a Gap in Care

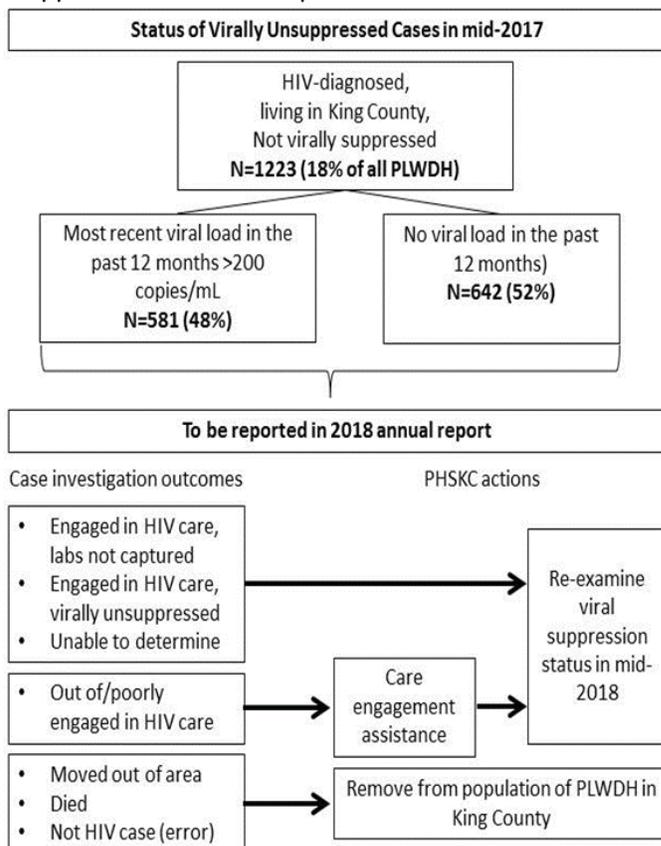


Table 1. Disposition of Early Relinkage Cases Investigations

Unable to locate	97	47%
In care (including through a research protocol)	48	24%
Moved out of the area	38	18%
Out of care/ poorly engaged in care	21	10%
Data Errors (not a true HIV case)	3	1%
TOTAL	207	100%

Locating Out of Care (LOOC) – Statewide Data to Care Program

The WA State DOH launched a statewide D2C project in 2013, “Locating Out of Care Cases (LOOC)”. Using HIV surveillance data, DOH works with local health departments to identify, locate, and offer care re-engagement services to PLWH who do not appear to be receiving optimal HIV medical care (no CD4 or viral load result reported within a recent 15-month surveillance period). DOH works with state and local disease intervention specialists to investigate LOOC cases. Since the LOOC project began, nearly 5,000 investigations have been completed (n=4,733). Roughly a quarter (26%) were confirmed to be out of care within the 15-month surveillance period. Although very few cases (<5%) were completely disengaged from care, many exhibited evidence of sub-optimal care such as inconsistent care visits and/or sustained viremia. Most out-of-care individuals (87%) resumed care without assistance after the surveillance period ended. More than a third of cases (36%) had moved out of state, 3% were deceased, and ~10% could not be located.

Care and ART Promotion Program (CAPP)

The HIV Care and Antiretroviral Promotion Program (CAPP) began in King County in 2012 as a stand-alone D2C project using HIV surveillance data to identify PLWH who appear to be either out-of-care or poorly engaged in care. It evolved to become one part of the broader relinkage to care work of the PHSKC HIV care re-engagement team and integrated with the MAX Clinic. When the program began, cases were eligible based on meeting one of two criteria: 1) no viral load or CD4 count in the past year; or 2) a viral load >500 copies/mL and CD4 count <350 cells/mm³ at the time of last report in the past year. With updated treatment guidelines, the CD4 count criterion

was removed. PHSKC FSS contact medical providers to notify them of their patients’ eligibility and attempt to contact eligible individuals to offer an individual interview to assess barriers to care and treatment (patients are reimbursed \$50 for the ~45 minute interview). FSS assist patients with re-engaging in care using health systems navigation, brief counseling, and referrals to case management and other services.

PHSKC implemented the program with cluster randomization, in which all eligible cases were grouped by their medical provider and the order of medical providers was randomized. This facilitated a rigorous evaluation, which showed that CAPP did not improve the time to viral suppression compared to control conditions (i.e. no health department intervention). Our primary conclusion from this evaluation was that working to relink patients to the same system that failed to engage them in the first place is not an effective strategy to improve the HIV care continuum, which changed our approach to D2C activities.

At present, the HIV Care Re-engagement team receives referrals of clients who are poorly engaged in HIV care from a variety of sources including surveillance, providers, case managers, HIV/STD FSS, STD clinic and text alerts from local hospitals. FSS work with clients, providers, and case managers to determine what type of assistance is needed for re-engagement in care. This can vary from low-intensity assistance (e.g. helping a patient make a clinic appointment) to medium-intensity assistance (e.g. the formal CAPP interview process described above) to high-intensity assistance (MAX Clinic). Between 2012 and 2016, 2,351 individuals were identified as CAPP-eligible. Most (54%) were identified by surveillance based on a viral load >500 (54%) or an apparent gap in care (41%); the remainder were identified through STD field services (3%) or other sources (3%). Overall 438 individuals were successfully contacted and agreed to be interviewed (19% of eligible cases). **Table 2** summarizes the barriers to care in this group.

Table 2. Factors most commonly reported by CAPP participants as barriers to care, 2012 – 2016

BARRIER	PERCENT
Depression or other mental health issues	51%
Other responsibilities impact my ability to seek care	49%
Lack of health insurance	39%
Don't want to think about being HIV positive	38%
Frequently forget to attend appointments	35%
Difficulty in making appointments that are convenient	31%
Transportation problems impacting ability to attend appointments	30%
Homelessness/lack of stable housing	30%
Substance use (drugs/alcohol)	26%

Promoting Engagement in HIV Care via STD Partner Services

Because PLWH are at elevated risk for other STDs, STD partner services (PS) provide an opportunity to identify individuals who are inadequately engaged in HIV care and relink them to care. In May 2012, FSS in King County began routinely assessing HIV care and ART status during PS interviews and either referring out-of-care persons to CAPP or directly providing relinkage assistance.

In 2016, 796 PLWH were diagnosed with a total of 1,100 bacterial STDs in King County. Among 414 PS recipients (37% of cases), 9 (2%) reported not having an HIV care provider and 18 (4%) were not taking ART. Among the 27 reporting having no provider or not taking ART, suppression increased from 11% in the year prior to interview to 52% in the subsequent 6 months (McNemar's test $p < 0.001$).

In May 2016, program epidemiologists also began matching STD surveillance data with HIV laboratory surveillance in order to identify PLWH diagnosed with an STD who were virally unsuppressed. Through December 2016, 117 STD cases were identified as being inadequately engaged in HIV care via this method (63 with detectable viral loads and 54 with no viral loads) and referred to CAPP. This newer approach may be more efficient than seeking care status through a PS interview, or at minimum appears to be a useful addition for finding PLWH who may benefit from more intensive care promotion activities.

Challenges

The landscape of D2C interventions has changed substantially over the past few years. PHSKC was one of the first health departments to implement a D2C program, and CDC now requires all health departments to implement D2C interventions. However, our experience with CAPP demonstrates that D2C programs that rely on lists derived from surveillance with no new intervention for providing HIV care will likely have minimal impact on the HIV care continuum: many people who appear to be out of care are not actually out of care, health department staff cannot successfully contact many apparently out-of-care individuals, and relinking people to the same healthcare system that failed to engage them in the first place is ineffective. We are now implementing novel strategies that build upon our experience to date, including the MAX clinic and greater emphasis on identifying out of care persons in medical settings and jail.

Successes

The D2C programs described above have substantially improved the quality of our HIV surveillance data and the accuracy of our HIV care continuum estimates by distinguishing between PLWH who are no longer living in King County from those who are truly out-of-care. PHSKC conducted the only controlled evaluation of D2C to date, and is in the process of implementing several novel programs to build upon what we have learned and identify evidence-based interventions to improve engagement in care and viral suppression among PLWH in King County.

Contributed by Julie Dombrowski, Michelle Perry, Amy Bennett, Mark Fleming, Jason Carr, and Susan Buskin

Enhancing Data to Care with Venue-Based Interventions

SUMMARY

D2C efforts in King County are shifting to focus on identifying HIV-infected individuals who are sub-optimally engaged in medical care and working to re-engage them at the time they interact with the healthcare system, including emergency room visits, inpatient hospital admissions, and the STD Clinic.

We are working to expand this venue-based D2C approach to include people booked into jail.

Background

In Washington, as in many other states, laboratories are required to report the results of HIV RNA (viral load) and CD4 tests to the health department. The health department uses this information to monitor the HIV care continuum and to improve the health of people living with HIV (PLWH). “Data to Care” (D2C) is a public health strategy that uses HIV surveillance data to identify individuals who may be poorly engaged in HIV care and offer them assistance with re-engaging in care and treatment. The Center for Disease Control and Prevention (CDC) encourages (and will soon require) all health departments to implement D2C programs. To date, however, D2C programs have had limited impact on patient engagement in HIV care, in part because D2C outreach workers often cannot successfully contact individuals who appear to be out of care. Many PLWH without recent laboratory reports have moved out of the area, and some who are out of care do not have stable contact information. Using data to identify out-of-care PLWH at the time of contact with the healthcare system or jail (“venue-based” D2C) could be a more effective way of identifying people who might benefit from assistance re-linking to HIV care.

Data

To date, venue-based D2C in King County has focused on the Public Health – Seattle & King County STD Clinic, emergency rooms, and inpatient hospitals. When a disease intervention specialist (DIS) on the HIV care relinkage team identifies a person who is poorly engaged in HIV care, he or she talks with the individual to understand the patient's perception of HIV care and treatment, barriers to care, and interest in resources for support. The DIS work with PLWH to re-engage them in care using a combination of health systems navigation, brief counseling, referral to support services, and for some patients with extensive barriers to care, enrollment in the MAX Clinic (see related article in this report). The DIS also work with HIV clinic staff, medical providers, and case managers to assist individuals with re-engaging in HIV care.

The HIV relinkage team receives alerts from the STD Clinic, emergency rooms, and inpatient hospitals based on information internal to each of those systems. In other words, generating these alerts does not involve data exchange with the HIV surveillance system. Patients with previously diagnosed HIV who seek care in the STD Clinic answer questions about their care engagement and antiretroviral use in a computer-assisted self-interview or discussion with a clinician. The hospital alerts are generated when patients known to have HIV who appear to be poorly engaged in care (no viral load in the past year or a viral load >500 copies/mL at last check) are seen in the emergency room or admitted to the hospital. If appropriate, the public health relinkage team contacts the patient while he or she is in the hospital to discuss HIV care engagement, and, for patients who are

candidates for the MAX Clinic, works with the inpatient team to coordinate at the time of hospital discharge. We are in the process of evaluating this system to determine whether it improves HIV health outcomes.

Many PLWH booked into jail are poorly engaged in care, and jail booking is a potential occasion for HIV care re-engagement. In King County in 2014, 202 people with previously diagnosed HIV infection were booked into King County jails, about half (49%) of whom were virally suppressed at booking (compared to 72% among non-incarcerated PLWH in King County).¹ In the year after release, only 62% achieved viral suppression. Coordinating services and data exchange between service providers in the jail and the public health HIV relinkage team could enhance our efforts to improve the HIV care continuum and health equity in King County. We are in the process of developing an automated information exchange with King County jails.

Successes

In the last 2 years, we have expanded our public health D2C efforts to better reach patients who are out of HIV care at the time when they have contact with another system.

Challenges

We do not yet know whether this approach improves HIV health outcomes. As we work to expand venue-based interventions, we need to evaluate their effectiveness.

Contributed by Julie Dombrowski and Tigran Avoundjian

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Antiretroviral Resistance

SUMMARY

Genotypic drug resistance surveillance provides useful information to better understand patterns in HIV drug resistance.

Genotypic sequences are also useful to examine HIV clusters of public health significance.

Background

Modern antiretroviral therapy (ART) is highly effective at inhibiting the replication of HIV when taken consistently, slowing the progression of disease, and inhibiting transmission to sexual and injection drug-use partners.¹ However, acquired drug resistance can emerge in the presence of poor adherence, compromising the effectiveness of ART. Additionally, resistant virus can be transmitted to others, limiting treatment options from the very outset of infection (i.e., transmitted, or primary drug resistance). Genotypic testing is recommended at entry into care (or if ART is deferred, at initiation of ART) to guide the selection of ART, as well as for patients who remain viremic on ART.² HIV genotypic sequences are reported to the health department by all local laboratories and have been used by Public Health—Seattle & King County (PHSKC) to monitor the prevalence of ART resistance.

Data

Genotypic sequences within a year of HIV diagnosis were reported to surveillance for 76% (n=1,861) of 2,437 King County residents newly-diagnosed with HIV (at any stage) between 2007 and 2016 (NOTE: the 2,437 excludes persons who reported having been previously diagnosed prior to moving to King County, whether or not this could be confirmed). This has varied over time, from a high of 86% in

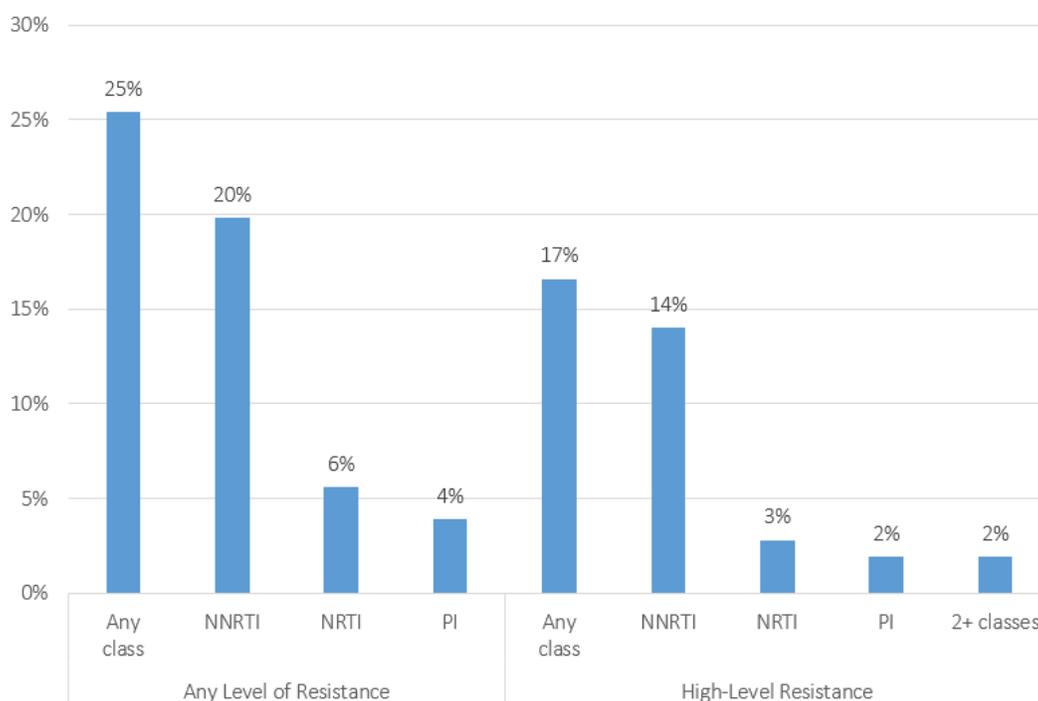
2009 to a low of 67% in 2016. Data for this report were cut off at the end of June 2017, so not all cases diagnosed in 2016 have had a full year for genotypic testing to be conducted and reported. However, we typically see 97% of initial genotypic sequences conducted within six months of diagnosis and reporting generally occurs within one month of testing.

Prevalence of Primary Drug Resistance

Among the 1,861 individuals with new HIV diagnoses and

genotypic sequences, the prevalence of *any* level of transmitted drug resistance was 25%; 17% of people had any *high-level* resistance (see technical notes below for definition), and 2% had high-level resistance to multiple classes of ART (multi-class drug resistance, or MDR; **Figure 1**). The ART class to which transmitted drug resistance was most commonly identified was non-nucleoside reverse transcriptase inhibitors (NNRTI; 20%), followed by nucleoside reverse transcriptase inhibitors (NRTI; 6%) and protease inhibitors (PI; 4%).

Figure 1. Primary Resistance by ART Drug Class and Level of Resistance, King County, 2007-2016



Characteristics of Persons with ART Resistance

Primary resistance at any level and high-level resistance were most common among males (**Table 1**). Among males, primary resistance was more common among younger people, with each decade of increasing age being associated with an average 11% reduction in the risk of any resistance and 21% reduction in the risk of any *high-level* resistance, regardless of race/ethnicity, risk group, and year of diagnosis (results of multivariable analyses not shown; see technical notes for details). This may stem from poorer adherence to ART by young HIV-infected males, which could in turn translate into a higher prevalence of transmitted drug resistance among the partners they infect who are also likely to be similar in age. Consistent with this, younger age was found to be

associated with being out of care or unsuppressed among persons living with HIV in King County in 2015.³ Additionally, adjusting for sex, age, and risk group, high-level resistance may be less common in newly-diagnosed Latino and Asian & Pacific Islander males, as well as those without an identified HIV risk factor. MDR doesn't appear to disproportionately impact any particular group, although its prevalence may be too low to detect differences between groups.

Time to Viral Suppression among Persons with ART Resistance

Among those diagnosed between 2013—the first full year since immediate initiation of ART became recommended *regardless* of the stage of infection of

diagnosis—and 2015 that had genotypic testing within a year of diagnosis, the time taken to achieve viral suppression (viral load ≤ 200 copies/mL) did not differ among those with transmitted drug resistance as compared to those without it. The median time to viral suppression was 111 days. This was true for any level of resistance and for high-level resistance and suggests appropriate selection of ART regimens on the basis of the genotypic testing.

Resistance to ART Used in Pre-Exposure Prophylaxis PrEP

The combination of emtricitabine and tenofovir (both NRTI class ARTs) is used for PrEP by HIV uninfected individuals to prevent HIV infection. In April 2016, Public Health identified a PrEP-experienced person with newly diagnosed HIV infection and resistance to both emtricitabine and tenofovir. This prompted PHSKC to examine the prevalence of such resistance as it could compromise PrEP's efficacy.⁴ Viremic individuals (with viral load $>1,000$ copies/mL) with one or more genotypic test indicating intermediate or high-level resistance to both components of PrEP were identified. Lists of such individuals were generated both in 2016 and then again in 2017 and provided to PHSKC's Care and Antiretroviral Promotion Project (CAPP) team, which attempted to contact the individuals and assist them in accessing and adhering to HIV treatment. A total of 41 people have been investigated, of these 16 (39%) had a suppressed viral load (< 200 copies/mL) for their most recently reported viral load as of June 2017. The remaining individuals have been referred to a data to care outreach project and/or PHSKC's MAX clinic, a walk-in clinic for persons with major barriers to HIV care (see articles on data to care and MAX elsewhere in this report).

Other Clusters of NNRTI and Multi-class Drug Resistance (MDR)

Earlier cluster investigations have examined a small cluster of MDR HIV among nine methamphetamine-using men who have sex with men (MSM) as well as a large NNRTI-resistant cluster of 97 persons statewide, 72 of whom resided in King County. Only limited ongoing transmission has been detected in association with the latter cluster and no ongoing transmission has been detected in association with the former.

Successes

King County has been successful in capturing sequences for three quarters of newly diagnosed cases, as well as in conducting investigations of genotypic sequence-identified clusters of public health significance with the goal of preventing further transmission.

Challenges

The Centers for Disease Control and Prevention (CDC) recently released a tool (called HIV-TRACE) to enable public health departments to identify clusters of genetically-related HIV infections using reported genotypes.⁵ PHSKC and the WA State Department of Health will be working to identify the most appropriate and effective means to investigate clusters of public health significance identified by HIV-TRACE and to intervene to halt ongoing transmission, especially of strains resistant to the components of PrEP and other ARTs.

Table 1: Prevalence of Drug Resistance by Demographic Factors and Risk Group, King County, 2007-2016

	NO.	% (COLUMN)	% WITH ANY RESISTANCE (ROW)	% WITH ANY HIGH -LEVEL RESISTANCE (ROW)	% WITH MULTI-CLASS DRUG RESISTANCE (ROW)	
TOTAL	1,861	100%	25%	17%	2%	
YEAR OF DIAGNOSIS						
2007	207	11%	23%	14%	3%	
2008	197	11%	22%	15%	4%	
2009	227	12%	28%	16%	3%	
2010	245	13%	22%	16%	1%	
2011	198	11%	23%	15%	1%	
2012	201	11%	28%	22%	2%	
2013	169	9%	26%	16%	0%	
2014	152	8%	34%	20%	3%	
2015	145	8%	23%	14%	1%	
2016	120	6%	28%	18%	3%	
SEX ASSIGNED AT BIRTH^{1,2}						
Male	1,650	89%	26%	18%	2%	
Female	211	11%	19%	9%	0%	
AGE AT DIAGNOSIS^{1,2}						
<25	283	15%	32%	23%	1%	
25-34	601	32%	25%	19%	2%	
35-44	506	27%	26%	15%	2%	
45-54	326	18%	23%	13%	1%	
55+	145	8%	16%	8%	3%	
RACE/ETHNICITY²						
White	1,046	56%	27%	19%	2%	
Black	311	17%	21%	13%	2%	
Latino ³	309	17%	27%	15%	1%	
Asian and Pacific Islander	112	6%	18%	9%	1%	
American Indian / Alaska Native	16	1%	38%	13%	0%	
Multiple Race	67	4%	22%	18%	0%	
Risk Group by Sex Assigned at Birth						
MALE	Male / Male Sex (MSM)	1,270	68%	28%	19%	2%
	Injecting Drug Use (IDU)	41	2%	27%	17%	2%
	MSM and IDU	159	9%	27%	16%	1%
	Heterosexual Contact	30	2%	7%	7%	0%
	No Identified Risk	150	8%	17%	8%	2%
FEMALE	Injecting Drug Use (IDU)	26	1%	12%	8%	0%
	Heterosexual Contact ⁴	172	9%	20%	8%	0%
	Other	4	0%	25%	25%	25%
	No Identified Risk	9	0%	33%	22%	0%

Note: Dose-response by age group was assessed using the Cochran-Armitage test for trend and all other bivariate associations were assessed using chi-squared tests or Fisher's exact test, as appropriate.

¹ Association with presence of *any* resistance statistically significant at $p < 0.05$.

² Association with presence of any *high-level* resistance statistically significant at $p < 0.05$.

³ All other racial/ethnic categories exclude Latinos.

⁴ Includes non-IDU females without a known risk factor but reporting sex with males.

Technical Notes

Resistance was identified and characterized using Stanford University's HIV Drug Resistance Database website, which analyzes HIV genetic sequences and identifies mutations associated with resistance to various ARTs.[6] Stanford provides ART-specific interpretations with values between 1 (fully susceptible) and 5 (high level resistance), depending on specific mutations found. For these analyses, scores of 4 or 5 were taken to constitute high-level resistance.

Bivariate associations with the prevalence of resistance were assessed using chi-squared tests (or Fisher's exact test, as appropriate) and dose-response by age group was assessed using the Cochran-Armitage test for trend.

Multivariable analyses were conducted for each sex separately to estimate adjusted prevalence ratios for primary resistance using log binomial regression. Variables examined included year of diagnosis (centered on 2012), age at diagnosis (by decade and centered on 25), race (combining Asians and Pacific Islanders due to small numbers in the latter category and using Whites as the reference category), and risk group (using "MSM" and "Heterosexual contact" as the reference category for males and females, respectively).

Time to viral suppression was analyzed using survival/life table methods, with statistical significance assessed using log-rank tests.

Contributed by Richard Lechtenberg

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Homelessness and Inadequate Housing

SUMMARY

The estimated proportion of people living with HIV (PLWH) who are homeless or unstably housed varies from 11% among all PLWH receiving medical care to 54% of lower income PLWH receiving Ryan White services.

King County has instituted a new coordinated entry system to better utilize scarce housing resources, including housing for PLWH.

Data on the housing status of PLWH are inadequate and often inconsistent. Efforts are underway to improve data quality and consistency on housing among PLWH. Improved data will help monitor and direct HIV housing efforts in the future.

HOMELESSNESS GOAL	2015*	2020 GOAL
HOMELESSNESS AMONG PLWDH	11%	< 5%

*Data from the Medical Monitoring Project. 2015 is the most recent year for which weighted data are available.

Background

The Seattle area has a housing crisis. On any given day, there are over 11,000 people in King, Island, and Snohomish counties who are experiencing homelessness. It is well documented that housing status is a strong predictor of HIV health outcomes. In fact, researchers at the Centers for Disease Control and Prevention (CDC) have indicated that housing may improve the health of PLWH.¹

Data

Estimates from the Medical Monitoring Project data for King County indicate that 11% of local PLWH who are in medical care have experienced homelessness in the past 12 months. For participants in Ryan White (RW) HIV Services funded programs, there is an even greater percentage (54%) who indicated they were in unstable housing (defined as living in an emergency shelter; a place not meant for human habitation; jail, prison, or a juvenile detention facility; and/or hotel or motel paid for with an emergency shelter voucher) at any point in 2016.

It is difficult to quantify the exact number of PLWH who are experiencing homelessness. Homeless services programs require a client to self-report HIV status, and clients may not share their status due to stigma or because it seems immaterial to their housing situation. HIV Surveillance data

captures housing status only at time of diagnosis. The RW Program captures data on “unstably housed,” in lieu of using the HUD definition of homeless, which further compounds the problem because it is not currently possible to separate those who are actually homeless from those who are unstably housed.

Programs and Activities

Coordinated Entry

The demand for housing overwhelms homeless services systems across the country, including those located within the Seattle Transitional Grant Area (King, Island, and Snohomish Counties). The largest funder of homeless services, the US Department of Housing & Urban Development (HUD), requires that HUD-funded jurisdictions prioritize housing for the most vulnerable persons and provide other, less intensive, resources for those who need less support. This is called Coordinated Entry (CE).

Like most systems of care, housing is ‘siloe’d’ based on the populations served. While there are resources specifically designated for housing PLWH, these resources are inadequate to meet the needs of all PLWH experiencing homelessness. In response to the scale of the housing crisis, in 2016 Public Health – Seattle & King County’s RW Part A Program and the City of Seattle’s Housing Opportunity for Persons With AIDS (HOPWA) Program released a joint request for proposals (RFP), which combined these two funding sources. The HOPWA program pays for permanent housing-related activities and RW pays for supportive services and temporary housing. This is the first time that the two programs issued a joint RFP to better coordinate scarce resources.

Each agency funded through this RFP agreed to participate in the CE program in the county in which they operate. Each county’s CE uses its own standardized assessment to determine a client’s needs and to connect them to housing supports and/or to housing resources. This shift in how we conduct business allows the most

vulnerable homeless PLWH to gain access to the larger homeless housing system. In turn, PLWH who are homeless but are not classified as “highly vulnerable” are referred by CE to HIV housing services.

Justice-Involved PLWH

A subpopulation of PLWH who have a difficult time accessing services through CE and traditional HIV housing services are those who are justice-involved. The RW Part A program is funding a pilot project with the Washington State Department of Corrections (DOC). Currently, the DOC provides three months of housing support for qualifying ex-offenders. This pilot project pays for transitional housing services for former inmates who are PLWH and either do not qualify for the DOC program or are unable to support themselves independently after the three-month timeframe. In this model, the DOC Medical Release Planner and the DOC Infectious Disease Physician partner with community-based medical case management agencies to provide support for persons who are justice-involved. Participants enrolled in this program also have access to the full array of integrated services that DOC provides. Performance data will not be available until after the grant year ends, but we expect that a greater number of PLWH will gain access to housing.

Improving Data Quality

Public Health is actively working to improve data quality related to housing among PLWH. The RW Part A Program’s Quality Management Advisory Committee has elected to complete a three-phase effort to improve housing data quality and use. Phase one is clean-up of the existing housing data in the RW database by February 2018. Phase two is to create a uniform housing assessment template with standardized definitions for use with clients across all agencies, not just housing-specific programs. And, phase three is to analyze collected data to identify disparities in housing, housing access issues, and barriers to getting people stably housed. These findings will help in the development of interventions for future implementation.

Contributed by Kate Briddell

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Dental Care

SUMMARY

Ryan White Part A-eligible clients consistently have prioritized dental care as a much-needed health care service.

For several years, increased reporting requirements decreased the number of local dental providers who participated in the Ryan White Part A Dental Program, thus limiting clients' access to oral health care.

In 2014, a new dental program model instituted by the Ryan White Part A Program dramatically increased clients' access to oral health care and decreased unmet need for dental services.

Background

For twenty-four years, Public Health – Seattle & King County (PHSKC) has received federal Ryan White Part A (RWPA) funds to provide essential health and support care services to low-income, under-insured HIV-infected individuals residing within the Seattle Transitional Grant Area (TGA), currently composed of King, Snohomish, and Island counties. These dollars, administered by the U. S. Department of Health and Human Services' Health Resources and Services Administration (HRSA), serve to promote client engagement and retention in HIV care. Community Needs Assessment data, used by the Seattle TGA RWPA Planning Council, help to determine funding allocations based on demonstrated client needs. Oral Health Care has ranked as the second most needed service by RWPA-eligible clients for the last three years.

In the past, the Seattle TGA RWPA Program identified and selected providers for participation in its dental program through a competitive bidding process. An increase in HRSA-imposed reporting requirements created administrative burdens that lead to a decline in the pool of RWPA-funded oral health care providers participating in the program. In September 2014, the RWPA program adopted a new service delivery model that allowed an administering agency to perform all required RWPA administrative functions for participating dental providers. This model allowed dental providers to focus exclusively on the delivery of oral health

care services. The new Seattle TGA RWPA Dental Program also expanded to include non-medical case management services to support clients as they engage/re-engage and maneuver the oral health care system.

Department of Health’s Early Intervention Program extended temporary dental coverage to TGA clients as the RWPA-funded dental program reorganized. Service utilization data for 2014 includes only 6 months of services: September 1, 2014 – February 28, 2015. Data for proceeding years represent full fiscal years.

Data

Client service utilization data in **Figure 1** show a four-fold increase in the number of clients served since the inception of the modified Seattle TGA RWPA Dental Program. Performance for the first full year of operation (2015) shows 617 more clients being served than in 2013 and 665 more than in 2014. Of note: The data for 2013 represents the 12-month period (of September 1, 2013 to August 31, 2014) during which the Washington State

The program has witnessed growth in the number of participating providers as well, from four providers in 2014 to 21 in 2017 (see **Table 1**). This distribution of providers expands across the Seattle TGA, with the exception of Island County, and includes an array of specialists (e.g., endodontics, oral health surgeons) who serve clients with more challenging and extensive oral health histories and needs.

Figure 1. Ryan White Part A Dental Program, Seattle TGA, 2013 - 2016

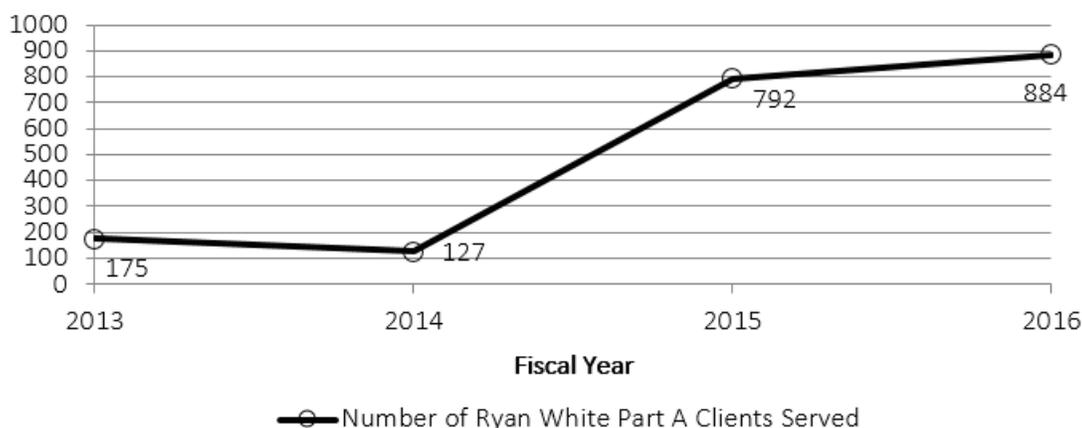


Table 1. Ryan White Part A Dental Program – Participating Dental Providers, Seattle TGA, 2014 – 2017

FISCAL YEAR OF SERVICE	NUMBER OF CONTRACTED RYAN WHITE PART A DENTAL PROVIDERS
2014	4
2015	14
2016	20
2017	21

Success

The benefits and successes of the RWPA Dental Program are numerous:

- Dental providers can focus on what they do best: providing oral health care services.
- Lessened administrative burdens attract more provider participants, including specialists (e.g., endodontists).
- The distribution of providers throughout the Seattle TGA increases accessibility to services for eligible clients.
- Increased service capacity allows for more clients to get served.
- Clients receive non-medical case management support to navigate the oral health care system and to engage in ongoing dental care.

The Centers for Disease Control and Prevention's Medical Monitoring Project health survey data for the Seattle TGA also endorses the success of the program. When compared to its 2014 data (June 2014 to April 2015), data from its 2016 collection cycle (June 2016 to

April 2017) shows a 10.4 percentage point decrease in the number of HIV-positive clients who needed but could not get dental services: a reduction from 31% to 20%.

Challenges

Ongoing program evaluations to identify areas with demonstrated need for improvement will be performed to enhance program functionality and efficiencies. Better monitoring and identification of clients who fail to maintain service engagement is one program objective being explored to reduce the likelihood of clients falling out of care and to reengage those who are inconsistently adherent with their care. Understanding "no show" rates and developing intervention strategies to decrease them is another. Establishing a TGA-specific panel of dental experts to ensure the program's dental fee schedule includes procedures that best support client needs and allow providers to follow best practices when treating clients is yet another area under development. All endeavors have the ultimate goals of improved client engagement and providing optimal oral health.

Contributed by Shonita Savage

The MAX Clinic: HIV Care for People with Complex Medical and Social Needs

SUMMARY

A new clinic opened in 2015 and provides intensive support and easily accessible care to people living with HIV who have been poorly engaged in traditional HIV care.

Among 95 people enrolled in the first 2 years of the clinic, 80% achieved viral suppression at least once.

The MAX Clinic is expanding to assure that the most difficult to treat patients enjoy the health benefits of HIV medical care.

Background

The MAX Clinic (“maximum assistance” Clinic) is designed to engage the hardest-to-reach people living with HIV (PLWH): those with extensive psychosocial barriers to care who are not taking antiretroviral therapy (ART) and are not well-engaged in care despite intensive outreach. In general, the clinic only enrolls persons who are not virally suppressed. (Viral suppression refers to having an undetectable or very low [<200 copies/ml] level of virus in the blood, and is achieved when a patient consistently takes antiretroviral therapy.) The clinic is a multi-component intervention that includes walk-in access to HIV/primary care visits, intensive case management, and incentives for retention in care and viral suppression. The clinic is located in the Public Health – Seattle & King County (PHSKC) STD Clinic, and is operated in collaboration with the Madison Clinic at Harborview Medical Center with partial funding from the WA State Department of Health.

Data

During the first 2 years of operation (January 2015–December 2016) 95 patients enrolled in the MAX Clinic (completed at least one visit). Of these, 68 (72%) were male, 22 (23%) were female and 5 (5%) were transgender or non-binary. Most (51%, $N=48$) were referred to the clinic by a case manager or medical provider; 25 (26%) were identified

through health department outreach programs, 9 (9%) were referred by inpatient medical providers, 7 (7%) were referred by peers or self-referred and 6 (6%) were identified through an automated alert from a health information exchange. As shown in **Table 1**, most patients had complex medical and social barriers to care. Of the first 95 patients, 80% achieved viral suppression (HIV RNA <200 copies/mL) at least once by the end of

2016. Stratified by the length of time enrolled, the proportion of patients who achieved viral suppression at least once was as follows: 3 months (43%), 6 months (51%), 9 months (66%), 12 months (81%), and 18 months (90%). However, many patients face significant challenges maintaining viral suppression, and only 65% of patients were virally suppressed at the time of their last viral load measurement.

Table 1. Social and Medical Characteristics of Patients Enrolled in the MAX Clinic, at the Time of Enrollment, January 2015-December 2016 (N=95)

CHARACTERISTIC	N (%)
Illicit substance use	72 (76%)
Diagnosed psychiatric illness	68 (71%)
Unstable housing	62 (65%)
At least one of the above	90 (95%)
Documented history of incarceration	55 (58%)
Most recent CD4 count prior to enrollment <200 cells/mm ³	44 (46%)

A total of 263 unique patients were referred to the MAX Clinic during the first two years of the clinic's operation. Of these, 93 (35%) were ineligible for enrollment, most commonly (N=53) because they were virally suppressed despite poor clinic visit attendance or were not taking ART but were well-engaged with their care providers. An additional 31 were assigned to a lower intensity or deferred decision ("watchful waiting") group. Of the 170 individuals eligible for MAX enrollment, 22 (13%) did not enroll because they had moved (N=9), refused (N=8), were in prison (N=2), or had entered assisted living or died prior before enrollment (N=3). At the end of 2016, recruitment efforts were ongoing for 53 individuals who had been referred to and were eligible for the MAX Clinic.

In order to understand patients' perspectives on the MAX Clinic, a research team conducted in-depth, individual qualitative interviews with 25 patients. Participants expressed an appreciation of how they were treated at the MAX Clinic and how the MAX team addressed social circumstances that would improve their quality of life. Participants particularly appreciated the ability to have drop-in visits because their social and living situations made it difficult for them to keep appointments -- and food, in the form of snacks and meal

vouchers, helped them be in an appropriate state of mind to focus on clinical issues during the visit. A few quotes from clients illustrating these themes are included below:

"I think being here really just gave me an eye-opener and it just helped me in life....I'm grateful, forever grateful, to be here and for this program to be open for people like me, because I always used to tell every doctor, 'You don't understand, you don't understand, you don't understand. You can tell me all this and that, but you don't understand because you're not in my shoes to understand.' But for me to have somebody that does understand, it helps." -- MAX client

"When I don't have an appointment to miss, it doesn't put me off of coming back. Because I feel very flaky when I miss appointments. I feel like I'm not meeting my standards and, I don't know, I don't want to face the music with that and go back in. I will avoid stuff that's critical to my health because I'm embarrassed." -- MAX client

“I’m very hungry a lot of the time. I’m homeless. I live in a tent and I don’t eat a lot sometimes and I’m very hungry always and to be able to come here and get some snacks is nice. It just even helps with being able to be interviewed by a doctor and have everything firing cognitively because your blood sugars are good. It’s just important to eat and it’s nice to be able to.” -- MAX client

Successes

The MAX Clinic has successfully engaged a group of PLWH who have very complex medical and social needs and who were poorly engaged in HIV care prior to enrollment. Most of these patients are now virally suppressed. Over the first few years of its operation, the MAX Clinic evolved to include medical case managers and additional non-medical case managers who coordinate with community partners to provide care and social services to PLWH.

Contributed by Julie Dombrowski, Meena Ramchandani, Matthew Golden, Allison Moore, Shireesha Dhanireddy, Kristin Beima-Sofie, and Robert Harrington

Challenges

Although the exact number of persons with HIV who might benefit from MAX Clinic care is not well-defined, there is clearly substantial unmet need for the sort of high-intensity services MAX provides. We are in the process of growing the clinic. At the same time, there are many patients who are virally suppressed but poorly engaged in care, many of whom could benefit from better engagement. PHSKC, Harborview, and the WA State Department of Health are working together to develop a more diversified model of HIV care that better matches levels of medical and social services to patient needs.



POPULATIONS OF SPECIAL INTEREST FACT SHEETS



HIV/AIDS Fact Sheet

Men Who Have Sex with Men in King County



KEY POINTS

Men who have sex with men (MSM) account for 64% of all new HIV diagnoses in King County.

Since 2007 the rate of new diagnoses among MSM has declined 47%.

Hispanic MSM account for 9% of the estimated King County MSM population but account for 24% of all new diagnoses among MSM.

83% of HIV-infected MSM are virally suppressed.

Approximately 1 in 5 HIV-uninfected MSM in King County is currently using PrEP.

Overview

In King County, men who have sex with men (MSM) have been, and continue to be, the most heavily impacted risk group in the HIV epidemic. In 2016, MSM accounted for 64% of all new HIV diagnoses in King County and 83% of all diagnoses where an exposure category was identified. There were 141 new HIV diagnoses among MSM in 2016, which is the lowest number of new diagnoses among MSM since 1995. The 2016 rate of new diagnosis among MSM was 320 per 100,000 MSM, which is a 14% reduction in the rate of new diagnoses among MSM since 2015 and a 47% reduction in the rate of new diagnoses since 2007 (**Figure 1**). Approximately one in 10 MSM in King County is living with HIV and an estimated 83% of HIV-infected MSM are virally suppressed (93% of those with one or more viral loads reported).

Population Size: We estimate that 5.7% of men aged 15 years or older in King County are MSM, per the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System Survey (King County data) from

2013 and 2014 (Personal Communication Lin Song, Assessment, Policy Development, and Evaluation PHSKC). We assume that the percentage of men who are MSM is relatively consistent across age and racial/ethnic groups.

HIV Epidemiology among Sub-Populations of MSM: In 2016, 59% of new HIV diagnoses among MSM occurred in individuals who were between 20 and 34 years old, who account for only 30% of the estimated population of King County MSM (**Figure 2**). Nearly half of all new HIV diagnoses among MSM occurred among White MSM, who comprise 65% of the estimated MSM population in King County. Hispanic MSM and Black MSM account for 24% and 12% of all new HIV diagnoses, respectively, but are only 9% and 6% of the estimated KC MSM population, respectively (**Figure 2**). The rate of new HIV diagnosis among Hispanic MSM has increased 28% in the last five years, from 689 cases per 100,000 Hispanic MSM in 2012 to 879 cases per 100,000 Hispanic MSM in 2016 (**Figure 1**). The rate of new HIV diagnoses has declined steadily among White MSM since 2010 and has remained relatively stable among Black MSM since 2011.

PRIMARY METRICS	ESTIMATE
HIV PREVALENCE IN 2016	
Number of MSM prevalent cases	5,199
Prevalence (%)	10.6%
Percent of all HIV cases	83%
HIV INCIDENCE (NEW DIAGNOSIS)	
2016 incidence (# new diagnoses)	141
2016 diagnosis incidence rate	320 cases per 100,000
10-year trend (2007-2016)	47% decrease
ESTIMATED NUMBER OF MSM IN KING COUNTY (2016)	
VIRAL SUPPRESSION AMONG HIV+ MSM*	83% of MSM are virally suppressed

* Among all MSM with diagnosed HIV-infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with ≥1 viral load reported in 2016, 93% were virally suppressed.

Interventions

HIV Testing: Public Health – Seattle & King County (PHSKC) and Washington State Department of Health (WA DOH) fund HIV testing activities, primarily for persons at higher risk of HIV infection. Since 2007 the number of HIV tests performed among MSM increased by 51% and in 2016 there were 7,015 publicly-funded HIV tests performed for MSM in King County. HIV testing among MSM in King County is widespread and has been successful in minimizing the time from HIV infection to diagnosis for most men. In 2016, the median time since last HIV negative test among newly diagnosed MSM

was 8.8 months. HIV testing histories were known for 86% of MSM diagnosed with HIV in King County in 2016, and, of these, 10% had never had a prior negative test. Of MSM with a negative HIV test prior to an HIV diagnosis, 58% had tested negative within one year 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 STD clinic at Harborview Medical Center, which provides walk-in services five days per week. The STD clinic provides care on a sliding fee scale.

PrEP: In 2016-2017, an estimated 14-19% of all HIV-uninfected King County MSM and 35-58% of higher risk MSM currently use PrEP. PHSKC promotes PrEP for MSM in several ways, including providing PrEP referrals via STD partner services, providing PrEP at the PHSKC STD clinic, and maintaining (on the PHSKC website) a publicly available list of PrEP providers and a map of PrEP provider locations. In 2016, 240 MSM diagnosed with a bacterial STI (who did not report currently using PrEP) were referred to PrEP by the PHSKC partner services program. The PHSKC STD clinic initiated 334 MSM patients on PrEP from October 2014 to December 2016 and had 174 patients actively on PrEP as of December 2016.

Condom Distribution: In 2016, PHSKC distributed 462,245 condoms and 45,000 packets of lubricant. Forty-two

percent of condoms were distributed through the HIV prevention contractors, most of whom focus much of their work on MSM. The 2017 Seattle Pride survey asked MSM participants where they usually got their condoms from. Half bought condoms themselves, 38% got free condoms, and 6% got condoms from their sexual partners. To increase condom distribution, the PHSKC HIV/STD Program is now piloting new condom access and distribution projects. One new project is a mobile-enabled interactive web page that allows users to identify locations in King County and Washington State where they can obtain free condoms.

Behavioral Surveillance: The PHSKC HIV/STD Program monitors trends in seroadaptive behaviors using data from community-based surveys, behavioral surveillance surveys, research studies, and the PHSKC STD clinic. Findings from our recent behavioral monitoring and evaluation activities, described elsewhere in this report, indicate that several newer behavioral strategies to prevent HIV infection – such as only having sex with HIV-negative MSM taking PrEP – are becoming increasingly common and may reduce one’s risk of HIV infection. The PHSKC HIV/STD program uses these data to evaluate the impact of PHSKC HIV/STD program activities and to explain changes in population-level HIV/STI rates.

Figure 1. Rate of New HIV Diagnoses among MSM, Overall and by Select Race/Ethnicity, King County, 2007-2016

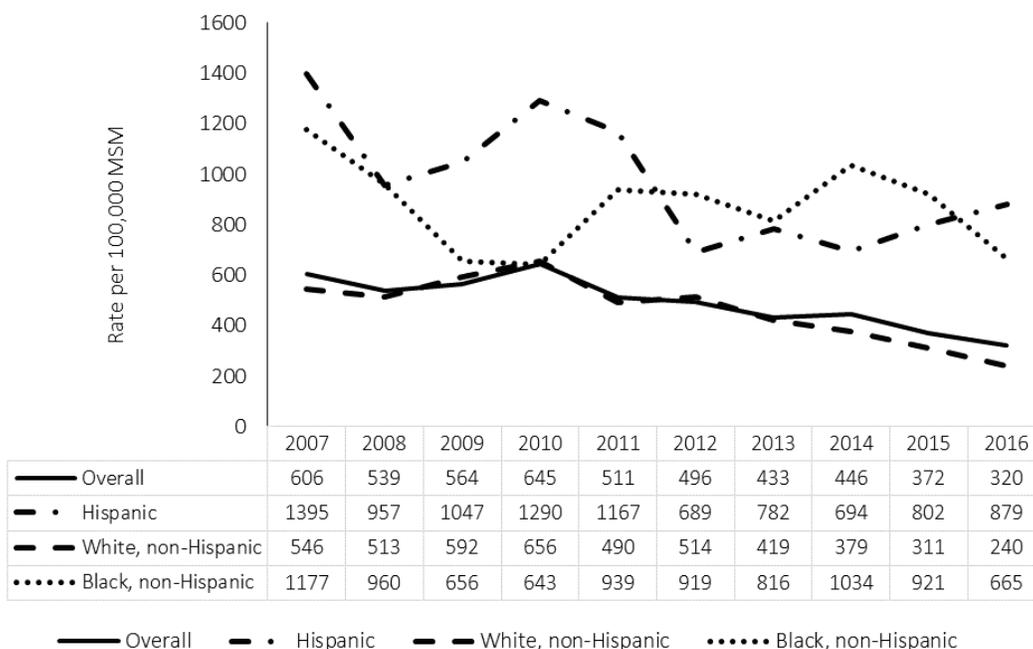
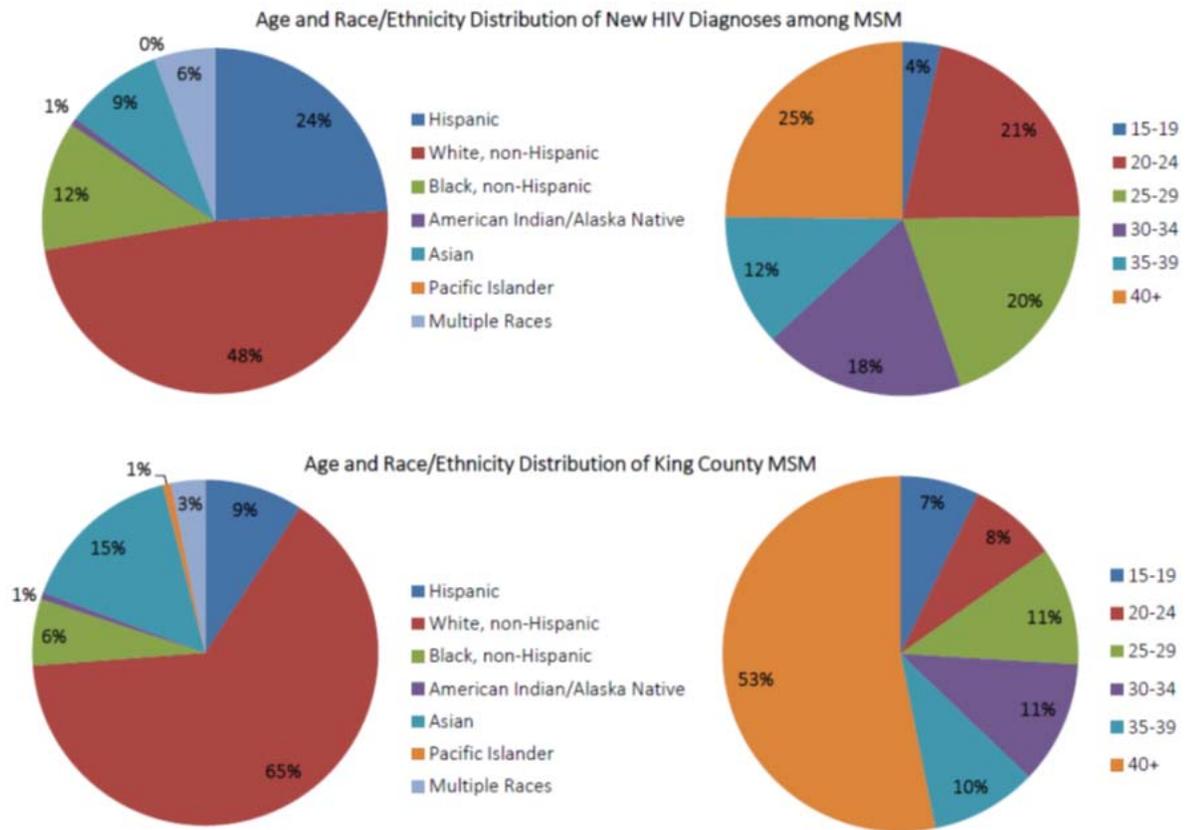


Figure 2. Age and Race/Ethnicity Distribution of New HIV Diagnoses Among MSM Compared to the Distribution of all MSM, King County, 2016



Contributed by Christine Khosropour

HIV/AIDS Fact Sheet

People Who Inject Drugs in King County



KEY POINTS

New HIV diagnoses among people who inject drugs (PWID) and do not report other risk factors are relatively rare, with only 11 new diagnoses in 2016 among PWID who are not men who have sex with men (MSM).

HIV prevalence is high (40-45%) among PWID who are MSM and inject methamphetamine.

The majority (>70%) of HIV-infected PWID are virally suppressed.

In 2016, the PHSKC Needle Exchange exchanged nearly 7 million syringes and launched an on-site buprenorphine treatment program.

A survey of Needle Exchange clients found increasing rates of homelessness and methamphetamine use among PWID.

Population Characteristics

In King County, HIV diagnoses among people who inject drugs (PWID) and who do not report other risk factors are relatively rare. Using surveillance data from the Public Health—Seattle & King County (PHSKC) HIV/STD program and our estimate of the PWID population size (see below), we estimate that the HIV prevalence among PWID who are not men who have sex with men (MSM) is approximately 1%, and approximately 15% among PWID who are MSM. Data from the 2015 National HIV Behavioral Surveillance IDU survey found a slightly higher HIV prevalence of 3% among non-MSM PWID and 22% among PWID-MSM. The subset of PWID-MSM who inject methamphetamine have the highest HIV prevalence (40-45%). The prevalence of hepatitis C among all PWID is high at approximately 60-70%.

The 2017 survey of PHSKC needle exchange clients found that the average age of PWID was 37 years, 33% were female, and 23% reported a non-White race. The majority were homeless (43%) or unstably housed (26%), a 19% increase from the 2015 survey. Nearly two-thirds (64%) reported that their primary drug was heroin or another opioid. However, polydrug use was very common and methamphetamine use in particular has increased substantially since 2011 (see **Figure 1**). One in five (22%) PWID reported sharing a syringe in the past 3 months, and 46% reported sharing any injection equipment.

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. Applying these same calculations to 2016 population estimates, the number of PWID increased to approximately 25,000. We estimate that 4,000 of these PWID are MSM (an increase from 3,000 estimated in 2014). Note that the estimates used to derive the overall PWID number come from 1993-2008 population-based survey data. Given that other local indicators suggest that injection drug use has likely increased since the mid-2000s, our King County figures probably underestimate the true population size.

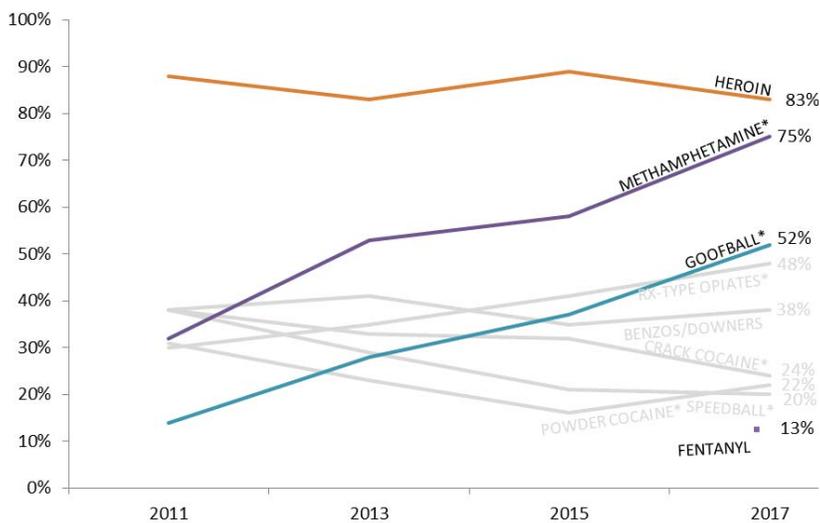
HIV Prevention and Care Interventions

Needle and Syringe Exchange Program (NSEP): NSEPs are effective interventions for decreasing the risk of HIV transmission among PWID. The PHSKC NSEP is the second-longest running exchange program in the United States, and exchanged nearly 7 million syringes in 2016. Local research has shown that the rate of syringe sharing among PWID in King County has declined over time¹, which aligns with declines in new HIV diagnoses in this population.

PRIMARY METRICS	PWID NON-MSM	PWID-MSM
HIV PREVALENCE IN 2016		
Number of PWID prevalent cases	285	601
Prevalence (%)	1-3%	15-22%
Percent of all HIV cases	4%	9%
HIV INCIDENCE (NEW DIAGNOSES)		
2016 incidence (# new diagnoses)	11	15
2016 diagnosis incidence rate	52 per 100,000	375 per 100,000
10 year trend (2007-2016)	No sig. change	~50% decrease
ESTIMATED NUMBER OF PWID IN KING COUNTY (2016)	~21,000	~4,000
VIRAL SUPPRESSION AMONG HIV+ PWID*	74%	79%

* Among all PWID with diagnosed HIV-infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with ≥1 viral load reported in 2016, 87% of PWID (non-MSM) and 88% of PWID-MSM were virally suppressed.

Figure 1. Drug Use Trends Among King County Syringe Exchange Clients, 2011-2017



*p<0.05

HIV Testing and Viral Suppression: HIV testing among PWID in the Seattle area declined over the past decade: in 2004, 64% of PWID reported an HIV test in the past year, compared with 47% in 2015.² This decline reflects decreasing levels of HIV testing among non-MSM PWID. In part due to infrequent testing, a relatively high proportion of HIV-infected non-MSM PWID are “late diagnoses” – 46% of male and 24% of female PWID – meaning that they were diagnosed with AIDS within a year of their HIV diagnosis. By contrast, only 16% of MSM-PWID were late diagnoses. Fortunately, most HIV-infected PWID are able to link to care and achieve viral suppression. In 2016, 74% of non-MSM PWID and 79% of PWID-MSM were virally suppressed.

PrEP Guidelines: In 2015, PHSKC and WA DOH issued implementation guidelines for HIV pre-exposure prophylaxis (PrEP).³ With respect to PWID, these guidelines state that health care providers should recommend PrEP initiation to patients who are MSM or

transgender persons who have sex with men and who have used methamphetamine in the past year (including injection), and persons who have condomless sex with HIV serodiscordant partners who are not virally suppressed. Other PWID are encouraged to discuss initiating PrEP with their health care provider.

MAX Clinic: The MAX Clinic is a walk-in HIV care clinic located within the PHSKC STD clinic at Harborview Medical Center. To be eligible for the MAX Clinic, patients must have had evidence of an inability to remain in traditional HIV care and have a detectable viral load at enrollment. The vast majority of patients have a substance use disorder, with most reporting methamphetamine use.

Among the first 50 patients to enroll, 68% were PWID. Overall, 80% of MAX patients achieved viral suppression at least once by the end of 2016, highlighting the effectiveness of this model for this population.

Opioid Task Force Recommendations: In response to the opioid overdose crisis in King County, the King County Executive and Seattle mayor formed the Heroin and Prescription Opiate Addiction Task Force in early 2016.⁴ Although the key objective was opioid overdose prevention, several of the recommended interventions would also result in reducing HIV transmission risk by reducing the frequency of injection and syringe sharing. These recommendations include the establishment of Community Health Engagement Locations (CHELs), also known as supervised injection facilities, and the expansion of low-barrier, on-demand buprenorphine treatment. In response to the latter recommendation, the PHSKC NSEP and Downtown Public Health partnered and began offering on-site buprenorphine in early 2017.

Contributed by Sara Glick and Kathryn Klein

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HIV/AIDS Fact Sheet

People Who Exchange Sex in King County



KEY POINTS

Local surveys of women who exchange sex have found an HIV prevalence that is the same or lower than among women who did not report exchange sex.

In most local data, HIV prevalence is higher among MSM who exchange sex than MSM overall.

Overview

In some parts of the world, people who exchange sex for money, drugs, or other goods are at increased risk for HIV. However, data from the United States are very limited. In 2016, Seattle was one of five sites to participate in the first cycle of the Centers for Disease Control and Prevention’s (CDC) National HIV Behavioral Surveillance (NHBS) focused on women who exchange sex. This fact sheet includes data collected from this survey on women who exchange sex, along with data from the Public Health STD Clinic, Public Health Pride surveys on persons who exchange sex, and partner services data.

Population Size: The number of local residents who exchange sex is unknown. Although not population-based, one source of data is people who had a visit to the Seattle STD clinic (de-duplicated) between 2014 and 2016. Five percent of women (total number of women: 2,471) and 4% of men who have sex with men (total number of MSM: 4,973) reported receiving money or drugs for having sex in the last 12 months. Three percent of MSM and 6% of men who did not report having sex with men (total number: 4,593) among STD clinic patients reported giving money or drugs in exchange for sex. The STD clinic samples included mainly cisgender individuals. In the Trans Pride Survey 2015-2017, 10% of trans women and non-binary people assigned male at birth (AMAB) reported exchange sex.

Population Characteristics of Women Who Exchange Sex: The NHBS sample was recruited via respondent-driven sampling which resulted in a sample of women who are highly marginalized and primarily find clients outdoors. (Women who did not report exchange sex were also eligible to participate but not invited to recruit others.) Our formative research suggested that indoor sex workers comprise a significant proportion of women who exchange sex, but our sampling protocol failed to recruit many of these women. The majority (77%) of the women in the NHBS sample found clients on the street or another public place, 50% experienced homelessness in the past 12 months, and 66% injected drugs in the last 12 months (Table 1). While we do not know the primary modality of finding clients for women who reported exchange sex at the STD Clinic (e.g. outdoor or indoor), the sample is younger overall, with a much smaller (although still substantial) proportion reporting injecting drugs in the last 12 months. The samples were fairly similar with respect to race. The HIV prevalence was higher in the NHBS sample than the STD clinic sample (4% vs 1%). However, in both samples the HIV prevalence for women who exchange sex was the same or lower than the HIV prevalence among

Table 1. Women in King County Who Receive Money or Drugs in Exchange for Sex^a

SAMPLE DEMOGRAPHICS	2016 NHBS N=296	2014-2016 STD CLINIC N=112
Median age	45 yrs	32 yrs
Black/African American (non-Hisp)	20%	23%
White (non-Hisp)	47%	53%
Hispanic/Latino	11%	11%
Asian/Pac. Isl. (non-Hisp)	2%	4%
Native Am./AK Indian (non-Hisp)	4%	2%
Multiple races (non-Hisp)	17%	4%
Homeless in past 12 months	50%	37% ^b
Injected drugs in past 12 months	66%	25%
Find clients outdoors ^c	77%	unknown
HEALTH		
HIV+ ^d	4%	1%
HIV test in last 12 months ^e	45%	38%
Bacterial STD in last 12 months ^f	10%	17%
Bacterial STD test in last 12 months	49%	unknown

^a NHBS (National HIV Behavioral Surveillance) and STD Clinic samples are mainly focused on cisgender women and both include a few transgender (trans) women.

^b Data on housing status was only available for 59 visits from 2015-2016.

^c Women who find exchange sex clients on the street or in other public places.

^d Based on self-report plus new HIV diagnoses.

^e Among those who reported being HIV- or status unknown.

^f Based on self-report.

women who did *not* report exchange sex (6% [n=84] and 1% [n=2,359] respectively).

HIV Prevention and Care Interventions for Women

PrEP: Public Health – Seattle & King County (PHSKC) and WA Department of Health (DOH) PrEP Guidelines state that medical providers should recommend PrEP to people who exchange sex who are MSM or transgender persons who have sex with men, and discuss initiating PrEP with “women who provide sex for money or drugs.” In the NHBS sample, only 15% of women who exchanged sex had heard of PrEP, 2% discussed it with a medical provider, and 1% took PrEP in the past 12 months.

STD Clinic: The Public Health STD Clinic provides walk-in HIV/STD testing, contraception, PrEP, and linkage to HIV care services. In the NHBS sample, 16% of women who exchange sex reported receiving general medical care at the STD Clinic in the last 12 months, and 22% of the women who reported screening for an STD one or more times per year said that they regularly screen at the STD Clinic. The reason most frequently reported for choosing this testing venue was location (75%) followed by walk-in services (65%), quality of doctors and nurses (52%), and that staff were knowledgeable about women who exchange sex (48%).

Syringe Exchange: While women who inject and exchange sex may be overrepresented in the NHBS sample, data suggested that the Needle Exchange is an important resource for many of the women. Half of the sample overall reported using some Public Health Needle Exchange services in the past 12 months, and 36% reported receiving medical care services at the Needle Exchange (including women who did not report injection). Sixty-one percent of the whole sample and 74% of women who injected in the last year said they would be interested in receiving more medical care services from the Needle Exchange if they expanded.

Medical Care: Only 22% of women in the NHBS sample said that they had disclosed that they exchange sex to their medical provider, which may account for the low level of PrEP discussion with providers. Women in the NHBS survey were asked to choose their most pressing medical concern today, and mental health came in first (26%), followed by primary care (17%). Over half of the women reported not seeking medical care they needed. In the NHBS survey as well as in formative research, a

significant portion of women said that judgment from healthcare providers about exchange sex and drug use, prevented them from seeking medical care they needed. This stigmatization may explain why many women identified the Needle Exchange as a desirable venue for medical care. There is an opportunity for Public Health services to continue to build trust with women who exchange sex and improve their experience with public health services, including expanding services where women already seek care.

Characteristics of People Who Exchange Sex from Other PHSKC Data Sources

Table 2 includes data on HIV/STD prevalence and testing among people who exchange sex across several Public Health data sources that measure exchange sex. These data sources include the 2014 NHBS cycle with cis men who have sex with men (MSM) and 2014-2016 PHSKC STD Clinic data on MSM and men who are not MSM, which both ask about giving and receiving money in exchange for sex separately. Other data include the 2015-2017 Pride survey with cis MSM and the 2015-2017 Trans Pride Survey, both of which only ask generally about having sex in exchange for money or drugs and do not distinguish between giving and receiving.

The percent of people reporting *giving* money or drugs in exchange for sex was relatively similar among both NHBS and STD Clinic samples for MSM (3-4%) and slightly higher for non-MSM (6%). However, for those reporting *receiving* money or drugs in exchange for sex, or where the direction of the exchange was not specified, the frequencies varied across surveys: 4-8% for MSM and 10% for trans women and people who are non-binary AMAB. In four of five of the MSM samples, HIV prevalence was higher among MSM who exchanged sex than among MSM overall. Partner services data on new HIV cases reported between 2014-2016 show that 37 of the 488 people interviewed (among 721 total new HIV cases) reported exchanging sex. Thirty-three (90%) were assigned male at birth, and of those cases, 24 (73%) were assigned MSM or MSM/IDU as the exposure category.

Table 2. Public Health – Seattle & King County Data Regarding People Who Exchange Sex for Money or Drugs

POPULATION OF FOCUS	TRANS WOMEN & AMAB NON-BINARY ^a	MSM ^b				MEN NON-MSM ^b	
		Does not distinguish between receiving or giving money/drugs		Received money or drugs in exchange for sex		Gave money or drugs in exchange for sex	
	2015-2017 Trans Pride	2015-2017 Pride	2014-2016 STD Clinic	2014 NHBS	2014-2016 STD Clinic	2014 NHBS	2014-2016 STD Clinic
Exchange sex type							
Data source	210	1324	4973	503	4973	503	4593
Overall sample size	4%	11%	14%	17%	14%	17%	1%
HIV+ ^c % of overall sample (do and do not report exchange sex)	PEOPLE WHO EXCHANGE SEX						
Number (% of overall sample) reporting exchange sex	22 (10%)	55 (4%)	187 (4%)	39 (8%)	141 (3%)	20 (4%)	282(6%)
HIV+ ^c	5%	33%	24%	21%	19%	15%	0%
HIV test in last 12 mo ^{d,e}	75%	85%	58%	69%	59%	65%	32%
Bacterial STD in last 12 mo ^f	14%	24%	47%	26%	36%	20%	9%
Bacterial STD test in last 12 mo	75%	69%	unknown	49%	unknown	55%	unknown

^aTen trans women and 12 participants who identified as non-binary assigned male at birth (AMAB) were combined to create a large enough sample size which would not be identifiable. The remaining populations from the Trans Pride sample had 0% HIV prevalence and were excluded from this table.

^bNHBS excluded trans men. The STD Clinic data is focused on cis men and includes a few trans men.

^cTrans Pride and Pride Surveys are based on self-report. People with new HIV diagnoses are added to those with self-reported HIV for STD Clinic and NHBS.

^dAmong those who reported being HIV- or status unknown.

^eTrans Pride and Pride Surveys measure 2 or more tests in the last 2 years.

^fBased on self-report.

Discussion

Across all populations of people who exchange sex in Public Health data sources, a high proportion had a bacterial STD in the last 12 months, which may in part be due to high rates of testing for STDs. In the NHBS sample of women who exchange sex, which was comprised largely of women who inject drugs, the HIV prevalence was similar to that of people who inject drugs (PWID) overall, while the STD Clinic sample of women who exchange sex had a lower HIV prevalence at 1%; both samples had little difference in prevalence between women who exchange and those who do not. For most MSM samples the HIV prevalence was higher among those who exchange sex than the sample overall, with

minimal differences for men who are not MSM and trans people. HIV testing rates were high across all populations. MSM who exchange sex are at high risk for HIV infection. Additional efforts are needed to reach this vulnerable and socially marginalized population. Although cis-women who exchange sex are a very small part of the HIV epidemic in King County, WA, at least among the more marginalized populations for which Public Health has data, this population has other significant unmet healthcare needs, many of which overlap with the needs of PWID. Ongoing local efforts to improve medical and social services for PWID are an opportunity to improve care for a subset of persons who exchange sex.

Contributed by Courtney Moreno

HIV/AIDS Fact Sheet

Transgender Population In King County



KEY POINTS

Data on transgender and gender non-conforming individuals in King County are scarce.

About 5-6% of transgender women and other gender-non-conforming individuals assigned male at birth in local surveys report HIV infection, relative to none of the transgender men and non-conforming individuals assigned female at birth.

Overview

Public Health – Seattle & King County (PHSKC) monitors health issues in the transgender population in King County through the annual Trans Pride Survey and intake forms completed by transgender and gender non-conforming STD Clinic patients.

Population Size

To the best of our knowledge, there are no good estimates of the number of transgender and gender non-conforming individuals living in King County. PHSKC and many other entities are increasingly collecting data on sex assigned at birth and current gender identity to accurately characterize transgender and gender non-conforming individuals. In 2016 there were 58 people living with HIV (PLWH) in King County who were known to be transgender, representing <1% of the PLWH population in King County.

Methods

The Trans Survey has been conducted annually at Seattle Trans* Pride, a festival in Capitol Hill, since 2014. The survey can be interviewer- or self-administered. Respondents are given a \$5 Starbucks card for completing the survey. To be eligible for the survey, respondents must be Washington State residents who identify as transgender, non-binary, or genderqueer.

In 2015-2016, the PHSKC STD Clinic endeavored to make the clinic more transgender friendly. Efforts included substantial cultural competency and clinical training related to transgender health, and revisions of intake form language, which involved use of the Institute of Medicine endorsed two-step gender identity question (effective May 2016). In this report, we summarize information collected after this approach was implemented.

Epidemiology

Characteristics of 2017 Trans Survey Respondents: The percent of PLWH with a suppressed viral load was slightly lower among transgender PLWH compared to the entire PLWH population in King County (76% vs. 82%). **Table 1** stratifies the Trans Survey sample by assigned male at birth (AMAB) and assigned female at birth (AFAB) and then stratifies these categories by transgender and non-binary/genderqueer (NB/GQ). The majority of respondents were non-Hispanic White. AMAB respondents tended to be older than AFAB respondents; they were also more likely to experience homelessness in the prior year. Compared to NB/GQ respondents, respondents who identified as transgender were more likely to report that their regular medical provider was aware of their gender. Respondents reported varying levels of dissatisfaction with the availability of trans-inclusive health services. The majority of respondents reported that they had been verbally harassed because of their gender; a large minority reported that they had been physically attacked because of their gender. Whereas 5% of trans women and 6% of NB/GQ AMAB reported being HIV positive, none of the AFAB respondents reported being HIV-positive. NB/GQ AMAB respondents were more likely to report stimulant use, STD diagnoses, and higher-risk sex than trans women or AFAB respondents. Heroin and prescription opioid recreational use was most commonly reported by trans women.

Utilization of HIV/STD Services

Table 2 is limited to Trans Survey participants who reported a negative or unknown HIV status and describes their utilization of HIV and STD services. This table is stratified by HIV risk level, which is based upon the Washington Department of Health and PHSKC PrEP Guidelines.¹

Participants were considered high risk if (in the past 12 months) they reported a sex partner who was assigned male at birth *and* reported one or more of the following: transactional sex, methamphetamine or popper use, injection drug use, condomless sex with an HIV-positive partner, or a syphilis or gonorrhea diagnosis. Per this definition, 10% of trans women, 21% of NB/GQ AMAB, 6% of trans men, and 4% of NB/GQ AFAB were considered at high risk for HIV. In this subset of respondents at high risk (n=18), 72% reported STD testing in the past year and 94% reported at least two HIV tests in the prior two years. The majority of respondents (73% of low risk and 78% of high risk) had reported that they had heard of PrEP. Among respondents at high risk for HIV, 29% reported currently taking PrEP and 12% reported that they had previously taken PrEP. Among high-risk respondents not currently taking PrEP, the most common reasons for not taking PrEP were: perceived oneself at low HIV risk, not knowing “enough” about PrEP, concerns about side effects, and concerns about taking a daily medication.

A small subset (4%) of Trans Survey respondents reported that their last HIV test occurred at the STD Clinic, which is important to keep in mind when comparing the results from the Trans Pride Survey (**Tables 1 and 2**) and STD Clinic Intake Forms (**Table 3**). Visits completed by transgender and NB/GQ patients comprised 2.3% of all STD Clinic visits in May 2016 through May 2017. Among AMAB STD Clinic patients, a larger proportion reported a NB/GQ identity than transgender identity. Among AFAB STD Clinic patients, roughly equal proportions reported transgender and NB/GQ identities. Self-reported HIV status was similar to that observed in the Trans Pride Survey, with 4% of AMAB patients and no AFAB patients reporting a positive status. The prevalence of HIV risk factors was greater among STD Clinic patients than Trans Survey respondents. Overall, 11% of transgender and NB/GQ STD Clinic

patients reported unstable housing in the prior year; 13% reported transactional sex; 6% reported injection drug use; and 33% reported any drug use (e.g. poppers, cocaine, crack, or methamphetamine). A large proportion of transgender and NB/GQ STD Clinic patients reported ever using PrEP (20%).

Conclusions

Approximately 5% of transgender or NB/GQ people assigned male at birth reported a prior HIV diagnosis, which is about half the estimated prevalence for cisgender MSM. None of the transgender or NB/GQ people assigned female at birth who contributed data to the Trans Pride Survey or STD Clinic reported a prior HIV diagnosis, which is consistent with HIV surveillance data estimating that 3% of transgender individuals living with HIV were transgender men. Considerable differences in demographic and HIV risk factors exist across gender categories. The STD Clinic appears to be serving a subset of the transgender and NB/GQ community that is at higher-risk for HIV. A sizeable proportion of those at high risk for HIV appear to be utilizing PrEP. Data from the Trans Survey and STD Clinic suggest that the number of King County residents who identify as non-binary or genderqueer may be comparable to the number of residents who identify as transgender, underscoring the need to ensure that language used in the context of the healthcare delivery or educational campaigns is inclusive to people of all genders. Aside from HIV, there are a number of health and social issues affecting this community, including: substance use, homelessness, violence, and disrespect. Addressing these issues would improve gender equity in King County. In 2017, the Bree Collaborative, a healthcare improvement entity established by the Washington State Legislature, adopted a measure to improve the provision of healthcare for sexual and gender minorities (i.e. LGBTQ) in Washington State, which may help address the medical and sexual health needs of transgender individuals.

Table 1: Summary of 2017 Trans Survey Results, Stratified by Gender, King County

	ASSIGNED MALE AT BIRTH		ASSIGNED FEMALE AT BIRTH	
	TRANS WOMEN	NON-BINARY/ GENDERQUEER	TRANS MEN	NON-BINARY/ GENDERQUEER
TOTAL N	63 (30%)	36 (17%)	34 (16%)	73 (35%)
DEMOGRAPHICS				
Under 30 years old	48%	61%	76%	66%
White, Non-Hispanic	79%	66%	71%	72%
Homeless, last 12 months	13%	14%	3%	5%
PERCEPTION OF HEALTH SERVICES & EXPERIENCES WITH DISCRIMINATION & VIOLENCE				
Regular medical provider knows respondent is transgender, non-binary, or genderqueer	92%	72%	87%	64%
“Strongly Agree” with following:				
“I have postponed getting health services because clinics are not trans-inclusive.”	15%	14%	18%	16%
“ <i>It is easy</i> to obtain HIV services that are sensitive to the unique needs of trans people”	13%	8%	3%	1%
“I have felt disrespected at health facilities”	25%	25%	27%	14%
“I would prefer to receive care at a clinic that specializes in transgender health issues”	62%	39%	68%	52%
Have you been verbally harassed because of your gender?				
Yes – in past year	57%	40%	52%	66%
Yes – more than 1 year ago	28%	40%	39%	27%
Have you been physically attacked because of your gender?				
Yes – in past year	13%	11%	6%	10%
Yes – more than 1 year ago	15%	20%	39%	28%
HIV PREVALENCE & RISK FACTORS				
HIV diagnosed (ever)	5%	6%	0%	0%
STD-diagnosis (past year)	5%	14%	3%	0%
Drug use (past year)				
Injection drug use	11%	11%	3%	1%
Methamphetamine	6%	17%	0%	0%
Poppers	10%	3%	6%	3%
Cocaine	10%	17%	3%	7%
Heroin	8%	3%	0%	0%
Prescription painkillers (recreationally)	13%	0%	6%	11%
Sexually active (past year)	78%	86%	88%	75%
Had vaginal or anal sex with... (past year)				
Cisgender male	25%	53%	32%	32%
Trans woman	40%	28%	15%	22%
Transactional sex (past year)	10%	11%	3%	4%
Met HIV “high-risk” criteria*	10%	21%	6%	4%

*“High risk” was defined as having sex with someone assigned male at birth AND ≥ 1 of the following: transactional sex, methamphetamine or popper use, injection drug use, condomless sex with an HIV-positive partner, syphilis or gonorrhea diagnosis.

Abbreviation: STD, sexually transmitted disease

Table 2: Utilization of HIV and STD Services among 2017 Trans* Pride Respondents Who Reported a Negative or Unknown HIV Status, Stratified by HIV Risk Level, King County

	LOWER RISK (N=184)	HIGH RISK (N=18)
STD testing (past year)	45%	72%
Tested for HIV (ever)	68%	94%
Median # of HIV tests in prior 2 years	1 test	3 tests
Heard of PrEP	73%	78%
Taken PrEP		
Currently	5%	29%
In the past, but not currently	1%	12%
Barriers to PrEP (reported by non-users)		
Perceived self as low risk	60%	38%
Cost concerns	5%	8%
Don't know where to get it	10%	15%
Don't know enough about it	23%	31%
Concerns about side-effects	11%	31%
Stigma	2%	8%
Taking a daily medication would be challenging	11%	38%

*“High risk” was defined as having sex with someone assigned male at birth AND ≥ 1 of the following: transactional sex, methamphetamine or popper use, injection drug use, condomless sex with an HIV-positive partner, syphilis or gonorrhea diagnosis. Abbreviations: STD, sexually transmitted disease; PrEP, pre-exposure prophylaxis

Table 3: Description of Transgender, Non-Binary, and Genderqueer Patients Who Attended the Harborview STD Clinic in May 2016-May 2017, King County

	ASSIGNED MALE AT BIRTH		ASSIGNED FEMALE AT BIRTH	
	TRANS WOMEN (N=41)	NON-BINARY/ GENDERQUEER (N=57)	TRANS MEN (N=33)	NON-BINARY/ GENDERQUEER (N=30)
HIV diagnosed (ever)	5%	3%	0%	0%
Tested for HIV (ever)	83%	97%	82%	97%
Unstable Housing*	20%	7%	12%	7%
Transactional Sex*	5%	17%	18%	13%
Injection Drug Use*	2%	7%	12%	0%
Any Drug Use* **	15%	58%	18%	27%
Ever Taken PrEP*	15%	27%	21%	10%

*The period assessed was the 12 months prior to survey.

**Includes methamphetamine, poppers, cocaine, or crack.

Abbreviations: STD, sexually transmitted disease; PrEP, pre-exposure prophylaxis

Contributed by Julia Hood, Diana Tordoff, and Lindley Barbee

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HIV/AIDS Fact Sheet

Black and African-American Populations in King County



KEY POINTS

HIV is diagnosed at high rates among Blacks relative to overall King County rates.

HIV diagnosis rates in 2016 for Blacks, both U.S.-born and foreign-born, were about half of the diagnosis rates 10 years earlier.

In 2016, 85% of foreign-born Blacks and 74% of U.S.-born Blacks living with HIV

Overview and Epidemiology

In 2016, there were 34 new diagnoses of HIV among Blacks living in King County, or 26 cases per 100,000. The diagnosis incidence rate was 1.9 times higher for foreign-born Blacks in 2016 (39.1 per 100,000) relative to U.S.-born Blacks (20.9 per 100,000). This compares to an overall diagnosis incidence of 8.6 per 100,000 residents of all races/ethnicities in King County in 2016.

Figure 1 shows substantial decreases in diagnosis rate by nativity for Blacks, including reductions of 47-56% over the decade from 2007 - 2016. This compares to an overall reduction of 44% of the rate of new diagnoses among all King County residents in the same period.

Population: In 2016, U.S. Census and American Community Survey data estimate that there were 132,754 Blacks living in King County, of which about 96,430 (73%) were U.S.-born. For this fact sheet, Blacks excluded multiracial Blacks, including those of Latino ancestry. If all Blacks were included, the number living with HIV in King County in 2016 would be 1,479, a 17% increase over the 1,263 reported cases.

PRIMARY METRICS	U.S.-BORN ¹	FOREIGN-BORN	TOTAL BLACKS
HIV PREVALENCE IN 2016			
Number of People Living with HIV	752	511	1,263
Prevalence (%)	0.8%	1.4%	1.0%
Percent of all prevalent cases who are Black (by nativity)	14%	38%	19%
HIV INCIDENCE (NEW DIAGNOSES)²			
2016 incident cases (# new diagnoses)	20	14	34
2016 incidence rate per 100,000	20.9	39.1 ⁴	25.9
10-year trend (2007-2016)	47% decrease	56% decrease	49% decrease
ESTIMATED 2016 POPULATION SIZE IN KING COUNTY			
	96,431	36,324	132,754
VIRAL SUPPRESSION³			
	74%	85%	79%

1. U.S.-Born includes those of unknown nativity (6% of incident cases, and 5% of prevalent cases).
2. New HIV diagnoses among individuals reporting a prior diagnosis in another country or state are excluded.
3. Viral suppression defined as plasma HIV RNA < 200 copies/mL. If individuals with no reported labs in 2016 were excluded, % suppressed would be 85%, 96%, and 89% for U.S.-born, foreign-born, and all Blacks respectively.
4. 36 diagnoses per 100,000 is the rolling average given in Figure 1.

HIV Risk Category

Figure 2 shows the distribution of risk categories among U.S.-born and foreign-born Blacks living in King County in 2016. Individuals with an unknown risk factor comprised 42% of foreign-born Blacks and 9% of U.S.-born Blacks and are excluded from the figure. The high proportion of foreign-born Blacks with an unknown HIV risk is mostly due to limitations in the definition of heterosexual risk category. To meet the definition of heterosexual risk, the positive serostatus or risk factors (such as injection drug use) of an opposite sex partner must be known. There is a presumptive heterosexual category included with

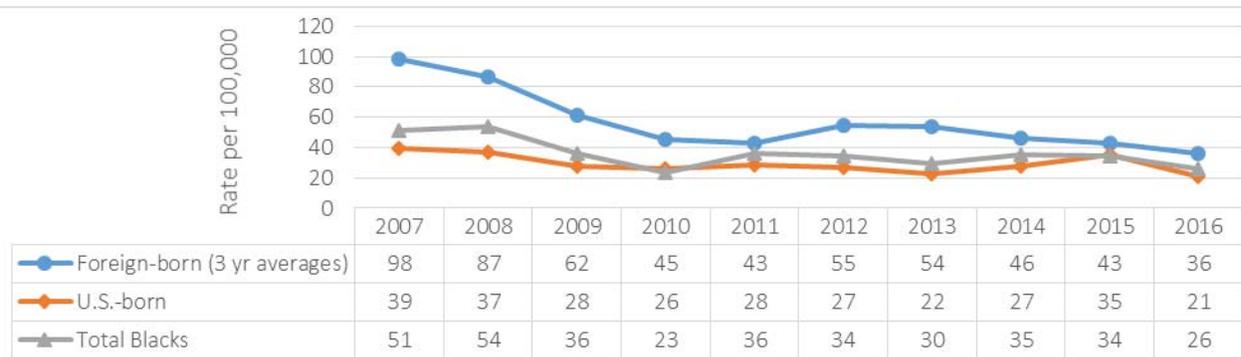
heterosexuals, but limited to women who have (1) been asked and deny injection drug use and (2) have had sex with men. Often these questions have not been asked, and thus the presumptive heterosexual category cannot be used; further there is no equivalent presumptive category for men, even if they come from a geographic area where heterosexual transmission is common. Of note, heterosexual risk is the predominant risk factor for foreign-born Blacks (80%) and men who have sex with men (MSM) are the predominant risk group for U.S.-born Blacks (69%, including 8% MSM who also have a history of injection drug use).

Age and Gender: Overall 34% of Blacks were assigned female sex at birth, including 19% of U.S.-born Blacks and 56% of foreign-born Blacks. U.S.-born Blacks were younger than foreign-born Blacks at the time of diagnosis with 39% age 29 years and below for the former and 27% for the latter.

Birth Country: Of 1,263 Black people living with HIV (PLWH) in King County in 2016, 511 (40%) were foreign-born. Of the foreign born Blacks, birth countries include Ethiopia (39%), Kenya (14%), Somalia (4%) and 33 other African countries. Five percent were born in other areas of the world, including 14 PLWH (3%) from the Caribbean.

Viral Suppression: Among Blacks living with diagnosed HIV over the past decade, the proportion with documented viral suppression increased substantially over the past decade, from 45% in 2007 to 79% in 2016 (Figure 3). U.S.-born Blacks consistently had lower levels of viral suppression relative to their foreign-born counterparts, but the gap has narrowed somewhat (from a 17% absolute difference to an 11% absolute difference).

Figure 1: Rates of HIV Diagnoses per 100,000 Residents Among Blacks in King County by Nativity



NOTE: The foreign-born rate is given as a rolling average due to large fluctuations year-to-year. Note that the overall rate (Total Blacks) was not given as a rolling average, and a substantially lower “unadjusted” diagnosis rate for foreign-born Blacks in 2010 (14 per 100,000, data not shown) pulled down the total rate lower than either of the shown components (U.S. born Blacks at 26 per 100,000 and the smoothed rolling average for foreign-born Blacks of 45 per 100,000).

Figure 2. HIV Risk Categories Among Blacks Living with HIV in King County by Nativity, 2016

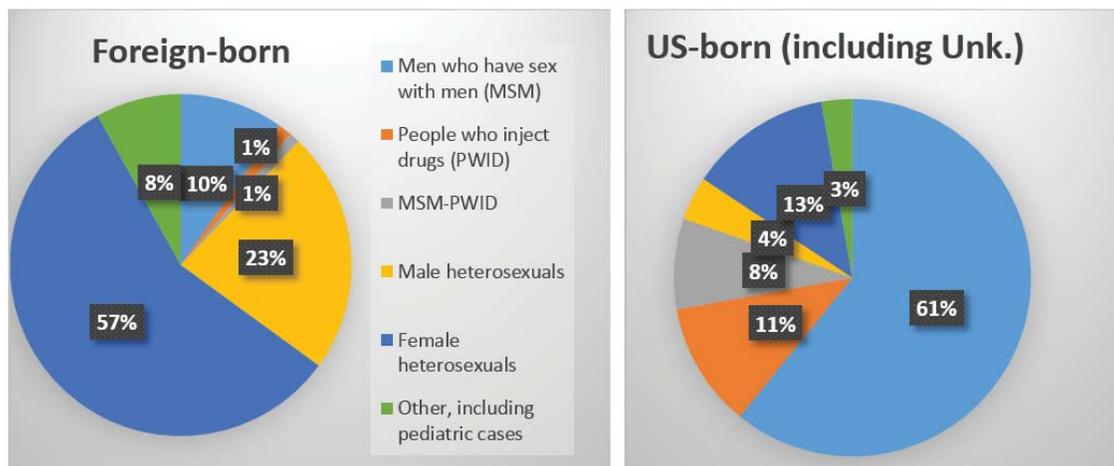
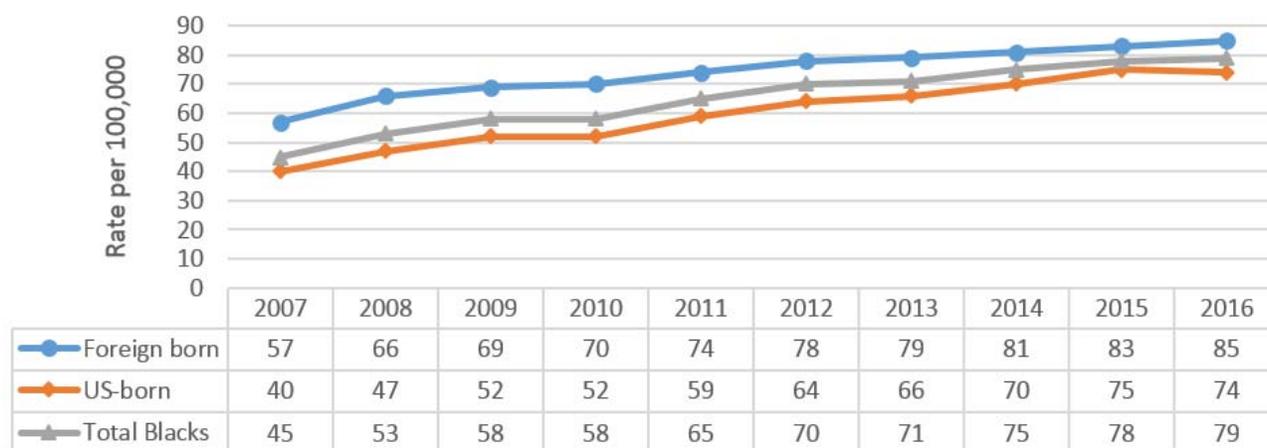


Figure 3: Proportions with Viral Suppression Among Blacks Living with HIV in King County by Nativity



Timing of HIV Diagnoses: Among 199 Black King County residents diagnosed with HIV in the past five years (2012 - 2016), 57 (29%) had a last negative HIV test documented within the prior year. This interval, from a last negative to a first positive represents the frequency of HIV testing among those at highest risk of HIV infection (i.e. those who receive an HIV diagnosis). U.S.-born Blacks were far more likely to have a negative HIV test within a year of diagnosis (42%) relative to foreign-born Blacks (11%). Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 35% of Blacks diagnosed with HIV between 2012 - 2016, were diagnosed late, including 55% of foreign-born Blacks and 22% of U.S.-born Blacks.

Pre-Exposure Prophylaxis (PrEP) use: In light of the racial/ethnic disparities in HIV diagnosis incidence and prevalence highlighted above, the Public Health—Seattle & King County (PHSKC) STD clinic offers prescriptions of pre-exposure prophylaxis (PrEP) to all interested Black MSM and people who inject drugs (PWID) with the goal of improving health equity.¹ PrEP has been shown to be

highly effective at preventing HIV, cutting the chances of infection among MSM by >90% when taken as directed.² HIV testing is also available the STD Clinic and other PHSKC clinics (Auburn, Eastgate, Federal Way, and Kent). PHSKC is aware of some community based organizations providing HIV-related interventions, partially due to past or current contractual relations with these organizations. We apologize for the omission of other agencies providing interventions. People of Color Against AIDS Network (POCAAN) and Center for MultiCultural Health (CMCH) provide services specifically aimed at preventing and otherwise mitigating the impact of HIV on communities of color in Seattle and greater King County. POCAAN operates a number of programs for those living with HIV as well as those at risk for infection, including medical case management, support in transitioning into stable housing, and reentry assistance upon release from prison or jail.³ CMCH provides free, same-day HIV testing and counseling and puts on events to build community among queer Black men, including quarterly educational forums and its annual Emerald City Black Pride event.⁴

Contributed by Richard Lechtenberg, Roxanne Kerani, and Susan Buskin

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HIV/AIDS Fact Sheet

Latino Populations in King County



KEY POINTS

HIV is diagnosed at high rates among Latinos relative to overall King County rates.

HIV diagnosis rates declined in 2007-2016 among both U.S. born and foreign-born Latinos, by about half and a third respectively.

In 2016, about 80% of Latinos living with HIV—both U.S.-born and foreign-born—were virally suppressed.

Overview and Epidemiology

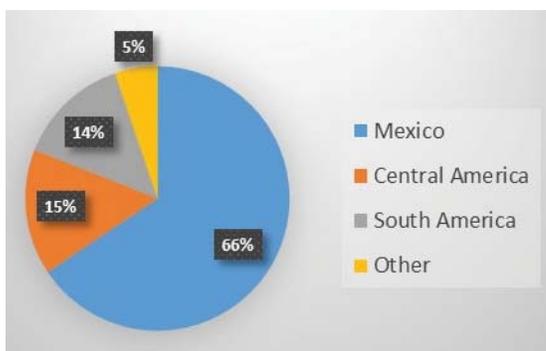
In 2016, there were just over 200,000 Latinos living in King County, of which nearly 80,000 (38%) were foreign-born. At the end of that year, there were 845 Latinos living with diagnosed HIV infection (PLWH) for a prevalence of 0.4%. The prevalence of HIV was twice as high in the foreign-born population as among those born in the U.S. (0.6% vs 0.3%). Among the 442 foreign-born PLWH, two thirds were born in Mexico, about 15% were born in South America and another 15% in Central America, and the remaining 5% were born elsewhere (Figure 1).

Table 1: Primary HIV Metrics for Latinos Living in King County, WA by Nativity

PRIMARY METRICS	U.S.-BORN LATINOS ¹	FOREIGN-BORN LATINOS	TOTAL LATINOS
HIV PREVALENCE IN 2016			
Number of People Living with HIV	403	442	845
Prevalence (%)	0.3%	0.6%	0.4%
Percent of prevalent cases of all race/ethnicities	7%	33%	12%
HIV INCIDENCE (NEW DIAGNOSES)³			
2016 incident cases (# new diagnoses)	20	18	38
2016 incidence rate per 100,000 ⁴	15.6	22.6	18.3
10-year trend (2007-2016)	49% decrease	31% decrease	42% decrease
ESTIMATED 2016 POPULATION SIZE IN KING COUNTY²			
	128,501	79,923	208,424
VIRAL SUPPRESSION⁵			
	79%	82%	80%

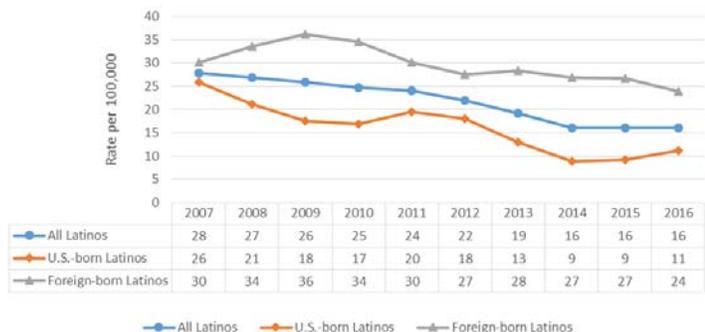
1. U.S.-Born includes those of unknown nativity (6% of incident cases, and 5% of prevalent cases).
2. Population estimates taken from the U.S. Census Bureau’s American Community Survey data.
3. New HIV diagnoses among individuals reporting a prior diagnosis in another country or an unverified diagnosis from another state are excluded.
4. The numbers shown for 2016 in Figure 1 differ from the ones here because they are 3-year rolling averages.
5. Viral suppression defined as plasma HIV RNA < 200 copies/mL. If individuals with no reported labs in 2016 were excluded, % suppressed would be 91%, 92%, and 91% for US-born, foreign-born, and all Latinos respectively.

Figure 1: Country of Birth among Foreign-Born Latinos Living with HIV in King County, 2016



In 2016, there were 38 new diagnoses of HIV among Latinos in King County, or 18.3 per 100,000. The diagnosis incidence was 1.5 times higher for foreign-born Latinos (22.6 per 100,000) relative to U.S.-born Latinos (15.6 per 100,000). This compares to an overall diagnosis incidence of 8.6 per 100,000 residents of all races/ethnicities in King County in 2016. Figure 2 shows decreases in diagnosis rate by nativity for Latinos, including reductions of 30-50%. The rates in this figure are three-year rolling averages, and thus do not match the rates above. For comparison, the diagnosis rate in King County overall decreased by 44% over this same time period.

Figure 2: Rates of HIV Diagnoses per 100,000 Residents Among Latinos in King County by Nativity



NOTE: Rates are all given as rolling averages due to large fluctuations year-to-year.

Also of note, heterosexual risk is over four times as common among foreign-born Latinos (17%) as among those that are U.S.-born (4%) and injection drug use is a third as common (4%) among the foreign-born relative to U.S.-born (12%).

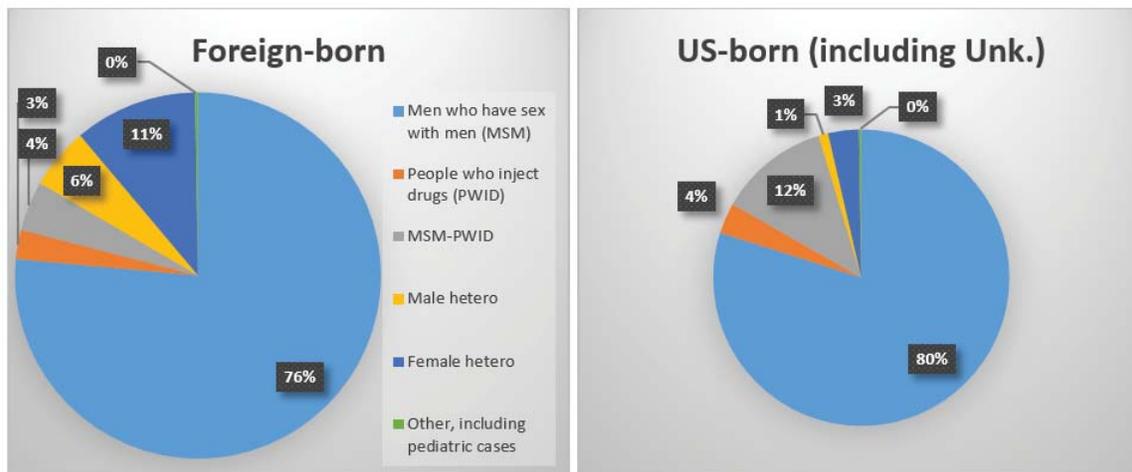
Viral Suppression: Among Latinos living with diagnosed HIV (PLWDH) over the past decade, the proportion with documented viral suppression increased substantially over the past decade, from 48% in 2007 to 80% in 2016. (Figure 4). Earlier on, U.S.-born Latinos had lower levels of viral suppression relative to their foreign-born counterparts, but the gap has essentially closed.

Age and Gender: Overall 9% of Latinos living with HIV in King County were assigned female sex at birth, including 5% of U.S.-born Latinos and 13% of foreign-born Latinos. U.S.-born Latinos were younger than foreign-born Latinos at the time of diagnosis with 44% age 29 years and below for the former and 34% for the latter.

HIV Risk Category: Figure 3 shows the distribution of risk categories among U.S.-born and foreign born Latinos living in King County in 2016. Individuals with an unknown risk factor comprised 13% of foreign-born Latinos and 4% of U.S.-born Latinos and are excluded from the figure. Men who have sex with men (MSM) comprise the majority of new HIV infections among both U.S.-born and foreign-born Latinos.

Timing of HIV Diagnoses: Among 165 Latino King County residents diagnosed with HIV in the past five years (2012-2016), 61 (37%) had a negative HIV test documented within the prior year. This interval, from a last negative to a first positive represents the frequency of HIV testing among those at highest risk of HIV infection (i.e., those who receive an HIV diagnosis). U.S.-born Latinos were far more likely to have a negative HIV test within a year of diagnosis (49%) relative to foreign-born Latinos (29%). Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 25% of Latinos diagnosed with HIV between 2012-2016 were diagnosed late, including 31% of foreign-born Latinos and 17% of U.S.-born Latinos.

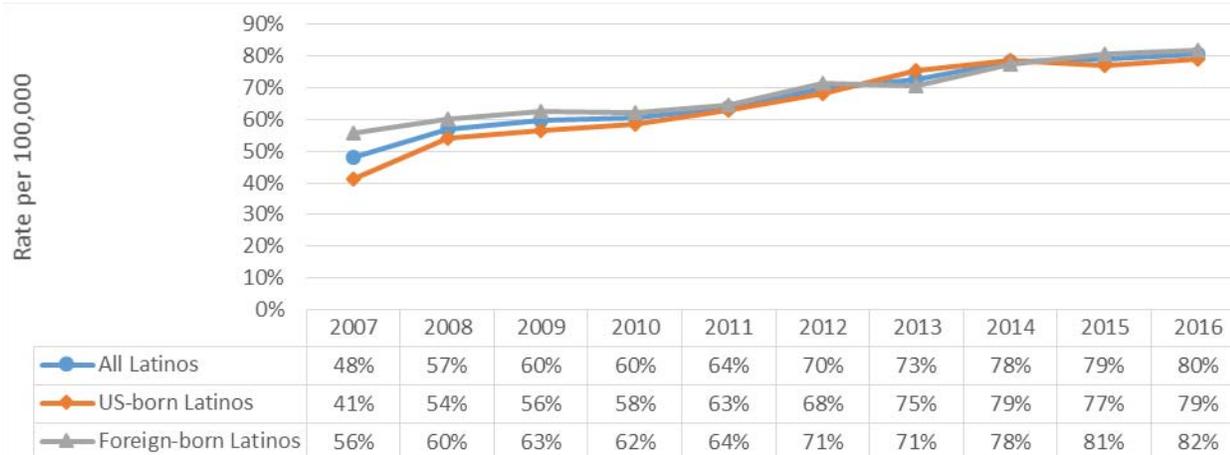
Figure 3. HIV Risk Categories Among Latinos Living with HIV in King County by Nativity, 2016



Pre-Exposure Prophylaxis (PrEP) Use: In light of the racial/ethnic disparities in HIV incidence and prevalence highlighted above, the Public Health—Seattle & King County (PHSKC) STD clinic offers prescription of pre-exposure prophylaxis (PrEP) to all interested Latino MSM and people who inject drugs (PWID)—among other groups—with the goal of improving health equity.¹ (Our PrEP guidelines also include anyone in an HIV serodiscordant relationship in which a woman is trying to get pregnant, and those in an ongoing sexual relationship with someone with HIV.) PrEP has been shown to be highly effective at preventing HIV, cutting the chances of infection among MSM by >90% when taken as directed.² Among MSM surveyed at Seattle’s Gay Pride Festival in 2017, Latinos were just as likely as Blacks and Whites to have ever taken PrEP (21% vs 79% who reported never having taken PrEP; Personal communication, J Hood, October 2017).³ Although they may not be representative of all King County MSM at risk for HIV and include residents of other counties, this finding was mirrored in a statewide Internet survey of MSM earlier that same year (Personal communication D Rao, October 2017).

HIV testing is available at the STD Clinic and other Public Health clinics (Auburn, Eastgate, Federal Way, and Kent). PHSKC is also aware of some community based organizations providing HIV-related interventions, partially due to past or current contractual relations with these organizations. We apologize for the omission of other agencies providing interventions. Entre Hermanos offers free HIV testing by bilingual staff, including a cash incentive for Latino MSM and also offers home test kits. They also conduct culturally-tailored workshops, forums, and other outreach.³ Additionally, People of Color Against AIDS Network (POCAAN) provides services specifically aimed at preventing and otherwise mitigating the impact of HIV on communities of color in Seattle and greater King County. POCAAN operates a number of programs for those living with HIV as well as those at risk for infection, including medical case management, support in transitioning into stable housing, and reentry assistance upon release from prison or jail.⁴ A list of HIV/STD testing facilities, including hours of operation, are available on the PHSKC web site (www.kingcounty.gov/stdtesting).

Figure 4: Proportions with Viral Suppression Among Latinos Living with HIV in King County by Nativity



Contributed by Richard Lechtenberg, Roxanne Kerani, and Susan Buskin

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1. Public Health STD Clinic at Harborview. Available at <http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/clinic.aspx> Accessed 8/20/2017.
2. Grant RM et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. *New Engl Jour Med* 363(27): 2587-2599, 2010.
3. Entre Hermanos. HIV Prevention. Available at <http://entrehermanos.org/hiv-prevention/> Accessed 11/21/2017.
4. POCAAN. Available at <http://pocaan.org/POCAAN/> Accessed 8/30/2017.

HIV/AIDS Fact Sheet

Women in King County



KEY POINTS

HIV is diagnosed at low rates among women relative to King County residents overall.

Foreign-born women account for roughly half of HIV cases among women in King County, but only about 21% of women living in King County are foreign-born.

Black women are also disproportionately impacted by HIV. About two-thirds of Black women living with HIV in King County are foreign-born.

Overview and Epidemiology

In 2016, there were 27 new diagnoses of HIV among people assigned female at birth (AFAB) living in King County, or 2.6 cases per 100,000. This compares to an overall diagnosis incidence of 8.6 per 100,000 residents in King County in 2016. **Figure 1** shows a substantial decrease in the diagnosis rate for AFAB individuals, 31% over the decade from 2007 to 2016 (X^2_{trend} p value = 0.003). Of 799 prevalent cases in 2016 among AFAB individuals, only two (<1%) were known to be transgender men. There were no transgender men King County residents diagnosed with HIV in the past five years and reported to surveillance. Given the absence of trans men in recent statistics, the remainder of this fact sheet will refer to people assigned female at birth as “women”. For additional details on HIV in the trans community, please see the **Transgender Population Fact Sheet**.

Population: In 2016, U.S. Census and American Community Survey data estimate that there were 1,053,585 women living in King County, of which about 226,151 (21%) were foreign-born (**Table 1**). Among women living with HIV in 2016, half were foreign-born, including 60% of those diagnosed 2012 – 2016. Relative to the overall King County population of women, those living with HIV infection were far more likely to be foreign-born and Black. Among Black women living with HIV in King County in 2016, 67% were foreign born, and of women who were foreign-born, 71% were Black. Women recently diagnosed with HIV were more likely to be ages 20 through 49 years relative to the underlying population distribution.

PRIMARY METRICS	TOTAL WOMEN
HIV PREVALENCE IN 2016	
Number of AFAB people living with HIV	799
Prevalence of HIV in King County women (%)	0.08%
Percent women of all prevalent cases	12%
HIV INCIDENCE (NEW DIAGNOSES)¹	
2016 incident cases (# new diagnoses)	27
2016 incidence rate per 100,000	2.6
10-year trend (2007-2016)	31% decrease
ESTIMATED 2016 POPULATION SIZE IN KING COUNTY	1,053,585
VIRAL SUPPRESSION²	81%

¹ New HIV diagnoses among individuals reporting a prior diagnosis in another country or state are excluded.

² Viral suppression defined as plasma HIV RNA < 200 copies/mL. If individuals with no reported labs in 2016 were excluded, % suppressed would be 90%.

Figure 1: Rates of HIV Diagnoses per 100,000 Women in King County

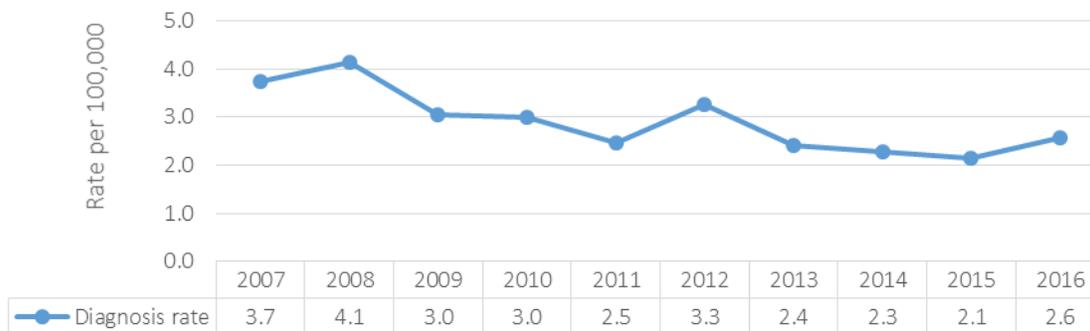


Table 1: Characteristics of Women Recently Diagnosed with HIV 2012-2016, Living with HIV in 2016, and Overall Population of Women in King County, 2016

	DIAGNOSES IN THE PAST 5 YEARS (2012-2016)**	WOMEN LIVING WITH HIV 2016	FEMALE KING COUNTY RESIDENTS, 2016
TOTAL	128 (100%)	799 (100%)	1,053,585 (100%)
NATIVITY			
Foreign-born	77 (60%)	403 (50%)	226,151 (21%)
U.S.-born (includes unknown)	51 (40%)	396 (50%)	827,434 (79%)
RACE/ETHNICITY			
White	35 (27%)	210 (26%)	647,084 (61%)
Black	60 (47%)	430 (54%)	64,303 (6%)
Asian	13 (10%)	39 (5%)	179,392 (17%)
Latino	16 (13%)	78 (10%)	98,105 (9%)
Native American	2 (2%)	15 (2%)	6,792 (1%)
Pacific Islanders	0 --	3 (<1%)	8,828 (1%)
Multiracial	2 (2%)	24 (3%)	49,080 (5%)
HIV RISK CATEGORY			
Injection drug use	17 (13%)	99 (12%)	
Heterosexual	41 (32%)	482 (60%)	
Other including pediatric	0 --	37(5%)	
Unknown	70 (55%)	181 (23%)	
AGE*			
< 20	1 (1%)	18 (2%)	240,976 (23%)
20-29	28 (22%)	46 (6%)	157,947 (15%)
30-39	44 (34%)	173 (22%)	169,528 (16%)
40-49	30 (23%)	238 (30%)	141,580 (13%)
50-59	19 (15%)	213 (27%)	137,814 (13%)
60+	6 (5%)	111 (14%)	205,740 (20%)

*Age is age at diagnosis for women diagnosed with HIV 2012-2016 and current age for women living with HIV.

**Recent diagnoses exclude women reporting prior diagnoses in another state or country.

HIV Risk category: **Figure 2** shows the distribution of HIV risk categories among U.S.-born and foreign born women living in King County in 2016. Individuals with an unknown risk factor comprised 33% of foreign-born women and 12% of U.S.-born women. Heterosexual risk is the predominant risk factor for both foreign-born (61%) and U.S.-born women (60%). Injection drug use was frequently reported by U.S.-born women (24%) and rarely by foreign-born women (1%).

Viral suppression: Among women living with diagnosed HIV, the proportion with documented viral suppression increased substantially over the past decade, from 51% to 81% 2007 - 2016. (**Figure 3**). Relative to HIV-infected women overall, foreign-born women consistently had higher levels of viral suppression, and injection-drug-using women had lower levels.

Timing of HIV diagnoses: Among 128 female King County residents diagnosed with HIV in the past five years (2012 to 2016), 19 (15%) had a last negative HIV test documented within the prior year. This interval, from a last negative to a first positive represents the frequency of HIV testing among those at highest risk of HIV infection (those who receive an HIV diagnosis). U.S.-born women were far more likely to have a negative HIV test within a year of diagnosis (31%) relative to foreign-born women (4%). Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 38% of women diagnosed with HIV between 2012 and 2016 were diagnosed late, including 51% of foreign-born women and 18% of U.S.-born women.

Figure 2. HIV Risk Categories Among Women Living with HIV in King County by Nativity, 2016

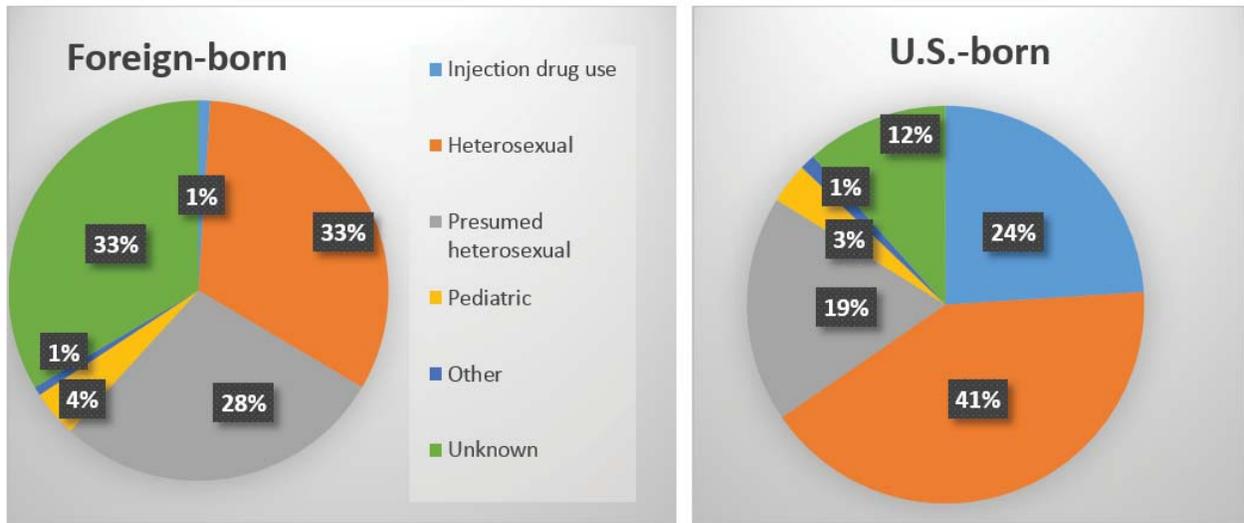
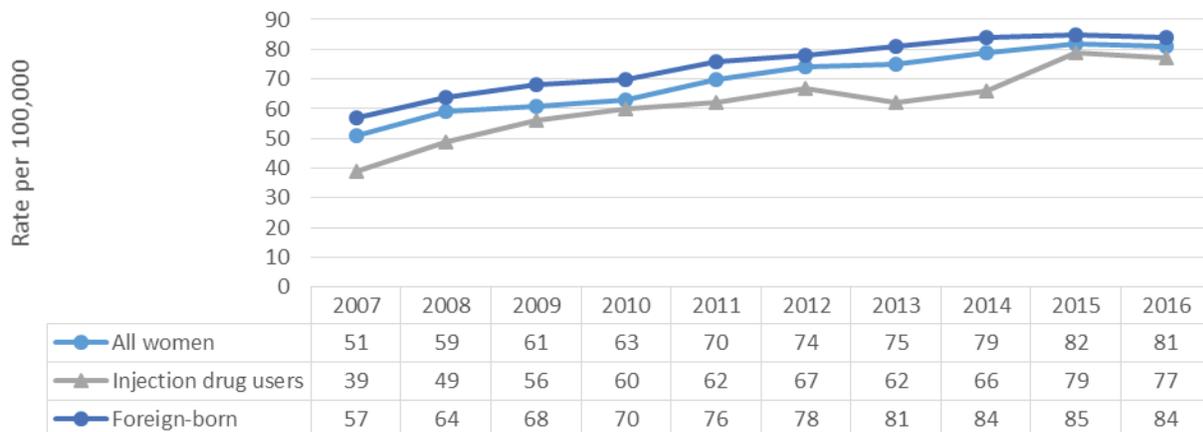


Figure 3: Viral Suppression among Women Living with HIV in King County



Pre-Exposure Prophylaxis (PrEP) use: Public Health – Seattle and King County PrEP guidelines recommend that anyone who is in a sexual relationship with a person who is living with HIV discuss PrEP with their medical provider. This is especially important for women trying to conceive, and for individuals whose HIV-positive sexual partner is not taking antiretroviral therapy (ARV), recently started ARV, or has an unsuppressed viral load.

For more information, please see PrEP guidelines at <http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/~media/depts/health/communicable-diseases/documents/hivstd/PrEP-implementation-guidelines.ashx>.

Contributed by Roxanne Kerani, Richard Lechtenberg, and Susan Buskin



CLINICAL TRIALS



Research Update on Anal Health

There is a robust research portfolio both locally and nationally to address prevention of anal cancer. High-grade squamous intraepithelial lesions (HSIL) are caused by types of high-risk Human Papilloma Virus (HR-HPV) that are associated with an increased risk of ano-genital cancers. While screening and treatment of cervical HSIL has been definitively shown to be associated with decreased risk of cervical cancer, the same cannot be said about screening and treatment for anal HSIL. Anal HSIL is much more challenging to diagnose and treat compared to cervical HSIL. In the general population women are at greater risk than men for anal cancer which occurs in about 1:100,000 people. However, at significantly greater risk are men who have sex with men (MSM) (30-40 fold increased risk) and people with suppressed immune systems, such as people with HIV infection or people on immunosuppression post-transplant or for autoimmune illnesses. HIV-positive MSM have up to a 100-130-fold increased risk of anal cancer. Ongoing research studies are addressing a range of options for screening and treatment, and the potential therapeutic benefit of the HPV vaccine. The current HPV vaccine (Gardasil 9) protects against seven of the most common HR-HPV strains.

The [ANCHOR Study](#) is an NCI-sponsored large national study conducted by the [AIDS Malignancy Consortium](#). The ANCHOR Study's purpose is to determine whether screening and treatment of anal HSIL is effective in reducing the incidence of anal cancer in HIV-infected men and women. The study is seeking to enroll 5,058 men and women, age 35 and older, with HIV infection and biopsy-proven HSIL at baseline. Eligible participants will have no history of anal cancer, or prior treatment or removal of HSIL. Participants will be randomized to treatment or active monitoring at entry. Participants will be followed every six months for HSIL outcomes for up to five years. Throughout the study, the incidence of invasive anal cancer in both arms will be monitored, and biospecimens and associated participant data will be collected for important correlative science studies. This study seeks to address both the benefits of screening for and treatment of anal HSIL, which is almost always without symptoms, and is present in about half of all HIV-positive MSM. The ANCHOR Study may also provide very useful information on which HSIL lesions are the ones that benefit most from treatment (which includes ablation with office-based procedures or sometimes self-applied topical medications). The Seattle Consortium Sites for the ANCHOR Study include Virginia Mason Medical Center, Harborview Medical Center and the Polyclinic. Contact information can be found on the [ANCHOR Study website](#).

Locally, there is a study being conducted at the UW Virology Research Clinic to determine if there is a therapeutic benefit of the HPV vaccine to prevent recurrent anal or vulvar HSIL in people who have been treated previously for anal or vulvar HSIL and currently do not have any evidence of HSIL on examination. The [VIVA Clinical Trial](#) (Vaccine to Interrupt Progression of Vulvar and Anal Neoplasia) will test whether the HPV vaccine can improve the health of people who have been previously diagnosed with anal or vulvar HSIL. The study will compare HPV vaccination to placebo, and at the end of the 36-month study those participants who received the placebo will be offered the HPV vaccine. More information about the VIVA Study can be on the [VIVA Study website](#).

While the cervical pap smear has been shown to be of great benefit in screening women for cervical HSIL and cancer, the same has not been the case for the anal pap smear. Anyone with even minor abnormalities on an anal pap smear should have a high resolution anoscopy visual exam. Other studies ongoing at the University of Washington are trying to refine the anal pap smear using DMA methylation assays to improve its accuracy for screening for anal HSIL and cancer.

While there are no consensus guidelines for anal dysplasia and cancer screening, these and other studies should provide much needed data to support future guidelines.

The procedure to screen for anal HSIL is called high resolution anoscopy (HRA). The procedure usually includes an anal pap smear where a small moist swab is inserted into the anal canal to collect some cells for examination. Then, after a careful digital rectal exam, a small cotton swab soaked in vinegar is placed in the anal canal for about a minute. Then a little more vinegar is placed on the perianal skin. A small anoscope is inserted into the anal canal and the exam is conducted looking through the anoscope with a microscope. A numbing lubricant is used. More vinegar is applied with cotton swabs and then iodine is applied. The HSIL lesions can be very subtle and the vinegar and iodine are very helpful to identify any abnormal areas. Usually a few very small biopsies are taken (2-3mm) because it is difficult to distinguish between low-grade and high-grade lesions on the visual exam. The significance being that the low-grade lesions are not associated with an increased risk of cancer. The exam takes around 20 minutes and no special preparations are needed beforehand. The treatment of anal HSIL most commonly is to ablate the area with a hyfrecator. It is similar to the HRA exam, but takes a little longer, and the area has to be numbed with a small injection of a local anesthetic.

Contributed by Jeffrey T. Schouten

Treated HIV Controllers Sought for Vesatolimod Study (Potential HIV Cure Strategy)

Summary

A study (GS-US-382-3961) for HIV-infected individuals who maintained a low (<5000) HIV RNA prior to treatment and are now suppressed on treatment, to investigate a new compound that may become part of an HIV Cure strategy.

Details

A Phase 1 study to evaluate the safety and efficacy of vesatolimod in antiretroviral treated HIV-1 infected controllers. <https://clinicaltrials.gov/ct2/show/NCT03060447>

Vesatolimod (GS-9620) is an oral TLR7 agonist that has been shown to increase immune-mediated clearance of HIV-infected cells (i.e., the “reservoir”). It is being investigated as part of a “kick-and-kill” strategy to cure HIV infection.

This is a small Phase 1 study to look at the safety of this compound in HIV-infected volunteers who maintained a low (<5000) HIV RNA prior to treatment, and who are now virologically suppressed on treatment. In addition to safety information, multiple virologic and immunologic parameters will be measured. Volunteers will take one dose of vesatolimod (or placebo) every 14 days for a total of 10 doses while remaining on their standard antiretroviral regimen. Subsequently they will undergo an analytic treatment interruption (i.e., they will stop their antiretroviral therapy) until viral rebound. In a 2016 study, 9 HIV-infected monkeys were given this compound, and two did not experience viral rebound once their antiretrovirals were suspended. It is expected that if vesatolimod proves to be safe and effective, it would be one component of a multi-drug cure strategy.

Since this is a Phase 1 study, it is relatively intense, with multiple study visits. Study participants will be compensated appropriately for their time. We are one of six sites in the US, and we hope to enroll 3-5 volunteers at our site.

For further information please contact Mark McClarty, Study Coordinator for Peter Shalit MD and Associates, at 206-624-1441 or mark@tribalmed.com.

AIDS Malignancy Trials Open Studies (as of mid-2017)

STUDY	SYNOPSIS	SELECT ENROLLMENT CRITERIA	INTERVENTION(S)	ENROLLED LOCALLY
ANCHOR AMC-A01 Anal Cancer/High-grade Squamous Intraepithelial Lesions (HSIL) Outcomes Research Study	Eligible participants will be randomized to treatment or active monitoring at baseline. Participants will be followed every six months for HSIL outcomes for up to five years after the last participant's date of randomization. Throughout the study, the incidence of invasive cancer in both arms will be monitored, and biospecimens and associated participant data will be collected for correlative science studies.	<ul style="list-style-type: none"> • ≥ 35 years old living with HIV infection • No HPV vaccination • No history of ano-genital cancer • No history of HSIL treatment 	<ul style="list-style-type: none"> • Ablation • Cream: 5-fluorouracil or imiquimod • Monitoring 	32
AMC-087 A Phase I Trial of Cabozantinib (XL184) for Advanced Solid Tumors in Persons with HIV Infection	To determine the safety and tolerability of cabozantinib (XL184) as a single agent in solid tumor participants with HIV infection and to determine the maximal tolerated dose (MTD) in this participant population.	<ul style="list-style-type: none"> • ≥ 18 years old living with HIV infection and on antiretroviral medication(s) • Diagnosis of a solid tumor (including Kaposi sarcoma, non-Hodgkin's Lymphoma, ano-genital cancers) 	Cabozantinib	2
AMC-088 A Randomized, Phase III Study of Intra-anal Imiquimod 2.5% vs. Topical 5-fluorouracil 5% vs. Observation for the Treatment of High-Grade Anal Squamous Intraepithelial Lesions in HIV-Infected Men and Women	Prospective, randomized, three-arm, open-label study to evaluate the complete response rate of intra-anal high grade squamous intraepithelial lesions (HSIL) treated with imiquimod 2.5% or topical 5-fluorouracil 5% as compared to spontaneous regression in HIV-infected participants.	<ul style="list-style-type: none"> • ≥ 25 years old living with HIV infection • No history of anal cancer • No previous use of the intervention for treatment of HSIL (listed to the right), previous ablation is okay 	5-fluorouracil cream or imiquimod cream	1 pending
AMC-095 A Phase I Study of Ipilimumab and Nivolumab in Advanced HIV-Associated Solid Tumors, with Expansion Cohorts in HIV-Associated Solid Tumors and a Cohort of HIV-Associated Classical Hodgkin Lymphoma	To demonstrate safety and feasibility of ipilimumab and nivolumab at the standard doses of drug in solid tumor and relapsed refractory HIV-cHL participants with human immunodeficiency virus (HIV) infection given the possibility of increased toxicity based on immune activation, co-morbidity, or interference with HAART therapy. The purpose for this would be to provide appropriate experience and guidelines, if necessary, to allow participants with HIV infections to participate in ongoing trials.	<ul style="list-style-type: none"> • > 18 years old living with HIV infection • Diagnosis of a metastatic or non-resectable solid tumor (trial excludes brain/spinal cord primary tumor or metastases) • No autoimmune disease requiring immune-suppressive treatment • relapsed refractory HIV-associated classical Hodgkin lymphoma (HIV-cHL) as a separate cohort 	Nivolumab and/or Ipilimumab	1
AMC-098 A Pilot Study of Nelfinavir for the Treatment of Kaposi Sarcoma	To determine the efficacy of a therapeutic escalation strategy consisting of standard dose nelfinavir, followed by high dose nelfinavir, for the treatment of KS tumor lesions.	<ul style="list-style-type: none"> • > 18 years old • Known HIV status • Presence of KS 	Nelfinavir	2
AMC-S004 Clinical and Genomic Factors for Prognosis of AIDS Primary Effusion Lymphoma	Retrospective case study of participants diagnosed with primary effusion lymphoma (HIV seropositive or negative) on or after January 1, 1998 and on whom survival status at 2 years post diagnosis is available. Record review and data collection.	<ul style="list-style-type: none"> • Diagnosis of primary effusion lymphoma (PEL); known survival status 	None; Retrospective	2

UW AIDS CLINICAL TRIALS UNIT

Volume 4, Issue 8

AUG—SEP 2017



CURRENT STUDIES

INSIDE THIS ISSUE:

<i>REPRIEVE Study</i>	2
<i>CANNABIS Study</i>	3
<i>Acute HIV Study</i>	4
<i>The InMIND Study</i>	5
<i>Magic Johnson</i>	6

WHY PARTICIPATE?

- Free access to expensive medicines
- Frequent lab monitoring *at no cost*
- Confidential, *personalized* care
- Access to *after-hours on-call staff, 24/7*
- *No insurance* required

TIME
TO MAKE SOME
LEMONADE?



research helps
help research

MAKE A DIFFERENCE!

**TODAY'S VOLUNTEERS
HELP US FIND
TOMORROW'S ANSWERS**

HIV treatment is better than ever today because individuals **just like you** chose to participate in clinical trials.

Yet challenges remain.

Our efforts to improve the lives of all people living with HIV must continue.

And we need to **find a cure**.

Since 1987, we've conducted state-of-the-art clinical trials at the UW ACTU. We're consistently part of breakthrough research that leads to **better care for everyone**.

Many of our studies are chosen, designed and conducted with guidance from people living with HIV.

FOLLOW YOUR HEART



**AND HELP OTHER PEOPLE
LIVING WITH HIV**

The REPRIEVE Study is the first-ever large scale clinical trial to test a strategy to prevent cardiovascular disease in people living with HIV.

Participating in a study is an important decision. We hope that our staff—along with talking with your doctor, a family member, or a friend -- will help you better understand the ins & outs of participating in research.

**CALL OR TEXT
206-773-7129**

**AND ASK FOR
FOR MORE
INFO**

CAN YOU HELP OTHER PEOPLE LIVING WITH HIV BEAT HEART DISEASE?

The goal of **THE REPRIEVE STUDY** will test a strategy to reduce the risk of cardiovascular disease (CVD)—including **heart attack** and **stroke** — among people living with

HIV. Previous studies have shown that HIV-positive people are at higher risk for cardiovascular disease than individuals without HIV. If you're between the ages of **40 - 75**, have

been on your antiretroviral therapy (ART) for **at least 6 months**, participating in this study would contribute meaningfully to the pursuit of new medical knowledge.

WANT TO KNOW MORE?
Turn to **page 3**.

THE REPRIEVE STUDY

FOR HIV+ PEOPLE ON HIV MEDICATIONS WITH HEALTHY LEVELS OF CHOLESTEROL

REQUIREMENTS

- HIV+ men & women, **40 –75 years old**
- On HIV meds for **at least 6 months**
- CD4 **greater than 100**
- LDL cholesterol **less than 130 –190**
- Triglycerides **less than 500**
- No **liver cirrhosis**
- No history of **stroke** or mini-stroke
- Plan to stay on your meds for the duration of the study
- No **heart disease**
- Not pregnant, breast feeding or planning pregnancy

Even when a person's viral load is very low, HIV infection continues. HIV causes **inflammation** (irritation) inside the body, which may lead to the development of **cardiovascular disease** (CVD).

HIV+ people have an increased risk of developing CVD, yet no proven **preventative strategies** for CVD exist for them. **Statins**, drugs used to lower cholesterol, are widely used by HIV-negative people, but little research has been done to see how HIV+ people on

therapy respond to them.

This investigational study looks at how safe and effective one statin drug, **Pitavastatin®** is for people with HIV.

Length of study: up to **6 years**

Pitavastatin® is **FDA-approved** to prevent cardiovascular disease, but it has not yet been approved to treat people living with HIV.

Participants will receive **\$20 for each visit**, starting at Entry.



FOLLOW YOUR HEART & HELP OUT OTHERS

**CALL OR TEXT
206-773-7129
FOR MORE INFO**

*Studies have shown that people living with HIV are **50–100% more likely** to develop cardiovascular disease (including heart attack and stroke) than individuals without HIV.*

DID YOU KNOW? THERE'S A LINK BETWEEN HIV & HEART DISEASE

Among people living with HIV, cardiovascular disease risk is thought to be influenced by traditional risk factors – such as **cigarette smoking, high blood pressure, diabetes, and high cholesterol** – and also by factors unique to HIV, such as **chronic inflammation**. The goal of the REPRIEVE study is to determine whether treatment with a statin medication (pitavastatin) reduces the risk

of cardiovascular disease among HIV+ people with relatively low traditional risk scores and **for whom statins would not otherwise be recommended** according to US cholesterol treatment guidelines.

Statins are medications which lower cholesterol levels in the blood, but which have also been shown to have **anti-inflammatory effects**. Statins

have already been shown to reduce the risk of cardiovascular disease in the general population among people felt to be at high risk for cardiovascular disease based on traditional risk factors. At the conclusion of the REPRIEVE study, we will know whether statins **reduce the risk of cardiovascular disease** among people living with HIV with relatively low traditional risk scores.



A STUDY TO IMPROVE THE HEALTH OF PEOPLE LIVING WITH HIV



THE CANNABIS STUDY FOR HIV-NEGATIVE & HIV-POSITIVE PEOPLE

Understanding the mechanisms by which cannabis affects inflammation and HIV reservoirs may help develop new interventions to improve health in people living with HIV.

Despite being undetectable, people living with HIV have ongoing **inflammation**, which is the body's reaction to infection, a state where some of the immune cells remain constantly activated.

Additionally, HIV damages the **lining of the intestines** soon after infection. This damage also leads to chronic inflammation, which can allow chemical messengers and bacteria in the gut to migrate through the wall of the intestines and get into the blood.

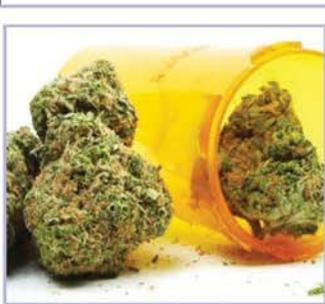
HIV thus sets up a vicious cycle of mucosal damage in the gut, chronic inflammation, and overall immunological dysfunction.

Cannabis and its derivatives are commonly used to treat gastrointestinal ailments in HIV, including promoting appetite and decreasing nausea.

Cannabis use also **promotes mucosal health** and cannabis derivatives (cannabinoids) show robust **anti-inflammatory activity** in immune cells.

However, clinical investigations of the impact of cannabis on the microbiome have not been conducted.

LENGTH OF STUDY: 2-4 weeks (one screening visit, followed by one procedure visit)



COULD CANNABIS HELP US TREAT HIV?

REQUIREMENTS

FOR HIV-NEGATIVE WOMEN & MEN (INCLUDING TRANSGENDER WOMEN & MEN):

- ♥ You are 21-70 years old
- ♥ You **sometimes don't use condoms** with your sex partners or have a partner living with HIV
- ♥ **No cannabis requirement**—you can use any amount per week, or not use it at all.
- ♥ **No other illicit drug use** in the past 12 months

FOR HIV-POSITIVE WOMEN & MEN (INCLUDING TRANSGENDER WOMEN & MEN):

- ♥ You are 21-70 years old
- ♥ You are on HIV meds with an **undetectable** viral load for **at least 2 years**
- ♥ T-cell count is above 200
- ♥ Current use of cannabis **3 times or more per week** for at least 6 months (with no other illicit drug use) — **OR** — have not used cannabis or any other illicit drug use in the past **12 months**

FOR BOTH GROUPS:

- ♥ No heart disease, hep C, chronic inflammatory bowel disease, autoimmune disorders, uncontrolled asthma or diabetes requiring insulin
 - ♥ **No chronic opioid use**
 - ♥ Not pregnant or breast feeding
 - ♥ No antibiotics in past 3 months
- ♥ Able and willing to self-administer Fleet enemas, collect rectal swabs and stool sample at home

UP TO
\$250
FOR 2 VISITS

THE EARLIER STUDY

FOR PEOPLE WHO HAVE BEEN INFECTED WITH HIV WITHIN THE PAST 1-2 MONTHS



DID YOU KNOW?

In Seattle, **about 20%** of the men who have sex with men who are diagnosed with HIV have acute HIV

Determining the impact of antiretroviral therapy (ART) during acute infection on the HIV reservoir and residual viremia has been limited by the number of people studied, as well as by the

tests used to detect HIV. A study is needed to define **the impact of early ART** on virologic and immunologic outcomes that are relevant to achieving HIV cure.

The goal of the study is to see if starting HIV meds very early in infection **limits HIV**

reservoirs or changes how the immune system helps to control the virus.

Study Medication: Genvoya® , or other anti-HIV drugs if Genvoya® is not the best option for a particular person.

Procedures: Blood tests at all clinic visits to check HIV blood levels and immune cells.

Telephone calls for some visits.

Length of study: About 72 weeks

Participants will receive **\$20 for each visit** starting at Entry

Building a group of early-treated, well-suppressed individuals will be vital to HIV cure research, providing scientists an ability to study curative therapies in people with limited HIV reservoir size, viral diversity, and damage to the immune system.

REQUIREMENTS:

- ♥ Men and women at least **18 years old**
- ♥ Willing to take drugs to treat HIV **right away.**
- ♥ Have certain lab tests done that **confirm** very early infection.
- ♥ **Willing to sign the consent** after discussion with the research staff.

*A recent estimate suggests that the chance of transmitting HIV is **5 times** higher in the acute phase than during chronic infection.*

*Some published studies have suggested that **30-50%** of infections are from acute HIV.*

research helps help research



Some people may be asked to have one or more optional procedures per year into the study to check out the reservoirs where the virus might hide. These procedures are not required for participation in the study and will involve additional compensation.

THE INMIND STUDY

FOR HIV+ PEOPLE
UNDETECTABLE ON MEDS
WITH AT LEAST MILD
NEUROCOGNITIVE IMPAIRMENT



A STUDY
TO IMPROVE THE HEALTH
OF PEOPLE
LIVING WITH HIV

REQUIREMENTS

- ♥ HIV+ men & women, **18 years** & up
- ♥ On meds for 1 year with an **undetectable** viral load (allowed **only one "blip"** in the past 6 months)
- ♥ At least **mild HIV-associated neurocognitive impairment** on tests (done at screening)
- ♥ Able to complete the neuropsychological tests **in English**
- ♥ **No medical condition** (not related to HIV) that may cause cognitive impairment
- ♥ No current **hepatitis C**
- ♥ No prior or current use of any **integrase inhibitor** or **maraviroc**
- ♥ No **active syphilis** or treatment for syphilis
- ♥ Other qualifications to be discussed

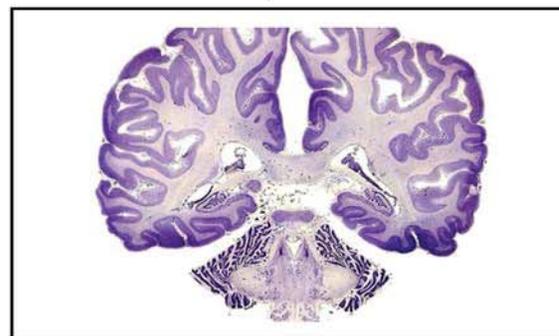
research helps
help research

Despite being undetectable, people living with HIV often have cognitive dysfunction (**HIV-associated neurocognitive disorder**, or **HAND**) which includes **asymptomatic neurocognitive impairment (ANI)** and **mild neurocognitive disorder (MND)**.

This investigational study wants to see if adding **maraviroc (MVC)** & **dolutegravir (DTG)** will improve neurocognitive functioning for HIV+ people who have at least **mild neurocognitive impairment**.

Participants will add one of the following to their current therapy:

- **placebos** for both MVC + DTG
- **DTG active drug** +



HIV+ people often have cognitive problems, which may be due to inflammation of the central nervous system

- MVC placebo
- both **MVC + DTG** active drugs

Length of study: about **96 weeks**

People will be assessed with **neurocognitive tests** and **questionnaires** about their daily functioning, with an option to undergo **spinal taps**.

Participants will receive **\$20** for each visit, starting at Entry

Additional compensation is provided for procedure visits.

Our CHARTER study also documented the association between immune system functioning and neurocognitive impairment, with lower CD4 T cell counts predicting increased neurocognitive impairment.

Call or Text
206-773-7129
for more info
or to schedule
an appointment.

UW AIDS Clinical Trials Unit

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**NO
'MAGIC'
CURE**



Join and support the research effort to find a **cure for HIV** — which, for the first time in 30+ years of the epidemic, is **possible**.

OUR COMMITMENT TO YOU

A study visit at the **UW AIDS Clinical Trials Unit (ACTU)** includes physical examinations, obtaining a wide variety of often costly laboratory tests, and spending more time with a clinician to answer all your questions.

Our commitment to you is to use your contributions to our studies wisely and respectfully as we monitor and evaluate your physical health and response to any study drug.

This also includes providing you with accurate, up-to-date information about HIV and its effect on your body, and steps you can take to minimize its impact.

We will also keep you informed of any new information about study medications you are taking, and advancements toward a cure or vaccine.

And once the study has been completed, we will share the results with you.

Progress in conquering HIV infection is a team effort, and you are a critical and much appreciated part of that team.

THE ROLE OF RESEARCH STUDIES

HIV clinical trials are carefully designed research studies that involve people and are designed to answer specific questions about the safety and effectiveness of treatment for HIV and related conditions.

Clinical trials are vitally important because there are no other direct ways to learn how different people respond to medications, treatments, or therapeutic approaches..

Clinical trials may study experimental medications to treat HIV and AIDS, FDA approved medications used in new ways or in new combinations, or medications to prevent or treat related infections.

They may also study ways



to help persons manage their HIV medications and the long-term general health of persons with HIV.

Results of these studies have helped establish the standard for the management of HIV disease and form the basis of current treatment guidelines.. This progress

**HOW HAS
MAGIC JOHNSON
SURVIVED
FOR 20 YEARS?**

He got experimental drugs before they were released to the general public

...but there were many people who volunteered for clinical trials that got the same benefits for new drugs at the same time.

in the treatment of HIV+ people has resulted in dramatic reductions in AIDS-related deaths in the U.S. and other countries of the developed world.

In Memory of Robert Marks



After a battle with brain cancer, our colleague Robert Marks died July 15, 2017. He was a much-valued member of the HIV/STD Prevention group for over twenty years, serving as STD Clinic Manager for the past several years.

Prevention Division Dennis Worsham wrote: "I first met Robert in the 1990's when I first began my work in HIV/STD in Snohomish County. He was incredibly passionate and committed to his work and the community that he served. This commitment and hard work never changed in all the years I have known Robert. I appreciated his smile, laugh, wit, intelligence, tenacity, and even his directness at times. He was a wonderful colleague and gift to all of those he served and those he served with."

Robert leaves behind a teenage son, Brandon, and numerous friends and colleagues who will forever miss him.