Care constancy and viral suppression among adults in HIV clinical care, United States (#907)

Heather Bradley, PhD[1], Kate Buchacz, PhD[1], Yunfeng Tie, PhD[1], Oluwatosin Olaiya, MD[1], R. Luke Shouse, MD[1]

[1] Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention

Background

- Retention in HIV clinical care helps patients achieve and sustain viral suppression (VS) and manage other health conditions related to HIV infection.
- Clinical guidelines recommend patients receive at least 1 viral load (VL) test/6 months and 1 CD4 test/12 months.
- Previous research suggests retention in HIV care may be a more important predictor of VS for persons with lower vs. higher CD4 counts.[1]
- Data are lacking on patterns of HIV care receipt among persons in HIV care and associated VS in a national population-based sample.

Objectives

- To estimate the percentage of patients meeting a retention in care measure (care constancy) by patient characteristics in a national sample of persons in HIV care.
- To understand the association between care constancy and VS, conditional on other patient characteristics.

Methods

Data

- Used data from the Medical Monitoring Project, a surveillance system that produces nationally representative estimates of characteristics of HIV-infected adults in care in the United States
- Data collected during 2013–2015 using interview and 24 months of retrospective medical record abstraction
- Analytic sample limited to patients prescribed ART

Measurements (all from medical record)

- Care constancy: 1 VL test in each 6-month period and 1 CD4 test in each 12-month period over 24 months
- CD4 count: First CD4 count during 24-month period
- VS: VL <200 copies/mL at last test

Analysis

- Estimated weighted medians and IQRs for number of HIV laboratory tests and clinical visits by patient VS status.
- Estimated the weighted percentage of patients who met the care constancy definition by patient CD4 count and other characteristics
- Assessed association between care constancy and VS using χ-square tests and multivariate logistic regression with interaction term for CD4 count

Results

Table 1. Number of laboratory tests and clinical visits during previous 24 months among patients by viral suppression status: Medical Monitoring Project - United States, 2011 - 2015

Median (IQR)	All (n=8787)	Achieved viral suppression (n=7287)	Did not achieve viral suppression (n=1500)	*P*-value
Number of outpatient CD4 tests in previous 24 months	4.5 (3.1, 5.9)	4.7 (3.3, 5.9)	3.6 (1.9, 5.4)	<0.01
Number of outpatient VL tests in previous 24 months	4.5 (3.0, 5.9)	4.6 (3.3, 6.0)	2.9 (1.1, 5.1)	<0.01
Number of clinical visits in previous 24 months	6.6 (4.5, 9.5)	6.7 (4.6, 9.5)	6.3 (3.8, 9.3)	<0.01

Figure 1. Percentage of patients meeting care constancy measure by CD4 count: Medical Monitoring Project - United States, 2011 – 2015 (*P*<0.01)

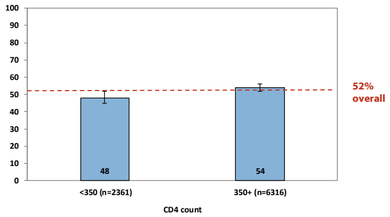


Figure 2. Percentage of patients achieving viral suppression by CD4 count and whether patient met care constancy: Medical Monitoring Project - United States, 2011 - 2015

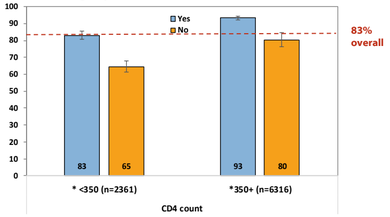


Figure 3. Percentage of patients meeting care constancy measure by CD4 count and age (years): Medical Monitoring Project - United States, 2011 - 2015

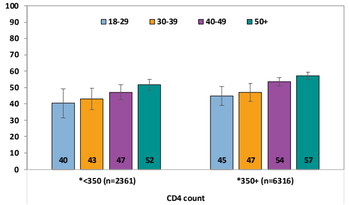


Figure 4. Percentage of patients meeting care constancy measure by CD4 count and race/ethnicity: Medical Monitoring Project - United States, 2011 - 2015

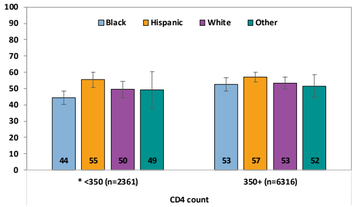


Figure 5. Percentage of patients meeting care constancy measure by CD4 count and heavy drinking in past 30 days: Medical Monitoring Project - United States, 2011 - 2015

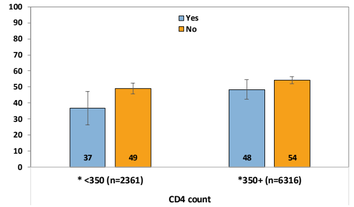
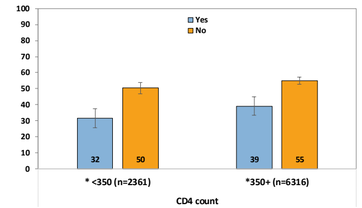


Figure 6. Percentage of patients meeting care constancy measure by CD4 count and homelessness in past 12 months: Medical Monitoring Project - United States, 2011 - 2015



*Difference in percentages are statistically significantly different within CD4 group (*P*<0.05)

Care constancy did not significantly differ by gender, education level, household income, health care coverage type, binge drinking, or depression.

After adjustment for confounders (age, race/ethnicity, and homelessness), the prevalence ratio of achieving viral suppression given care constancy:
1.24 (95% CI: 1.19 – 1.29) among patients with CD4 count <350
1.15 (95% CI: 1.10 – 1.21) among patients with CD4 count 350+

Discussion and Limitations

Discussion

- Only 52% of patients in HIV care met the care constancy definition over 24 months.
- Percentage meeting care constancy was consistently lower among patients with lower CD4 counts, even when stratified by other characteristics (e.g., age, race).
- Care constancy was positively associated with VS regardless of patient CD4 count, but the association was stronger among patients with lower CD4 counts.

Limitations

- Data are observational, so VL was only measured when patients sought care.
- 19% of patients did not have a VL test in the last 6 months of the 24-month period, limiting assessment of a temporal association between care constancy and VS.

Conclusions

- More consistent retention in HIV clinical care is likely to increase VS, even among persons receiving some care.
- Care retention may be particularly important for persons with lower CD4 counts, who also have lower VS prevalence than those with higher CD4 counts.
- The association between retention in care and VS is important to continuously monitor, as clinical guidelines and practices change over time.

Contact Information

Heather Bradley, CDC
iyk5@cdc.gov
404-639-8373

Reference:
[1] Yehia BR et al. Retention in care is more strongly associated with viral suppression in HIV-infected patients with lower versus higher CD4 counts. *JAIDS* 2014; 65(3): 333-9.

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