



# Factors Associated with Acceptance of Opt-Out HIV Screening and Completion of Testing in a Large Urban Emergency Department

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## Background

- In 2006, CDC recommended opt-out HIV screening in healthcare settings with HIV prevalence  $\geq 0.1\%$ 
  - Opt-out screening is performing HIV screening after notifying the patient that (1) the test will be performed and (2) the patient may elect to decline or defer testing
  - Separate written consent not required
  - Prevention counseling not required
- Emergency departments (EDs) may be ideal sites for HIV screening
  - Over 100 million people visit EDs annually
  - Urban EDs often are the only source of medical care for some people
  - HIV seropositivity higher in EDs than in other HIV testing sites
- In 2006, CDC funded two EDs to investigate the feasibility and acceptability of conducting voluntary opt-out HIV testing in EDs

## Objective

We evaluated factors associated with acceptance of opt-out HIV screening and accepting but not receiving testing in the Alameda County (California) Medical Center (ACMC) ED.

## Methods

- The ACMC ED is a regional Level 1 trauma center with an annual adult census of ~72,000 patients and an estimated HIV seroprevalence of 1.3%
- In 2007, the ACMC ED began a clinical trial that consisted of an 8-month control phase (opt-in HIV testing) and a 16-month intervention (opt-out HIV testing) phase
  - This analysis uses data collected during the first 8 months of the intervention phase
- Patients presenting to the ACMC ED were notified at registration that opt-out HIV screening was being conducted
- Eligibility criteria: Age  $\geq 13$  years, normal mental status, able to opt-out, and not known to be HIV-infected
- HIV testing technicians performed OraQuick® Advance™ rapid HIV tests on oral fluid specimens
- Data on demographics, acuity of illness, eligibility for screening, acceptance of screening (i.e., not opting out of screening) and receipt of testing, and test results were collected
- We used logistic regression to identify factors associated with acceptance of screening and those who completed testing among patients accepting screening
  - Preliminary models included factors with  $p < 0.1$  in bivariate analyses
  - We performed stepwise elimination to remove factors not significantly associated ( $p > 0.05$ ) with acceptance of screening and completion of testing, respectively

## Results

- During August 2007–March 2008, there were 49,187 ED visits by 30,418 unique patients
- 23,159 (76.1%) unique patients were eligible for opt-out screening, of whom 8,472 (36.3%) accepted testing
- Characteristics of eligible patients are shown in the Figure
- Results of bivariate analysis of factors associated with acceptance of screening is shown in Table 1

Figure. Characteristics of 23,159 eligible patients presenting to ACMC ED; August 2007–March 2008.

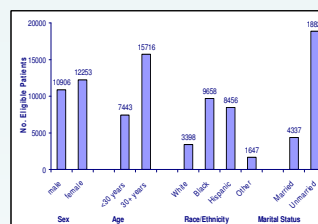


Table 1. Characteristics of 23,159 eligible patients presenting to ACMC ED, by acceptance of screening.

| Characteristic        | Accepted Opt-Out Screening |                         | P-value |
|-----------------------|----------------------------|-------------------------|---------|
|                       | Yes<br>N=8,473<br>n (%)    | No<br>N=14,687<br>n (%) |         |
| <b>Sex</b>            |                            |                         |         |
| Male                  | 4,379 (51.7)               | 7,874 (53.6)            | 0.005   |
| Female                | 4,093 (48.3)               | 6,813 (46.4)            |         |
| <b>Age (years)</b>    |                            |                         |         |
| <30                   | 3,351 (39.6)               | 4,092 (27.9)            | <0.001  |
| ≥30                   | 5,121 (60.4)               | 10,595 (72.1)           |         |
| <b>Race/Ethnicity</b> |                            |                         |         |
| White                 | 1,146 (13.5)               | 2,252 (15.3)            | <0.001  |
| Black                 | 3,678 (43.4)               | 5,980 (40.7)            |         |
| Hispanic              | 3,184 (37.6)               | 5,272 (35.9)            |         |
| Other                 | 464 (5.5)                  | 1,183 (8.1)             |         |
| <b>Married</b>        |                            |                         |         |
| Yes                   | 1,341 (15.8)               | 2,996 (20.4)            | <0.001  |
| No                    | 7,131 (84.2)               | 11,691 (79.6)           |         |
| <b>Acutely ill</b>    |                            |                         |         |
| Yes                   | 189 (2.2)                  | 413 (2.8)               | 0.007   |
| No                    | 8,283 (97.8)               | 14,274 (97.2)           |         |

- On multivariable analysis, patients more likely to accept screening were <30 years of age (odds ratio [OR]: 1.6; 95% confidence interval [CI]: 1.5-1.7), female (OR: 1.1; 95% CI: 1.0-1.1), non-Hispanic black (OR: 1.2; 95% CI: 1.1-1.3) or Hispanic (OR: 1.2; 95% CI: 1.1-1.3) compared to white, unmarried (OR: 1.3; 95% CI: 1.2-1.4), and not acutely ill (OR: 1.2; 95% CI: 1.0-1.4)
- 5275 (62.3%) patients who accepted screening were tested

Table 2. Characteristics of 8,472 eligible patients presenting to ACMC ED who accepted HIV screening, by completion of testing.

| Characteristic        | Tested                  |                        | P-value |
|-----------------------|-------------------------|------------------------|---------|
|                       | Yes<br>N=5,275<br>n (%) | No<br>N=3,197<br>n (%) |         |
| <b>Sex</b>            |                         |                        |         |
| Male                  | 2,757 (52.3)            | 1,622 (50.7)           | 0.2     |
| Female                | 2,518 (47.7)            | 1,575 (49.3)           |         |
| <b>Age (years)</b>    |                         |                        |         |
| <30                   | 2,009 (38.1)            | 1,342 (42.0)           | <0.001  |
| ≥30                   | 3,266 (61.9)            | 1,855 (58.0)           |         |
| <b>Race/Ethnicity</b> |                         |                        |         |
| White                 | 721 (13.7)              | 425 (13.3)             | 0.7     |
| Black                 | 2,308 (43.7)            | 1,370 (42.9)           |         |
| Hispanic              | 1,961 (37.2)            | 1,223 (35.2)           |         |
| Other                 | 285 (5.4)               | 179 (5.6)              |         |
| <b>Married</b>        |                         |                        |         |
| Yes                   | 851 (16.1)              | 490 (15.3)             | 0.3     |
| No                    | 4,424 (83.9)            | 2,707 (84.7)           |         |
| <b>Acutely ill</b>    |                         |                        |         |
| Yes                   | 79 (1.5)                | 110 (3.4)              | <0.001  |
| No                    | 5,196 (98.5)            | 3,087 (96.6)           |         |

- Results of bivariate analysis of factors associated with completion of testing among patients who did not opt-out is shown in Table 2
- On multivariable analysis, factors associated with not being tested among those accepting screening were age <30 years (OR: 1.2; 95% CI: 1.1-1.3) and acute illness (OR: 2.3; 95% CI: 1.8-3.1)
- Overall, there were 25 (0.5%) new HIV diagnoses among patients tested

## Limitations

- HIV testing was not offered to all patients visiting the ED so those tested might not be representative of all persons seeking medical care at this or other EDs

## Conclusions

- Age, sex, race/ethnicity, marital status, and acuteness of presenting condition were associated with acceptance of opt-out HIV screening, though their effects were modest
  - Younger patients were more likely to accept testing yet were less likely to receive it
  - Acutely ill patients were less likely to accept and receive testing
- Not all patients who accepted screening received testing in this busy ED
  - Younger patients were more likely to accept testing yet were less likely to receive it
  - Acutely ill patients were less likely to accept and receive testing
- Although the proportion of new HIV diagnoses was small, it was greater than the threshold HIV prevalence for conducting opt-out HIV testing ( $\geq 0.1\%$ ) recommended by CDC
  - Each HIV diagnosis is an opportunity to provide care and reduce transmission
- Our findings may assist EDs in developing effective approaches to increase acceptance and enhance receipt of opt-out HIV screening