Reaching high-risk patient populations through emergency department opt-out HIV testing: A retrospective chart review

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Background
Urban emergency departments (EDs) serve high-risk populations that face challenges in regards to chronic diseases like Human Immunodeficiency Virus infection (HIV), including the following:
- Limited access to care, and reliance on ED services for primary care.
- High prevalence of HIV seropositivity (3.5% to 11.8%) and unawareness of HIV infection (4.0% of those HIV positive).1, 2
- Frequent engagement in HIV risk behaviors (37.6% to 89.0%).3, 4

Additionally, the current opioid crisis raises questions regarding the role of intravenous drug use as a risk factor for HIV infection.5

Emergency department screening programs have the potential to provide substantial medical and financial benefits in relation to these high risk individuals.6

Specific Aims and Hypotheses
This study aimed to identify socioeconomic (SE), sexual, and other risk factors (RFs), among patients diagnosed with HIV infection through an emergency department-based opt-out HIV screening program, and to examine trends in intravenous drug use (IVDU) as a RF.

H1: Unsafe sexual practices are the most commonly reported RF.

H2: Role of IVDU as a RF has increased over the time period studied.

Methods
- Retrospective chart review
- Setting: Urban academic level 1 trauma center and affiliated urban community ED
- Sample: All patients newly diagnosed with HIV infection through the ED opt-out HIV screening program from October 2009 to June 2017
- Data were collected from electronic medical records (EMR) and forms completed by screening program personnel for mandatory reporting to the Philadelphia Department of Public Health
- Exclusions: Patient records indicated a prior diagnosis of HIV infection; Confirmatory testing not performed or results negative for HIV infection
- Analysis was performed using chi-square and logistic regression

Results (n=134)

Demographics:
- Average age: 34.5 years
- 82% Male
- 67% African American
- 19% White, 7% Hispanic, 4% Asian

Insurance Status:
- Blue Cross Blue Shield (36%)
- Medicaid (7%)
- Other (18%)
- Unknown (55%)

Employment:
- Employed (27%)
- Unemployed (32%)
- Unknown (41%)

Homelessness:
- Housing status (18%)
- Homeless (27%)
- Employed (32%)
- Unknown (55%)

Sexual Risk Factors:
- Prevalence:
  - 1 or More Sex RF: 83%
  - 1 or More SE RF: 68%
  - None: 22%

Most Common Sexual RFs Among Those With 1 or More:
- In the chronic phase of HIV, reflecting a delay in identification and treatment.
- Patients were predominantly male and African American, two groups that have faced challenges in health care utilization.7, 8
- No significant trends in IVDU were found, however, a larger sample size may provide statistical power to do so.
- This study supports the notion that ED-based public health interventions are an important means for reaching at-risk patients.

Conclusions
- Unsafe sexual practices were the most commonly reported RF.
- Patients in this study rarely presented specifically for HIV testing, the majority reported SE and multiple sexual RFs, and many reported drug use.
- SE risks were associated with diagnosis in the chronic phase of HIV, reflecting a delay in identification and treatment.
- No significant trends in IVDU were found, however, a larger sample size may provide statistical power to do so.

Limitations
- EDs switched EMR software in 2017, limiting access to some older data. However, necessary data was accessible in mandatory reporting forms.
- ED HIV testing prior to 2014 did not include antigen detection, preventing acute phase diagnosis. Chronic vs. acute analysis therefore excluded pre-2014 patients.
- One ED’s proximity to a district historically associated with a large homosexual population may account for the high prevalence of males who have sex with males.

Analysis

Socioeconomic RFs vs. Phase of Infection (n=91):

- Having 1 or more SE RFs (77.4% of patient sample) was associated with diagnosis in chronic phase (OR, 3.41; 95% CI, 1.15 to 10.15; p = 0.02).
- No similar significant association was found for IVDU or sexual RFs.

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References


