

# OPPORTUNITY KNOCKS

## Delayed HIV Diagnoses and Missed Screening Opportunities

Ashley Carter, MPH<sup>1</sup>; Oana Vasiliu, MS<sup>1</sup>; River Pugsley, PhD, MPH<sup>1</sup>; Lauren Edwards, MPH<sup>2</sup>; Jean Cadet, MPH<sup>2</sup>

Virginia Department of Health; Office of Epidemiology; Division of Disease Prevention; <sup>1</sup>STD Surveillance, Operations, and Data Administration & <sup>2</sup>HIV Surveillance

### Background

Thirty percent of Virginia's newly diagnosed cases of HIV are subsequently reported with an AIDS-defining condition within one year of the initial positivity, often referred to as late HIV diagnoses. Despite changes in screening recommendations and expanded screening opportunities throughout the Commonwealth, the population diagnosed late in their infection remains stable. Previous research indicates that adults are likely to be HIV positive for a median of 10 years prior to the development of AIDS, if left untreated. Current guidelines recommend initiation of antiretroviral therapy for all HIV-infected individuals to reduce plasma HIV RNA (viral load) thereby preventing HIV-associated morbidity and mortality and reducing likelihood of transmission to sexual partners. Any visit with a healthcare provider for sexual health screening represents an opportunity for HIV diagnosis. Visits during which bacterial STD screening is conducted without HIV screening represent a missed opportunity for public health intervention and prevention.

### Methods

By the end of 2011, 33,361 cumulative diagnoses of HIV among residents of the Commonwealth of Virginia were reported since the epidemic began. Patients newly reported with HIV and an AIDS-defining condition diagnosed within one year were compared to those without evidence of an AIDS-defining condition. Descriptive and multiple logistic regression analyses for diagnoses between 2007-2011 were completed to characterize the population with late diagnoses.

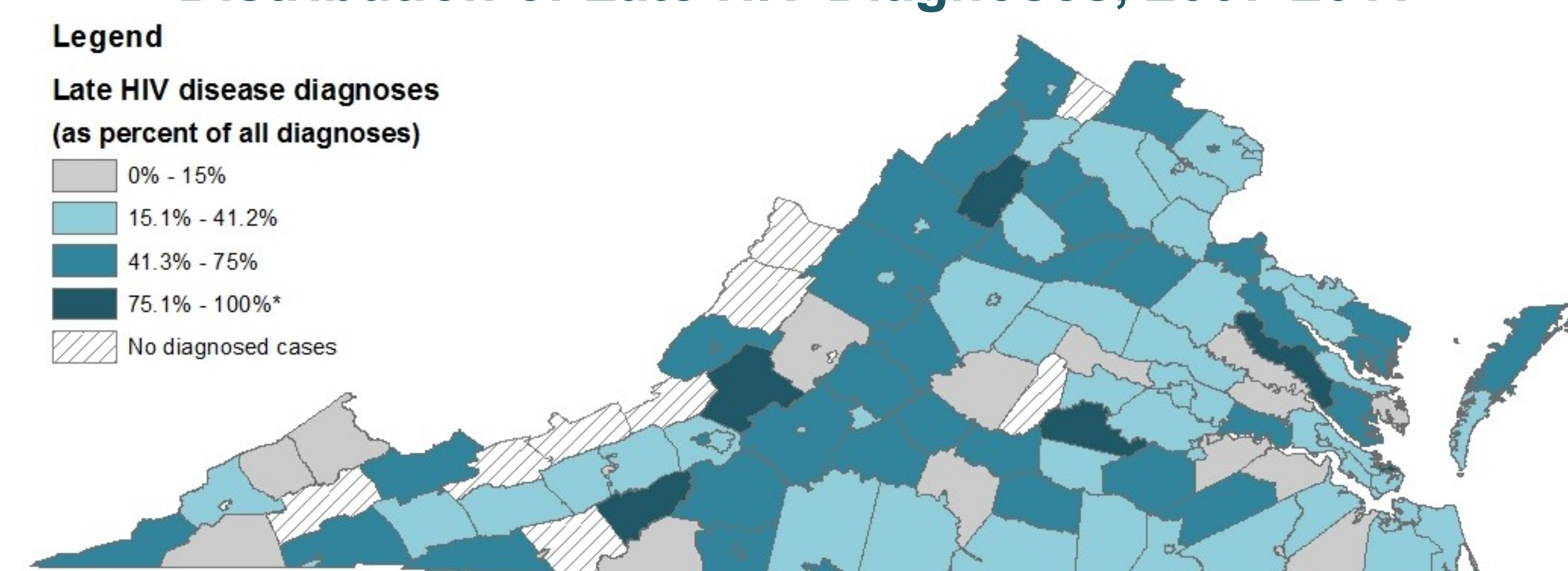
HIV surveillance data for patients diagnosed with HIV and an AIDS-defining condition within one year were merged with STD morbidity, screening and health department clinic visit data. Sexual healthcare visits between six months and five years prior to HIV diagnosis were included in the analysis as representing possible missed opportunities for HIV screening. Characteristics of the medical setting where the missed opportunity for diagnosis occurred as well as sociodemographic variables were examined using binary logistic regression.

### Results

Between 2007-2011, there were 5,099 Virginians diagnosed with HIV; 1,555 or 30.5% were diagnosed with HIV and AIDS within one year. Overall, Hispanics (43.1%) and injection drug users (IDU; 40.9%) tend to be diagnosed at a later stage of disease. The fewest patients diagnosed late were non-Hispanic blacks (27.2%) followed by non-Hispanic whites (32.5%). Among those less than 30 years of age, females were less likely than their male counterparts (OR = 0.5; 95% CI: 0.3-0.8) and Hispanics twice as likely as non-Hispanic blacks (OR = 2.6; 95% CI: 1.8-3.7) to have a late HIV diagnosis. Hispanic individuals ages 30-49 years were also more likely to be diagnosed late with HIV (OR = 1.8; 95% CI: 1.4-2.4). No significant differences with respect to transmission category, controlling for age, were identified.

Nine percent or 143 patients diagnosed late with HIV had evidence of a previous sexual healthcare visit six months to five years prior to their HIV diagnosis. Approximately 36% had an encounter at a health department STD clinic and 57% with private providers. Males and females were equally likely to have a prior visit (OR = 0.9; 95% CI: 0.6-1.4) and non-Hispanic black patients were more likely to have a visit than their white counterparts (OR = 1.7; 95% CI: 1.1-2.6). Men who have sex with men (MSM) were twice as likely to have a visit without being screened for HIV as compared to high-risk heterosexuals (OR = 2.4; 95% CI: 1.4-4.2).

### Distribution of Late HIV Diagnoses, 2007-2011



\*Localities in this category had three or fewer diagnosed HIV cases in the time period between 2007-2011.

### Sociodemographic Characteristics of Late HIV Diagnoses, 2007-2011

Demographics	Evidence of missed HIV screening opportunity*		No evidence of prior STD screening		Overall
	Count	%	Count	%	Count
Gender					
Male	114	9.4%	1,097	90.6%	1,211
Female	29	8.4%	315	91.6%	344
Race					
Black, non-Hispanic	98	11.5%	752	88.5%	850
White, non-Hispanic	30	7.1%	392	92.9%	422
Hispanic	10	4.9%	196	95.1%	206
Other/ Unknown	5	6.5%	72	93.5%	77
Age group					
<30 years	61	19.2%	257	80.8%	318
30 - 49 years	68	8.1%	774	91.9%	842
50+	14	3.5%	381	96.5%	395
Clinic Type					
Public	62	43.4%	--	--	--
Private	81	56.6%	--	--	--
Transmission Category					
Male-to-male sexual contact (MSM)	96	12.3%	686	87.7%	782
Injection drug use (IDU)	4	5.4%	70	94.6%	74
MSM & IDU	1	3.4%	28	96.6%	29
Heterosexual contact	15	5.5%	260	94.5%	275
Other/ Not identified	28	7.1%	368	92.9%	396

\*Had at least one STD screening without an HIV test between 6 months - 5 years before their AIDS diagnosis.

### Conclusions

HIV screening initiatives targeting young adults, non-Hispanic blacks and MSM in recent years have changed the demographic characteristics of the population diagnosed late in the course of their HIV infection. Notable shifts in the percentages of non-Hispanic blacks and MSM are particularly encouraging. A renewed focus on HIV screening among Hispanics is warranted.

One in 10 patients diagnosed with HIV late had a potentially missed screening opportunity in the five years prior to their HIV diagnosis. While data on negative test results for screening conducted in this venue are not available, it is meaningful that the majority of these patients with a missed opportunity visited a private provider.

Surveillance data of late HIV diagnoses used in this analysis is expected to conservatively estimate those who were living with HIV but undiagnosed; however, individuals who progress rapidly to AIDS are a limitation of this analysis.