Validation of the Refined Denver HIV Risk Score Using a National HIV Testing Cohort

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BACKGROUND, OBJECTIVES, and DESIGN

BACKGROUND: The Centers for Disease Control and Prevention (CDC) and US Preventive Services Task Force (USPSTF) recommend routine HIV screening for adolescents and adults. Recently, the Denver HIV Risk Score (DHRS) was developed to identify patients at increased risk for undiagnosed HIV infection and thus to guide HIV screening. A recently refined version of the DHRS includes only demographics, sex with a male, injection drug use, and past HIV test, and has been shown in a preliminary study to help identify patients with HIV infection in the emergency department. The refined DHRS, however, has not been broadly validated.

GOAL: To externally validate the refined DHRS in a national HIV testing cohort from the CDC.

DESIGN: A secondary analysis of HIV testing data from the Program Evaluation and Monitoring System of the CDC’s National HIV Prevention Program.

Table: Risk-score variables for the complete case cohort (N=4,830,941), stratified by HIV diagnosis and test result, CDC PEMS data, 2008 – 2010

Table: Prevalence of newly identified human immunodeficiency virus (HIV) infection within each risk score category in the validation sample, stratified by geographical region, CDC PEMS data, 2008 – 2010

CONCLUSIONS

The refined DHRS accurately categorized patients into significantly different HIV risk groups, regardless of geographical region.

The refined DHRS is a relatively simple tool for quantifying HIV risk and may help identify individuals for HIV testing in a variety of clinical settings.