

### **Racial/Ethnic Disparities in Engagement in Care and Viral Suppression in a Large Urban HIV Clinic**

TO THE EDITOR—We read with great interest the study by Moore et al [1], which showed that among human immunodeficiency virus (HIV)-infected adults followed at Moore Clinic during 1996–2012, there were no significant differences in virologic, immunologic, or HIV clinical outcomes by race/ethnicity. The study was of particular interest because the Moore clinic population is analogous to ours. We report findings from the CORE Center, Chicago, that describe differences in the rate of engagement in care and virologic suppression by demographic characteristics. The CORE Center is the largest HIV care center in the Midwest and provides care to a large number of ethnic minorities, many uninsured. The CORE Center provides comprehensive primary care including extensive psychosocial support. Access to visits and antiretrovirals are available regardless of insurance status or ability to pay.

**Table 1. Multivariable Logistic Regression: Factors Associated With Not Being Actively Engaged in Care Among HIV-Infected Patients at CORE in 2010 (n = 4577)**

Characteristic	Odds Ratio	Multivariable Analysis	
		95% CI	P Value
<b>Age, y</b>			
13–24	1.39	1.05–1.83	.02
25–39	1.65	1.39–1.97	<.0001
40–49	1.31	1.11–1.55	.0012
50–59	Ref.		
<b>Sex</b>			
Female	Ref.		
Male	1.14	.98–1.32	.10
<b>Race/ethnicity</b>			
Non-Hispanic white	Ref.		
Non-Hispanic black	1.41	1.16–1.71	.0006
Hispanic	.61	.47–.79	.0002
Other	1.01	.58–1.75	.97

Abbreviations: CI, confidence interval; HIV, human immunodeficiency virus; Ref., reference.

We performed a cross-sectional electronic medical record review of patients  $\geq 13$  years of age who had  $\geq 1$  clinic visit at the CORE Center in 2010. Engagement in care was defined as having  $\geq 2$  HIV RNA measurements in 2010 and viral suppression as having  $\geq 2$  undetectable HIV RNA measurements ( $<75$  copies/mL) in 2010. Factors associated with non-engagement and viral nonsuppression (VNS) were assessed by multivariable

logistic regression controlling for age, race/ethnicity, and sex.

#### Engagement in Care

A total of 4810 HIV-infected patients had  $\geq 1$  clinic visit at the CORE center in 2010; 3572 (74%) were male, 65% non-Hispanic black, 20% Hispanic, and 12% non-Hispanic white. The median age was 45 years, the median CD4 count was 401 cells/mm<sup>3</sup>, and 71% had

undetectable HIV RNA; 1286 (27%) were not actively engaged in care. Non-engaged patients were younger and more likely to be black (Table 1). They also had lower rates of virologic suppression (50% vs 78%;  $P < .0001$ ), and lower CD4 counts (335 vs 412 cells/mm<sup>3</sup>;  $P < .0001$ ).

#### Virologic Suppression

Of the 3524 patients engaged in care, 2499 (71%) were suppressed. Patients who had VNS were more likely to be young, female, and black compared to suppressed patients (Table 2). Patients with VNS had lower median CD4 counts (300 vs 456 cells/mm<sup>3</sup>;  $P < .0001$ ).

While overall rates of viral suppression were relatively high at 71%, we found significant differences in rates of engagement in care and viral suppression by demographic characteristics. The lower rate of active engagement among young, non-Hispanic black patients contributes to the documented racial disparities in HIV prevalence in Chicago and other communities across the United States. Among patients engaged in care, non-Hispanic black race, younger age, and being female were independently associated with viral nonsuppression. In both analyses, age 13–24 years was independently associated with poor outcomes, highlighting the need for new and innovative methods for engaging and retaining HIV-infected young adults in care.

This initial study allows us to define subgroups within the larger CORE population who require targeted interventions. Our clinic model and diverse population, similar to the Moore clinic, allows us to actively study and address these disparities. Interventions to improve engagement in care and viral suppression are necessary to reduce health-related disparities and achieve the full salutary effect of treatment as prevention in Chicago.

#### Notes

**Acknowledgments.** This publication resulted (in part) from research supported by the

**Table 2. Multivariable Logistic Regression: Factors Associated With Viral Nonsuppression Among Patients in Care at CORE in 2010 (n = 3342)**

Characteristic	Odds Ratio	Multivariable Analysis	
		95% CI	P Value
<b>Age, y</b>			
13–24	4.38	3.19–6.00	<.0001
25–39	2.39	1.95–2.93	<.0001
40–49	1.53	1.26–1.86	<.0001
50–59	Ref.		
<b>Sex</b>			
Female	Ref.		
Male	.79	.67–.94	.008
<b>Race/ethnicity</b>			
Non-Hispanic white	Ref.		
Non-Hispanic black	1.97	1.55–2.51	<.0001
Hispanic	.94	.70–1.26	.68
Other	1.38	.73–2.61	.33

Abbreviations: CI, confidence interval; Ref., reference.

Chicago Developmental Center for AIDS Research (D-CFAR), an NIH funded program P30 AI 082151, which is supported by the following NIH Institutes and Centers (NIAID, NCI, NIMH, NIDA, NICHD, NHLBI, NCCAM).

**Potential conflicts of interest.** All authors: No potential conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

**Oluwatoyin M. Adeyemi,<sup>1,2</sup> Britt Livak,<sup>3</sup>  
Peter McLoyd,<sup>1</sup> Kimberly Y. Smith,<sup>2</sup> and  
Audrey L. French<sup>1,2</sup>**

<sup>1</sup>Ruth Rothstein CORE Center, Cook County Health and Hospitals System, <sup>2</sup>Rush University Medical Center; and <sup>3</sup>Chicago Developmental Center for AIDS Research, Illinois

## Reference

1. Moore RD, Keruly JC, Bartlett JG. Improvement in the health of HIV-infected persons

in care: reducing disparities. *Clin Infect Dis* **2012**; 55:1242–51.

Presented in part: AIDS 2012 meeting, Washington, D.C., 22–27 July 2012. Abstract THPE241.

Correspondence: Oluwatoyin M. Adeyemi, MD, Division of Infectious Diseases, Cook County Health and Hospitals System, Rush University Medical Center, 1900 W Polk St, Chicago, IL 60612 (oluwatoyin\_adeyemi@rush.edu).

**Clinical Infectious Diseases** 2013;56(10):1512–4

© The Author 2013. Published by Oxford University Press on behalf of the Infectious Diseases Society of America. All rights reserved. For Permissions, please e-mail: journals.permissions@oup.com.  
DOI: 10.1093/cid/cit063