Delay from Testing HIV Positive until First HIV Care for Drug Users: Adverse Consequences and Possible Solutions

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Background

First CD4 count within 12 months after HIV diagnosis

Source: CDC, 2005
Delays

HIV infection | HIV test positive | HIV care

? | ? | ?
Prior Research on Delay

- 203 consecutive outpatients at initial HIV primary care presentation (cohort from early 90s)
- Mean 8.1 years from acquiring HIV to first HIV primary care
- Mean 2.5 years from awareness of infection until HIV primary care
- Longer delay for heterosexual sex as risk factor
- Take advantage of patient contacts with health care to decrease time until care received

Delay in First Receipt of HIV Care

- HIV Cost and Services Utilization Study (HCSUS) – nationally representative sample of HIV-infected persons in care from mid-90s

- Nearly 1/3 of the sample delayed >3 months after testing HIV+ until first HIV care and 20% delayed >6 months

- Among those who delayed >3 months, the average delay was 1.5 years; among those who delayed >6 months, the average delay was >2 years

Characteristics Associated with >3 Month Delay

- African American or Latino – adjusted odds ratio (AOR) 1.53 [CI 1.14-2.00]
- HIV symptoms – AOR 0.45 [CI 0.34-0.89]
- Medicaid insured -- AOR 0.52 [CI 0.30-0.92]
- Usual source of medical care at the time of diagnosis -- AOR 0.60 [CI 0.47-0.77]
- High trust in medical provider -- AOR 0.78 [CI 0.72-0.99]
- HIV risk factor -- injection drug use AOR 1.37 [CI 0.90-2.08]
Adjusted Association of Testing Site with Delay in Care

- Physicians Office: AOR 1.00 (reference)
- Hospital: AOR 1.03 [CI 0.69-1.52]
- Anonymous testing center: AOR 1.25 [CI 0.97-1.61]
- Non-Medical site*: AOR 1.15 [CI 0.57-2.02]
- Other sites: AOR 0.62 [CI 0.39-0.99]

(Non-medical site: Prison, military, blood donation center)
Objectives

- To evaluate the association of types of recent illicit drug use and delay from diagnosis until first receipt of HIV care
- To examine the association of recent illicit drug use with unprotected sex behavior
Stage 1: Random areas
- 28 MSAs/ 24 rural county clusters

Stage 2: Random providers
- 58 urban/ 28 rural known providers
- + 87 urban/23 rural self-affirmed providers

Stage 3: Random patients
- 4042 eligible subjects

HCSUS: the First Nationally Representative Sample of People with HIV/AIDS in Care
Interview Procedure

- National sample of HIV+ persons in care in 1996 (population definition period)
- Baseline and two follow-up (FU) interviews
- Overall response rate for baseline long-form interviews = 71% (N= 2,864)
- First three interviews completed by 2,267 persons
Study Population

- **Sample 1**: 1,540 HIV+ persons diagnosed by 1993, allowing up to three years until first receipt of care
  - All study cohort in HIV care by first interview in 1996
  - 1,330 persons (86%) responding to questions about recent illicit drug use

- **Sample 2**: 1,421 HIV+ persons responding to a separate interview about sexual risk taking
  - 1,351 (95%) with complete data on illicit drug use
Study Variables

- **Delay:** first HIV+ test until first HIV care (days)
- **Illicit drug use in past year** (2nd interview)
  - Type
  - Using larger amounts to get the same effect?
  - Emotional or psychological problems from using?
  - **Categories** (adapted from Phin J. in Adams KM et al. Polydrug Use: Results of a National Collaborative Study, 1978)
    - **No illicit drug use**
    - **Low:** Marijuana or analgesics only (Phin score of 1)
    - **Moderate:** Cocaine, heroin, sedatives, amphetamines, inhalants, or hallucinogens (Phin score of 2 or 3); no dependence
    - **High:** Multiple drugs (Phin score of ≥ 4); dependence
- **Sexual risk:** Any unprotected sex in past 6 months
Analysis

- Weighted analyses (Stata)
- Multivariate logistic regression
  - Controlling for gender, race/ethnicity, age, and having a usual source of medical care when first testing HIV+
- Sensitivity analyses
  - Substitute drug with highest Phin score
  - Control for heavy alcohol use (>3 drinks on occasion in last month)
  - Control for injection drug use as a risk factor
Results: >3 Month Delay (N=1330)

Illicit Drug Use Category

None: 50%
Low: 16%
Moderate: 14%
High: 20%
Adjusted Odds of >3 Month Delay

Illicit Drug Use Category

- Low
- Moderate
- High
- Reference - None

Adjusted Odds Ratio

- 0.5
- 1
- 1.5
- 2.0
- 2.5

2.70
Among Persons Delaying >3 Months: Mean Days Until First HIV Care

Illicit Drug Use Category

Days

None  Low  Moderate  High
Unprotected Sex Within Past 6 Months (N=1,351)

Illicit Drug Use Category

- None: 58%
- Low: 15%
- Moderate: 11%
- High: 17%
Adjusted Odds of Unprotected Sex Within Past 6 Months

Illicit Drug Use Category

- Low
- Moderate
- High
- Reference - None

Adjusted Odds Ratio

- 0.8
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0

Odds Ratio:
- Low: 4.37
- Moderate: 3.55
- High: 3.55

Reference - None
Additional Analyses

- Delay >3 months
  - Usual source of medical care
    (AOR 0.59, CI 0.47-0.74)
  - Heavy alcohol use (4+ drinks on one occasion)
    (AOR 1.56, CI 0.93-2.62)
  - HIV risk - injection drug use
    (AOR 1.32, CI 1.03-1.68)
  - Cocaine or heroin use in past year
    (AOR 1.66, CI 1.12-2.45)

- Unprotected sex
  - Significantly higher for all levels of drug use (AORs 1.67 to 2.70)
Limitations

- Not clear if applies to current situation
- Biased toward shorter delay because these patients were in HIV care at the time of survey
- Illicit drug use category definitions - loose
- Not adjusted for mental health disorders
- Not considering substance abuse treatment
- No specific information on unprotected sex in interval between testing positive and first HIV care
Opportunities to Reduce Delay from HIV+ Test to HIV Care

- Linkage to longitudinal drug treatment and a usual source of medical care
  - Among >40,000 HIV- and HIV+ drug users, both types of care independently reduced odds of hospitalization (Laine C et al, JAMA 2001)

- Case management (Gardner L et al. AIDS. 2005)

- Testing in a supportive setting

- Immediate referral and specifics about an accessible HIV provider

- Insurance barriers (now you need an ID)
Conclusions

- Delay from testing to care is common and lengthy
  - >3 months for 27% of moderate and 40% of severe drug use groups
  - Among those who delay >3 months, mean 1.5 years for moderate and 1.3 for severe group

- Unprotected sex significantly more common in illicit drug users

- HIV care offers opportunities improving clinical outcomes and for harm reduction