Behavioral and Clinical Characteristics of Patients Receiving HIV Care in King County Medical Monitoring Project, in 2013-2014

The Medical Monitoring Project (MMP) collects behavioral and clinical data on a representative sample of adults in HIV care. MMP data collected between June 2013 and May 2015 suggest that nearly all HIV care patients in King County were prescribed antiretroviral therapy and a large proportion of HIV care patients were virally suppressed. However, King County HIV care patients face other challenges, including unstable housing and methamphetamine use that may jeopardize their HIV care and overall quality of life.

Background

As of December 31, 2013, the estimated number of persons with a diagnosis of human immunodeficiency virus (HIV) infection or acquired immunodeficiency syndrome (AIDS) was 949,931 for the United States[1] and 7,502 for King County, WA.[2] HIV surveillance programs in the United States collect limited information about people who have received diagnoses of HIV infection and AIDS. Supplemental surveillance projects collect more detailed information about care-seeking behaviors, healthcare use, and other behaviors among persons living with diagnosed HIV (PLWDH). Together, these data inform program planning, resource allocation, HIV prevention efforts, evaluation of existing clinical and social services, and development of new HIV-related interventions.

Methods

The Medical Monitoring Project (MMP) is a supplemental surveillance system that collects annual cross-sectional clinical, sociodemographic, and behavioral data on randomly selected adults (18 years and older) living with HIV. Until mid-2015, MMP used a three stage sampling design to obtain representative samples of adults receiving HIV/AIDS care. Only HIV care patients who visited an HIV care facility participating in MMP between January and April of a given year could be sampled for MMP. Data collection for MMP is conducted in 16 states and Puerto Rico, areas where 73% of the total PLWDH population in the United States reside. During face-to-face or telephone interviews, information on demographics, adherence to HIV medication regimens, behavioral risk factors, and service utilization is collected. Medical record abstractions (MRA) are conducted to collect clinical data pertaining to diagnoses, medications, laboratory results, and health service utilization. A more detailed description of the MMP methodology is available elsewhere.[1,3]

This article describes King County data from the MMP 2013 and 2014 cycles, collected between June 2013 and May 2015. This article is modeled after a report that was generated for the national MMP sample, available here: http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-hssr-mmp-2013.pdf; results from this report are listed in **Table 1** allowing the characteristics of King County MMP participants to be compared to MMP participants nationally.[1] The data were weighted for probability of selection and nonresponse to be representative of adults receiving outpatient medical care for HIV in King County. It should be noted that the MMP sampling design was intended to yield estimates for the PLWDH population in care in Washington State, not to yield county-level estimates; as such, the results from this analysis should be interpreted with caution. Statistical software (SAS, version 9.3, Cary, NC) was used for analysis of weighted data.

Results

Of the 634 King County HIV care patients sampled for MMP in 2013-2014, 453 contributed data to the present analysis. In 2013-2014, the majority of adults receiving HIV care in King County were male (88%), non-Hispanic White (60%), 45 years or older (68%), had a high school degree or higher (89%), were born in the United States (82%), and had lived with HIV for 10 or more years (69%) **(Table 1)**. HIV care patients in King County, compared to HIV care patients nationwide, were significantly (based on non-overlapping confidence intervals) more likely to have been male, non-Hispanic White, post-high school educated, above the federal poverty threshold, and identified as homosexual. About 12% of patients experienced unstable housing and 4% were incarcerated in the 12 months preceding their interview. Approximately one-third (32%) were at or below the federal poverty line.

Nearly all adults receiving HIV care in King County reported that they were currently taking antiretroviral medicine for HIV (96%, see **Table 2**). Among patients with CD4 counts <200 cells/mm , 73% had a prescription for PCP prophylaxis documented in their medical records. Eighty-five percent reported having received a flu shot in the past 12 months, most current smokers (70%) reported having a discussion about smoking cessation with their medical providers, and three-quarters of women reported that they had a pap smear in the prior 12 months. Based on review of participants' medical records, nearly two-thirds of sexually active MSM in HIV care had a syphilis test (65%) and about 38% had a chlamydia or gonorrhea test in the past 24 months.

MMP participants are asked whether they needed various services funded by the Ryan White program in the prior 12 months. If they indicated that they needed the service, they are asked whether they received the service in the prior 12 months. **Figure 1** illustrates the responses to this component of the MMP interview. The mostly commonly received services were dental care (60%) and case management (58%). Despite the very widespread receipt of dental services, 28% of all respondents - 32% of all persons reporting any need for dental services – had an unmet need for dental services. In contrast, only 4% of respondents - 6% of all persons reporting a need for case management – reported an unmet need. The percent of all participants indicating that they needed, but had not received, other specific services was generally low, from 1% (HIV prevention education) to 9% (mental health services). However, among persons reporting that they needed specific services, the percentage for whom that need was unmet was often substantial: 43% for peer support, 30% for housing assistance, 29% for transportation assistance, 25% for mental health services, and 22% for drug and alcohol counseling. These findings demonstrate a need to expand access to these services.

Substance use in the last 12 months was common among adults in HIV care in King County: 34% were current smokers, 19% were binge drinkers (in one sitting, ≥5 alcoholic drinks for men and ≥4 drinks for women), 40% used recreational non-injection drugs (including marijuana, cocaine, methamphetamines, poppers, and other drugs), and 9% used injection drugs **(Table 3)**. Aside from alcohol and tobacco, the most commonly reported drugs were marijuana, methamphetamines, and poppers, which were utilized by 30%, 17%, and 13% of patients, respectively. Among adults in HIV care, roughly 38% reported condomless sex in the past year and 17% reported condomless sex with an HIV-negative or status unknown partner **(Table 4)**. Of those reporting serodiscordant condomless sex, 12% were virally unsuppressed per their most recently documented viral load test result; only an estimated 2% of all participants were unsuppressed and reported having condomless sex with a persons who was not known to HIV infected. Starting in MMP 2014, participants were asked if their HIV-negative partners used PrEP (pre-exposure prophylaxis); in this cycle, 15% of those engaging in serodiscordant condomless sex reported that they had an HIV-negative condomless sex partner who was taking PrEP. Recreational drug use (excluding marijuana) was associated with serodiscordant condomless sex [relative risk (RR)= 1.51, 95% CI=1.18, 1.94, p=.0002] and being virally unsuppressed [RR=1.20, 95% CI=0.91, 1.57, p=0.17] in bivariate analyses.

Discussion

This article reports several indicators pertaining to the health of adults receiving HIV care in King County. Nearly all HIV care patients in King County were prescribed antiretroviral therapy and many received crucial clinical and social services. Since these data were collected, the Ryan White program has expanded funding for dental care, which may reduce the unmet need for dental care reported here. Many HIV care patients were unstably housed and reported recreational drug use, which may jeopardize HIV care and overall quality of life, and substantial number of persons reported an unmet need for housing, transportation, and drug and alcohol treatment. These findings highlight the needs to be incorporated into future HIV prevention and care planning. For more information about MMP in King County, please visit our website: http://www.kingcounty.gov/healthservices/health/communicable/hiv/epi/MedicalMonitoring.aspx.

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References

[1] Centers for Disease Control and Prevention. Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection—Medical Monitoring Project, United States, 2013 Cycle (June 2013–May 2014). HIV Surveillance Special Report 16. http://www.cdc.gov/hiv/library/reports/surveillance/#panel2. Published January 2016. Accessed 13SEPT2016.

[2] HIV/AIDS Epidemiology Unit, Public Health – Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report 2nd Half 2010.

[3] McNaghten, A.D., et al., Improving the representativeness of behavioral and clinical surveillance for persons with HIV in the United States: the rationale for developing a population-based approach. PLoS One, 2007. 2(6): p. e550.

Table 1. Characteristics of Patients who Receive HIV Care in King County, Medical Monitoring Project, 2013-2014

	King County		Nationally	
	Weighted Percent	**Weighted 95% CI**	**Weighted Percent**	**Weighted 95% CI**
Gender				
Male	88	84 - 91	72	69 - 74
Female	11	7 - 14	27	24 - 30
Transgender	1	0 - 2	2	1 - 2
Sexual Orientation				
Homosexual	65	60 - 70	50	46 - 54
Heterosexual	23	19 - 27	42	38 - 46
Bisexual	12	9 - 15	8	7 - 9
Race/ethnicity				
White, non-Hispanic	60	54 - 66	32	25 - 38
Black, non-Hispanic	18	14 - 22	43	34 - 52
Hispanic or Latino×	14	10 - 18	21	15 - 28
Asian, non-Hispanic	2	1 - 3	1	1 - 1
Multiracial, non-Hispanic	6	3 - 8	3	2 - 4
Age at time of interview (years)				
18–24	1	0 - 2	3	2 – 4
25-34	10	7 - 13	12	N/A
35-44	21	17 - 25	20	N/A
45-54	41	65 - 46	37	N/A
≥55	27	21 - 33	29	N/A
Education				
Less than high school	11	7 - 14	21	18 - 24
High school diploma or GED	19	15 - 23	26	25 - 28
More than high school	70	64 - 77	52	49 - 56
Born in the United States	82	78 - 86	80	74 - 86
Time since HIV diagnosis (years)				
<5	15	11 - 20	20	18 - 22
5–9	16	11 - 20	20	18 - 22
≥10	69	63 - 76	60	57 - 63
HomelessΔ at any time#	12	9 - 16	8	7 - 9
Incarcerated >24 hours#	4	2 - 6	5	4 - 6
Percent of Federal Poverty Level°†				
<100% FPL	32	27 - 37	47	43 - 51
>100% FPL	68	63 - 73	53	49 - 57
100% FPL – 139% FPL	*20*	*7 - 13*	*N/A*	
139% FPL – 400% FPL	*31*	*27 - 36*	*N/A*	
≥ 400% FPL	*26*	*22 - 31*	*N/A*	

Note: This table summarizes interview data. "N/A", or "not available", indicates numbers that were not included in CDC's published report describing national MMP data.[1]

× Hispanics or Latinos might be of any race. Participants are classified in only one category.

Δ Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

In the last 12 months.

* Participants could select more than one response for health insurance or coverage for antiretroviral medications.

° Income from all sources, before taxes, in the last calendar year.

† Poverty guidelines as defined by the Department of Health and Human Services (HHS); more information regarding the HHS poverty guidelines can be found at http://aspe.hhs.gov/poverty/faq.cfm.

Table 2. Receipt of Clinical Services, Medical Monitoring Project, King County, 2013-2014

	Weighted Percent	95% CI
Currently Taking Antiretroviral Medication(s)†	96	94 - 98
Received Seasonal Flu Vaccination†	85	82 - 89
Received Smoking Cessation Counseling (among current smokers)†	70	62 - 78
Had a Pap Smear (among women)†	76	64 - 88
PCP Prophylaxis (among patients with CD4 count <200 cells/mm3)‡	73	61 - 85
STD Testing (among sexually active MSM)‡		
Chlamydia testing	38	31 - 45
Gonorrhea testing	37	30 - 44
Syphilis testing	65	59 - 72

† In prior 12 months per self-reported data.

‡ In prior 24 months per medical record data.

Note: Neisseria gonorrhoeae testing was defined as documentation of a result from culture, gram stain, nucleic acid amplification test (NAAT), or nucleic acid probe. Chlamydia trachomatis testing was defined as a result from culture, direct fluorescent antibody (DFA), enzyme immunoassay (EIA) or enzyme-linked immunoassay (ELISA), NAAT, or nucleic acid probe. Syphilis testing was defined as a result from non-treponemal syphilis tests (rapid plasma reagin [RPR], Venereal Disease Research Laboratory [VDRL]), treponemal syphilis tests (Treponema pallidum hemagglutination assay [TPHA], T. pallidum particle agglutination [TP-PA], microhemagglutination assay for antibody to T. pallidum [MHA-TP], fluorescent treponemal antibody absorbed [FTA-ABS] tests) or dark-field microscopy.

Figure 1: Reported Met and Unmet Need for Ryan White Funded Services, Medical Monitoring Project, King County, 2013-2014

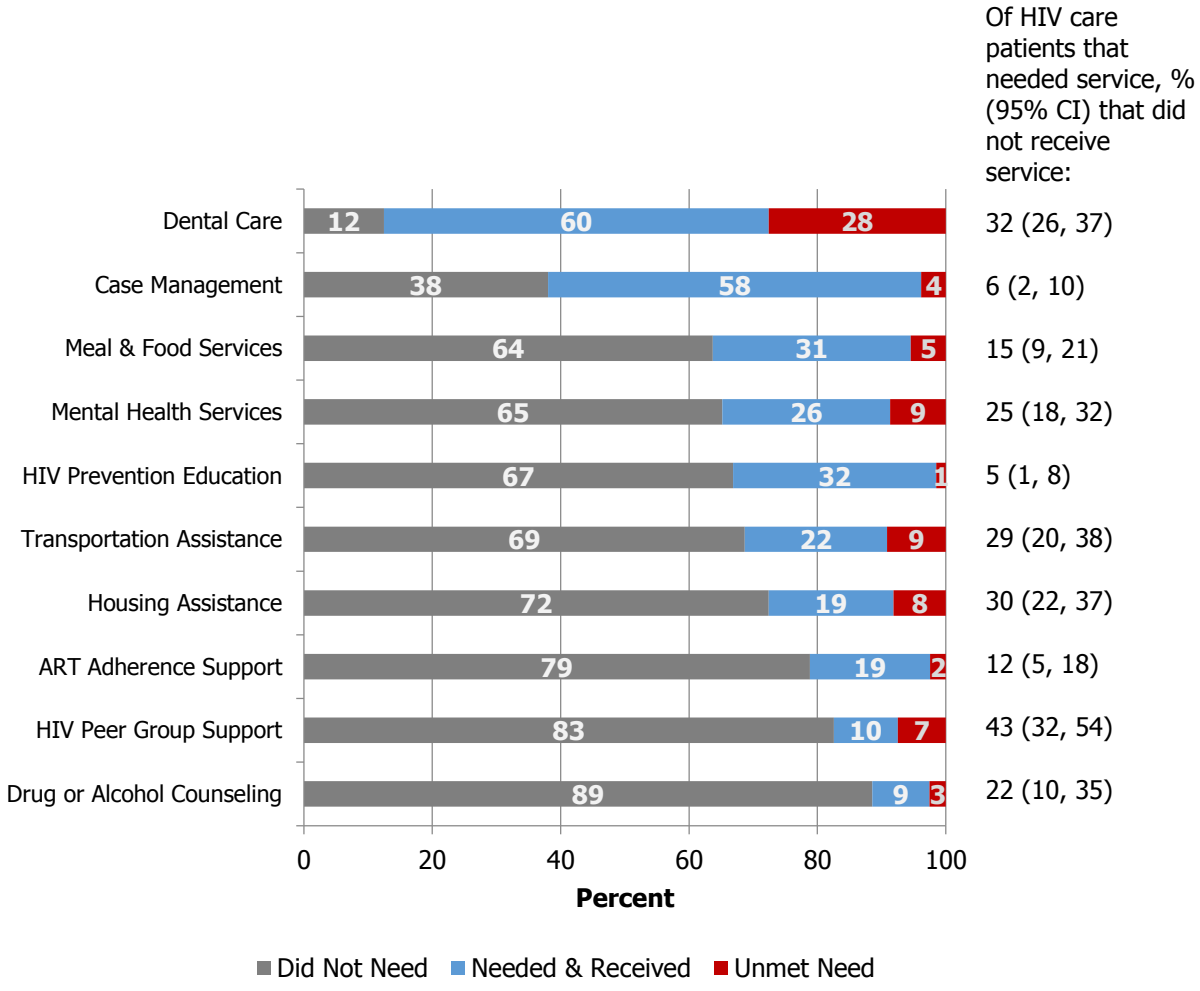

Table 3. Reported Substance Use During the 12 Months Before Interview, Medical Monitoring Project, King County, 2013-2014.

	Weighted Percent	Weighted 95% Confidence Interval
Smoking status		
Never smoked	36	30 - 41
Former smoker	31	25 - 36
Current smoker	34	29 - 38
Any alcohol use°,†	77	72 - 81
Binge drinking× (during past 30 days)	19	15 - 23
Use of any non-injection drugs†	40	35 - 54
Use of any injection drugs†	9	6 - 12
Types of drugs used (injection or non-injection)†		
Marijuana	30	25 - 35
Methamphetamine (crystal meth, tina, crank, ice)	17	12 - 21
Poppers (amyl nitrate)	13	10 - 16
Cocaine	10	7 - 14
GHB	7	4 - 9
Crack	4	2 - 5
Downer (e.g., Valium, Ativan, or Xanax)	4	2 - 7
Heroin or opium	3	1 - 4
Painkiller (e.g., Oxycontin, Vicodin, or Percocet)	3	2 - 5
X or Ecstasy	3	2 - 5

Note: Information on substance use was based on patient report during interview.

† In prior 12 months.

° Participants who drank at least 1 alcoholic beverage during the 12 months preceding the interview. Alcoholic beverage was defined as a 12-ounce beer, 5-ounce glass of wine, or moren1.5-ounce shot of liquor.

× Participants who drank ≥5 alcoholic beverages at one sitting (≥4 for women) during the 30 days preceding the interview.

Table 4. Sexual Activity During the 12 Months Before the Interview—Medical Monitoring Project, King County, 2013-2014

	Weighted Percent	Weighted 95% Confidence Interval
Sexual Risk Behaviors		
Not sexually active	36	31 - 41
Sexually Active, missing information about specific sexual behaviors	3	1 - 5
Vaginal or anal sex with condoms only	20	17 - 24
Condomless vaginal or anal sex with only HIV-positive partners	22	17 - 27
Condomless vaginal or anal sex with at least one HIV-negative or unknown status partner	17	13 - 20
Gender of Sex Partner		
Reported by Male Respondents:		
Not sexually active	34	28.8 – 39
Male partners only	56	49.7 – 62
Male and female partners	2	0.4 – 3
Female partners only	8	5.3 – 11
Male and transgender partners	<1	0 – 11
Reported by Female Respondents:		
Not sexually active	54	40 – 67
Male partners only	42	29 – 56
Male and female partners	4	0 – 10
Reported by Transgender Respondents:		
Transgender partners	100	100 - 100

Note: Information on sexual behavior was based on patient report during interview.