

## INTRODUCTION

- The incidence of AIDS-defining cancers (ADCs) has declined in this era of effective combination antiretroviral therapy with increases in certain non-AIDS defining cancers (NADCs).
- We examined the incidence of ADCs and specific NADCs as well as eligibility for age/disease related cancer screenings among persons living with (PLWH) in the District of Columbia (DC).

## METHODS

**Study Population:** Participants actively enrolled in the DC Cohort 1/2011 to 12/2017 were included in this analysis. The DC Cohort is a longitudinal study of PLWH receiving care in DC.

**Cancer Diagnoses:** Determined through ICD-9/10 coding

**Eligibility for Cancer Screening:** Determined based on age, sex, smoking history, and co-morbidity data available through the cohort and current Infectious Diseases Society of America (IDSA), United States Preventative Services Task Force (USPSTF), and/or American Association for the Study of Liver Diseases (AASLD)

**Statistical Methods:** Incidence was calculated among participants at risk using total person-time at risk through the observation period.

## RESULTS

**Table 1: Cancer screening eligibility among DC Cohort participants**

	Persons at risk*	Eligible for Screening(%)**
<b>Breast</b>	2,144	1,054 (49.2)
<b>Cervical</b>	2,168	2,168 (100)
<b>Lung</b>	7,870	1,250 (15.9)
<b>Colorectal</b>	7,862	4,010 (51.0)
<b>Anal HPV</b>	7,857	3,301 (42.0)
<b>Hepatocellular Carcinoma</b>	7,887	264 (3.3)

\*Women without a history of breast cancer or cervical cancer were considered at risk for breast or cervical cancers. Men and women without a history of anal HPV, colorectal, hepatocellular carcinoma, or lung cancers were considered at risk for each of those cancers respectively.

\*\*Recommendations from the primary care guidelines for the management of persons infected with HIV from the HIV Medicine Association (HIVMA) of the IDSA were approximated for breast cancer, cervical cancer, and anal HPV screening eligibility screening using available DC Cohort data. Recommendations from the USPSTF for eligibility and receipt of screening were approximated for colorectal and lung cancer. Recommendations from the AASLD were approximated for eligibility and receipt of screening for hepatocellular carcinoma.

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**Table 2: DC Cohort Participants Characteristics, by Cancer Type**

	No Cancer (%)	AIDS-Defining Cancers (%)*	Non-AIDS Defining Cancers (%)	p-value
<b>Median Age (IQR)</b>	49 (39-57)	52 (43-60)	60 (52-66)	<0.0001
<b>Male Sex at Birth</b>	5,162 (71.6)	171 (84.7)	396 (78.6)	<0.0001
<b>Race/Ethnicity</b>				
<b>Non-Hispanic Black</b>	5,645 (78.3)	135 (66.8)	372 (73.8)	
<b>Non-Hispanic white</b>	852 (11.8)	42 (20.8)	102 (20.2)	<0.0001
<b>Hispanic</b>	403 (5.6)	15 (7.4)	14 (2.8)	
<b>Other</b>	134 (1.9)	6 (3.0)	6 (1.2)	
<b>Unknown</b>	172 (2.4)	4 (2.0)	10 (2.0)	
<b>Mode of HIV transmission</b>				
<b>Men who has sex with Men (MSM)</b>	2,700 (37.5)	114 (56.4)	192 (38.1)	
<b>Heterosexual</b>	2,407 (33.4)	38 (18.8)	153 (30.4)	<0.0001
<b>Injection Drug Use (IDU)</b>	460 (6.4)	12 (5.9)	62 (12.3)	
<b>MSM + IDU</b>	65 (0.9)	0 (0)	7 (1.4)	
<b>Other</b>	287 (4.0)	8 (4.0)	14 (2.8)	
<b>Unknown</b>	1,287 (17.9)	30 (14.9)	76 (15.1)	
<b>Current/Prior Tobacco Use</b>	3,998 (55.5)	112 (55.5)	332 (65.9)	<0.0001
<b>Median Time since HIV Diagnosis</b>	12.5 (7.4-20.1)	16.6 (9.8-23.0)	17.7 (10.9-24.5)	<0.0001
<b>Median Nadir CD4+</b>	271 (113-427)	128.5 (43-277)	186.5 (74.5-324)	<0.0001

\*AIDS-Defining cancers include Non-Hodgkin's lymphoma, Kaposi's sarcoma, and cervical cancer

- The cohort was predominantly male (71.6%) and of black race (78.3%)
- The most common mode of HIV transmission was MSM (37.5%)
- 55.5% of the cohort had prior or current tobacco use

## RESULTS

**Table 3: Incident non-AIDS Defining and AIDS Defining Cancers in the DC Cohort (per 1000 person-years)**

	Incidence	Median age (IQR) at diagnosis	Diagnosed prior to recommended screening age N (%)	US Median Age at Diagnosis*
<b>Non-AIDS Cancers (N=278)</b>	12.1 (10.7, 13.8)	58 (51-64)		
<b>Breast (n=17)</b>	2.6 (0.5, 12.1)	52 (44-57)	---	---
<b>Prostate (n=44)</b>	2.3 (1.2, 4.3)	61 (55.5-64.5)	---	66
<b>Skin (n=34)</b>	1.3 (0.7, 2.6)	56.5 (50-65)	---	65
<b>Anal (n=29)</b>	1.1 (0.4, 2.9)	53 (46-59)	---	62
<b>Head/neck (n=29)</b>	1.1 (0.7, 1.9)	64 (58-71)	4 (16.7)	63
<b>Lung (n=26)</b>	1.0 (0.5, 1.9)	61 (57-64)	---	70
<b>Colorectal (n=24)</b>	0.9 (0.4, 1.9)	54.5 (50.5-62.5)	2 (7.7)	67
<b>HCC (n=14)</b>	0.5 (0, 73.2)	62.5 (58-66)	7 (41.2)	64
<b>Hodgkin's Lymphoma (n=11)</b>	0.4 (0.2, 1.1)	42 (34-51)	---	39
<b>Renal (n=6)</b>	0.2 (0.1, 0.5)	61 (55-65)	N/A	64
<b>Other (n=75)**</b>	3.3 (2.5, 4.4)	56 (51-63)	---	---
<b>AIDS-Defining Cancers</b>	1.6 (0.6, 4.6)	49 (45-58)	---	---
<b>Non-Hodgkin's Lymphoma (n=23)</b>	0.9 (0.3, 2.5)	49 (46-58)	---	67
<b>Cervical (n=5)</b>	0.7 (0.1, 4.4)	50 (45-51)	---	50
<b>Kaposi's Sarcoma (n=13)</b>	0.5 (0, 7.1)	49 (33-62)	---	---

\*Data taken from the National Cancer Institute Surveillance, Epidemiology and End Results Program (SEER Registry)

\*\*Other cancers included esophageal (n=7), stomach (n=2), pancreatic (n=4), cancer of other GI organs or peritoneum (n=6), other respiratory/intrathoracic cancers (n=1), bone/connective tissue (n=4), uterine cancer (n=6), ovarian cancer (n=2), other female organs (n=11), testis (n=4), other male genital organs (n=6), bladder (n=13), urinary organ (n=2), brain/nervous system (n=5), thyroid (n=9), leukemia (n=9), multiple myeloma (n=15), other/unspecified (n=74)

- There were more incident non-AIDS defining cancers than AIDS defining cancers
- The most common incident non-AIDS defining cancers were: breast, prostate, skin, anal, head/neck, lung
- Median age at cancer diagnosis tended to be younger than the US general population

## CONCLUSIONS/DISCUSSION

- In this cohort of PLWH there were more incident non-AIDS defining cancers versus AIDS defining cancers
- A large proportion of this cohort is eligible for age-related cancer screening. Implementation of preventative measures and age-related cancer screening is an important component of care in this population.
- However, further study is needed on appropriate age for initiation of cancer screening in this population.