

JOURNAL OF
ADOLESCENT
HEALTH

www.jahonline.org

Original article

# Factors Affecting Acceptance of Routine Human Immunodeficiency Virus Screening by Adolescents in Pediatric Emergency Departments

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Article history: Received February 23, 2013; Accepted July 26, 2013 *Keywords*: HIV; Routine screening; Adolescents; Emergency department

#### ABSTRACT

**Purpose:** Human immunodeficiency virus (HIV) screening in health care settings including emergency departments (EDs) is recommended for adolescents in the United States. This study aimed to evaluate the acceptance of and the factors affecting the HIV screening in pediatric EDs. **Methods:** A prospective, cross-sectional study of rapid opt-out oral HIV screening among adolescents ≥13 years of age was conducted in two pediatric EDs during 2009−2011. Descriptive statistics and logistic regression models were used to identify factors associated with the acceptance of HIV screening.

**Results:** During 24 months, 8,519 adolescents were approached for HIV screening; 6,184 (72.6%) did not opt out, and of those 5,764 (93.2%) were tested for HIV. Most adolescents who accepted testing were black (80.5%), female (57.6%), aged 15–17 years (50.1%), and District of Columbia residents (67.7%), and were accompanied by a guardian (69.1%). Acceptance of HIV screening varied by age, race/ethnicity, and state of residence, with younger (<15 years) (adjusted odds ratio [aOR], 1.67; 95% confidence interval [CI], 1.33–2.09), non-black adolescents (aOR, .88; 95% CI, .77–.99) and non-District of Columbia residents (aOR, .86; 95% CI, .77–.96) being more likely to opt out of testing. Lower odds of opt-out of HIV testing were seen among adolescents with a guardian present (aOR, .42; 95% CI, .34–.53). The reasons for opt-out varied significantly by age and the presence of a guardian.

**Conclusions:** The patient's age and the presence of a guardian were significantly associated with adolescents' decision and reasons to opt out of HIV screening in pediatric EDs. Further studies are necessary to evaluate the interventions needed to increase routine ED HIV screening in adolescents.

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### IMPLICATIONS AND CONTRIBUTION

Our study reports new data on routine human immunodeficiency virus (HIV) screening among adolescents in two urban pediatric emergency departments. The presence of a guardian was associated with lower chances of refusal of HIV screening among adolescents. Most adolescents and their guardians accept routine HIV screening in emergency departments.

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Despite an overall steady number of new diagnoses of human immunodeficiency virus (HIV) infection in the United States (US), the incidence of HIV among adolescents and youth aged 13-24 years continues to grow [1-3]. The Centers for Disease Control

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and Prevention (CDC) report that 26% of new infections occur among youth between 13 and 24 years of age [4]. An increased number of youth with HIV are unaware of the infection, remain at risk for advanced disease, and continue to contribute to an ongoing epidemic among their peers [3–6]. Most important, in the era of universal consideration of antiretroviral therapy and availability of pre-exposure prophylaxis, the timely diagnosis of HIV among adolescents and young adults is more crucial than ever before [3,7–10].

To increase access to HIV diagnostics, in 2006 the CDC issued revised recommendations for HIV testing in health care settings [11]. The CDC recommended routine voluntary opt-out HIV screening for all patients 13-64 years of age, which represented a significant change from the 1993 guidelines recommending targeted screening of high-risk patients 15-54 years of age in health care settings with an HIV prevalence of >1% [11,12]. In 2011, the American Academy of Pediatrics, addressing the role of the pediatric care providers, endorsed routine HIV screening among adolescents by recommending "at least one HIV screening test in all adolescents by 16 to 18 years of age in health care settings when the prevalence of HIV in the patient population is >.1%" and "routine HIV screening for all sexually active adolescents" [13]. Most recently, in April 2013, the US Preventive Services Task Force released the national recommendation on routine HIV screening as a preventive service for adolescents and adults aged 15-65 years to be covered under the Affordable Care Act [14]. Emergency departments (EDs) provide access to routine HIV screening for a large number of patients, including vulnerable populations without regular medical care. Currently, data on routine HIV screening in EDs are limited in studies conducted in the setting of adult EDs, with few publications on HIV screening in pediatric EDs [15–25].

Children's National Medical Center (CNMC) serves as a major pediatric care provider in the Washington, District of Columbia (DC) metropolitan area, which has a high HIV prevalence [26]. CNMC operates two pediatric EDs: the Sheikh Zayed ED (SZED), located in the main campus in downtown DC, and the United Medical Center ED (UMCED), located in a community hospital in southeast DC. Both EDs accommodate >126,000 visits/year by predominantly minority (>80%) pediatric (83%) and adolescent (17%) patients from DC and suburban Virginia and Maryland. In 2009–2010, with the support of the DC Department of Health, routine opt-out oral rapid fluid HIV screening of adolescents ≥13 years of age was implemented at SZED (March 2009) followed by UMCED (October 2010). The objectives of this study were to measure overall acceptance rates for HIV testing, as well as to examine the patient- and guardian-related factors that affect the decision to opt out of HIV screening among adolescents in urban pediatric EDs. Based on the results of a patient/guardian survey conducted before implementing the program, which demonstrated high rates of acceptance of the proposed virtual HIV screening by adolescents (73%) and their guardians (77%) in our EDs [27], we hypothesized that HIV screening would be accepted by most (>70%) adolescents and their guardians. Our survey found that more than one third (34%) of adolescents reported that the presence of the guardian with them in the ED would influence their decision regarding HIV testing; half (53%) of these youth stated that they would consider declining the HIV test owing to a guardian's presence, because they would not want them to find out about the test results. Based on these results, we also hypothesized that the presence of the guardian in the ED would be associated with higher rates of opting out. To test these hypotheses, we examined the acceptance of HIV

screening and the reasons for opting out among patients and their guardians. In particular, we sought to explore whether the presence of a guardian in the ED and demographic factors (age, gender, race/ethnicity, and state of residence) affected the acceptance of HIV screening by adolescents.

#### **Patients and Methods**

**Patients** 

A prospective, cross-sectional study was conducted in the two CNMC EDs for 24 months from the start of the program in March 2009 through February 2011. Both EDs are operated and staffed by CNMC personnel and use identical algorithms for care. Both EDs are located in DC, where written consent is not required for HIV testing of adolescents  $\geq$ 12 years of age regardless of the presence of a guardian [28,29]. The study population included patients  $\geq$ 13 years of age (defined here as adolescents) and their guardians, who were approached for universal opt-out oral fluid HIV screening in the EDs. The study provided study information sheets to all adolescent patients approached for the HIV screening in both EDs and did not require the consent of patients or guardians. The study protocol was approved by the CNMC Institutional Review Board as part of a larger de-identified data collection on routine ED HIV screening.

In accordance with the HIV screening algorithm, adolescents and their guardians were approached for HIV testing either during triage or in an ED room. If an adolescent had a documented HIV test in the ED within the previous 6 months, the patient was not approached for repeat HIV screening, unless he or she was identified to be at high risk (such as self-disclosure of risk behavior, sexually transmitted disease [STD], or pregnancy). Per ED HIV screening algorithm, the medical staff was requested to document the reason for not approaching a patient  $\geq$  13 years of age for HIV screening on the standardized form. The adolescent was considered to be an opt-out if he or she declined the HIV test and/or if the guardian (when present) declined the screening. Both adolescents and guardians who refused screening were asked to specify the reasons for opting out. For every screening approached and declined, the ED staff filled out the standardized multiple choice answer form documenting the reason why the guardian or adolescent declined the test. The forms were collected weekly and the data were transferred into electronic format by the program staff.

HIV screening tests were administered at both EDs as a point-of-care test. OraQuick ADVANCE Rapid HIV-1/2 Antibody test kits (OraSure Technologies, Inc., Bethlehem, PA) are provided by the DC DOH with financial support from the CDC. The HIV tests were administered by dedicated grant-funded personnel at SZED and by ED personnel at UMCED. In the case of a nonreactive test result, the patient was provided with brief post-test counseling including written information on HIV/STD risk reduction. In the case of a reactive test result, a confirmatory Western blot blood test was obtained and the patient received individual counseling with a case manager. Linkage to specialized adolescent HIV services at CNMC was provided to all patients with a reactive test result, with a follow-up appointment 48–72 hours after the ED visit.

Data collection and statistical analyses

HIV screening data from both EDs were collected and maintained in a centralized electronic database in which each ED visit

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