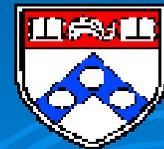# Delay from Testing HIV Positive until First HIV Care for Drug Users: Adverse Consequences and Possible Solutions

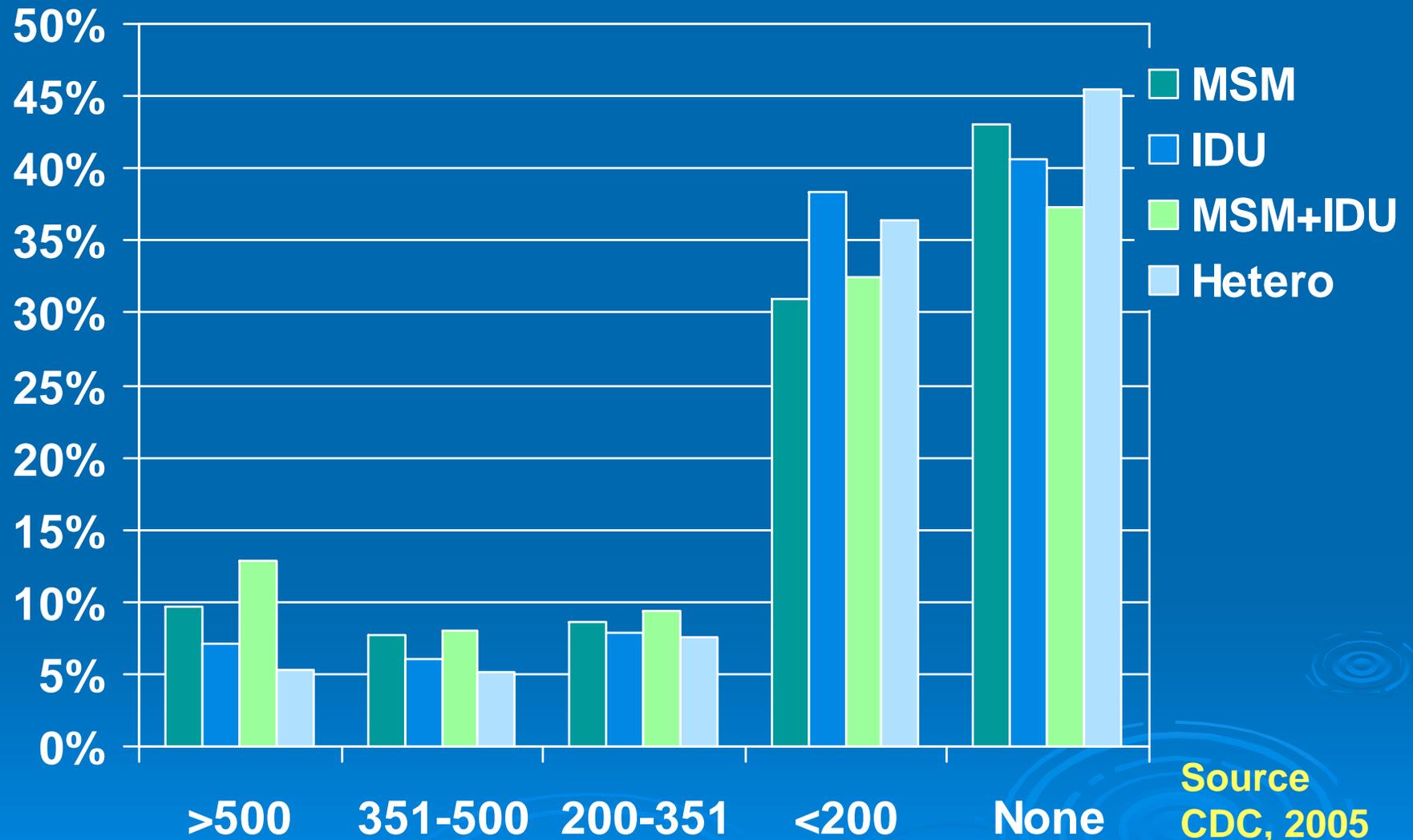**Barbara J Turner MD, MSEd***

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**Agency for Healthcare Research and Quality, Rockville, MD

Background

First CD4 count within 12 months after HIV diagnosis

Source CDC, 2005

Legend: MSM, IDU, MSM+IDU, Hetero

Categories: >500, 351-500, 200-351, <200, None

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

Samet J et al. AIDS. 2001;15(1):77-85
MMWR Morb Mortal Wkly Rep. 2003;52(25):581-6.

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

Turner BJ et al, Arch Intern Med. 2000; 160:2614-22

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

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

Stage 1: Random areas

28 MSAs/ 24 rural county clusters

58 urban/ 28 rural known providers + 87 urban/23 rural self-affirmed providers

Stage 2: Random providers

4042 eligible subjects

Stage 3: Random patients

Interview Procedure

➢ National sample of HIV+ persons in care in 1996 (population definition period)

➢ Baseline and two follow-up (FU) interviews

- **Baseline: Jan. 1996 - April 1997**

- **First FU: Dec. 1996 - July 1997**

- **Second FU: Aug 1997 - Jan 1998**

- **Third FU: July 1998 – Dec. 1998**

➢ 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
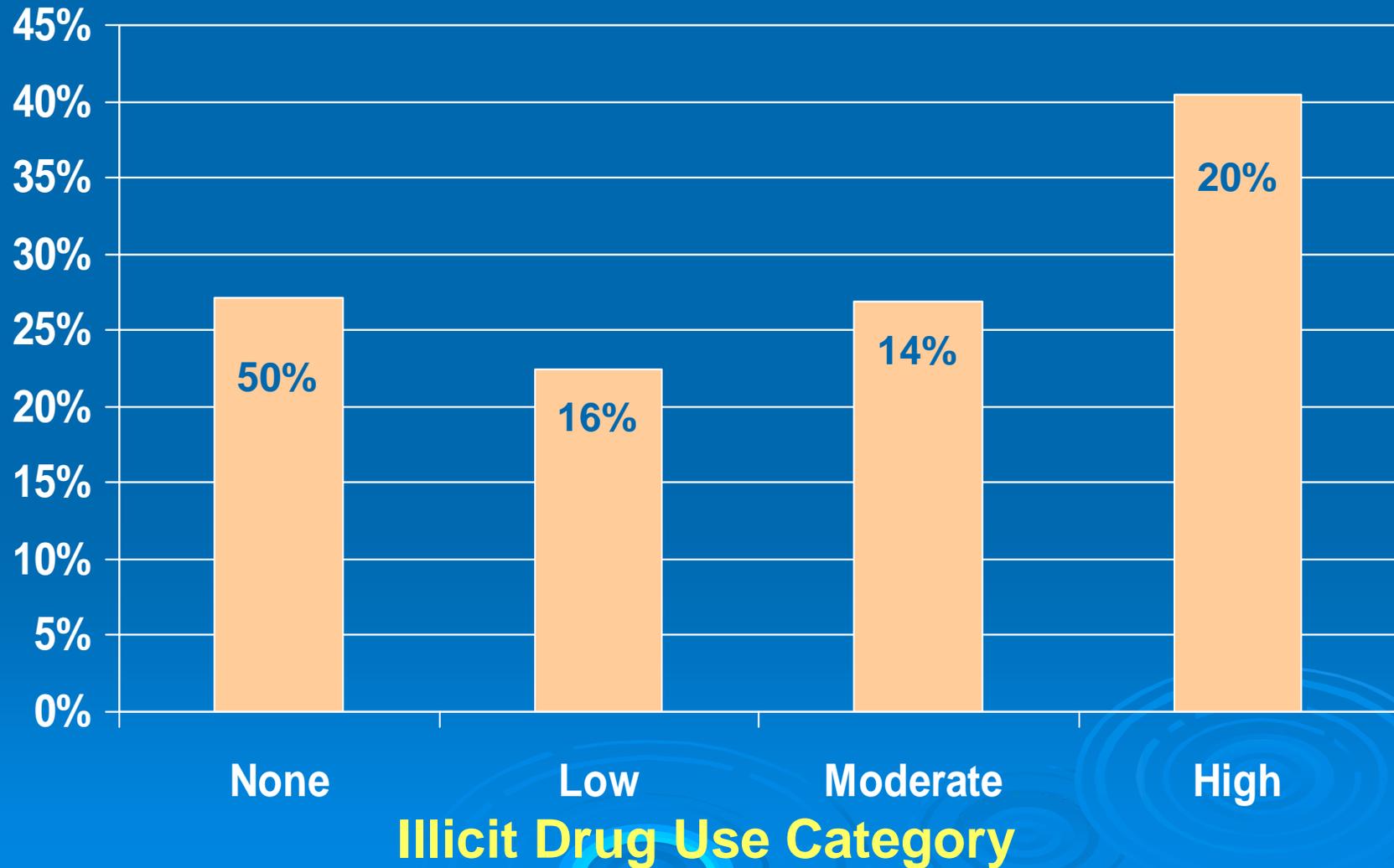
- **1,351 (95%) with complete data on illicit drug use**

Study Variables

➢ **Delay**: first HIV+ test until first HIV care (days)

➢ **Illicit drug use in past year** (2nd interview)

- o **Type**
- o **Using larger amounts to get the same effect?**
- o **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 $\geq$ 4); dependence**

➢ **Sexual risk**: Any unprotected sex in past 6 months

Analysis
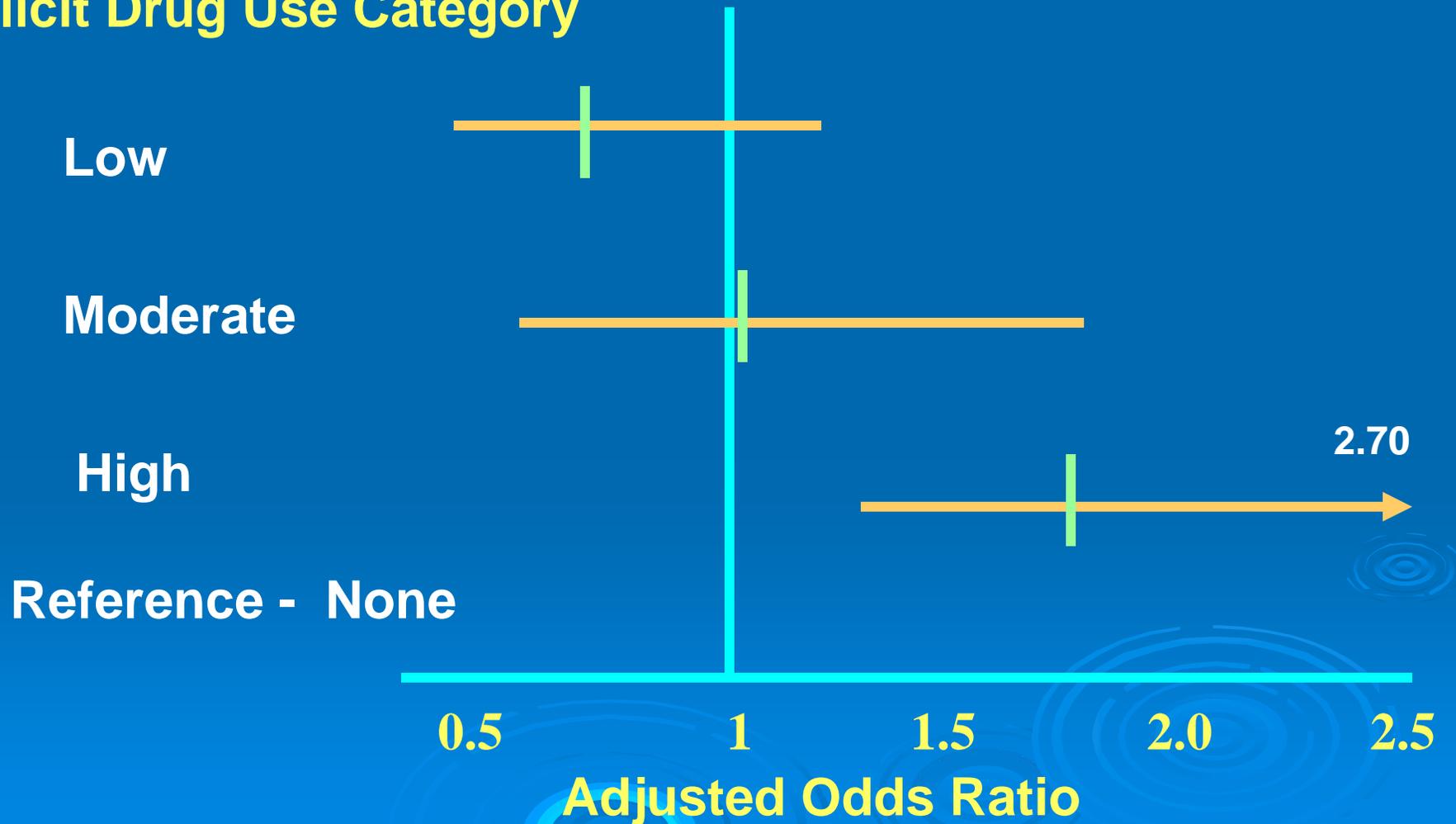
➢ Weighted analyses (Stata)

➢ 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**
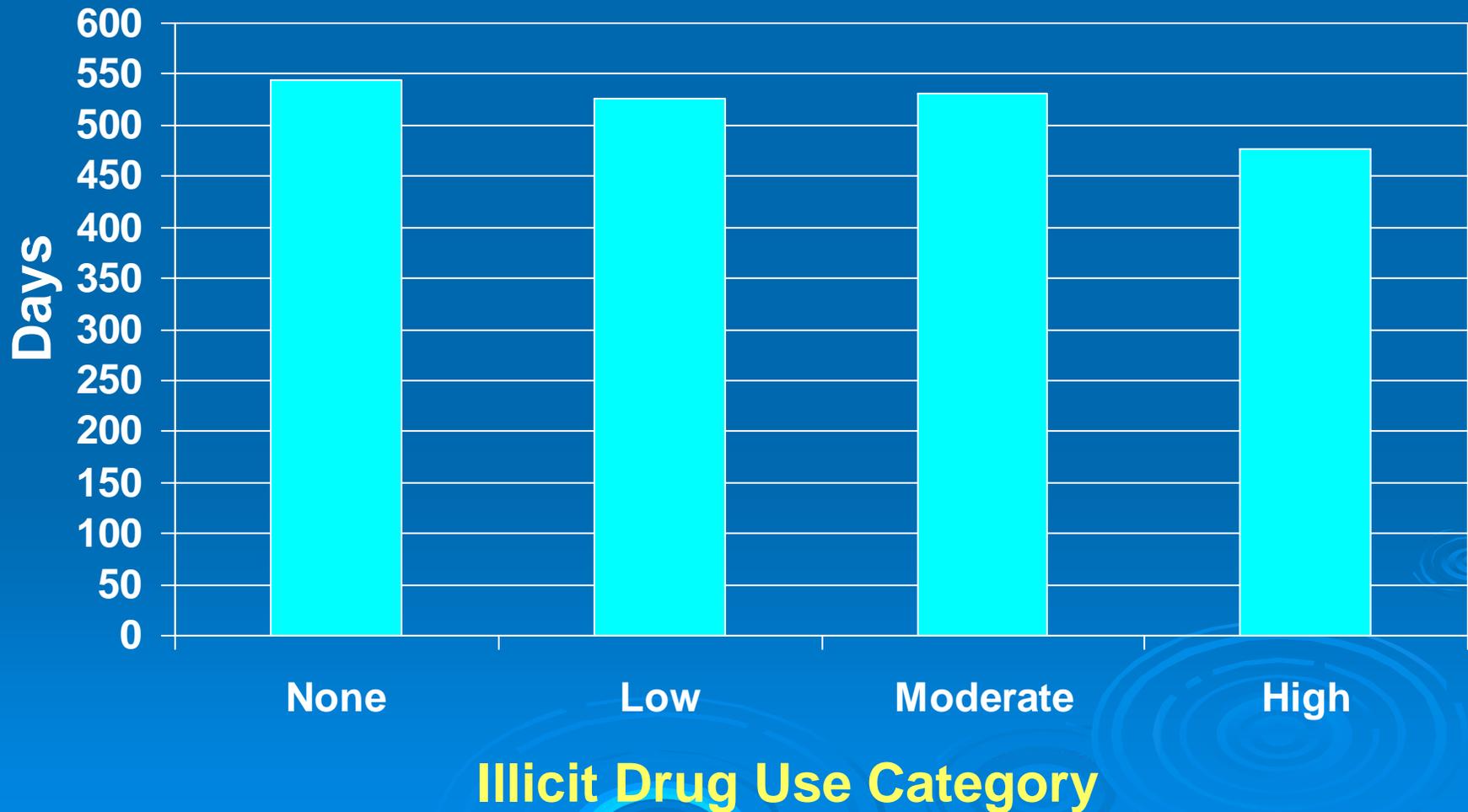
Results: >3 Month Delay (N=1330)

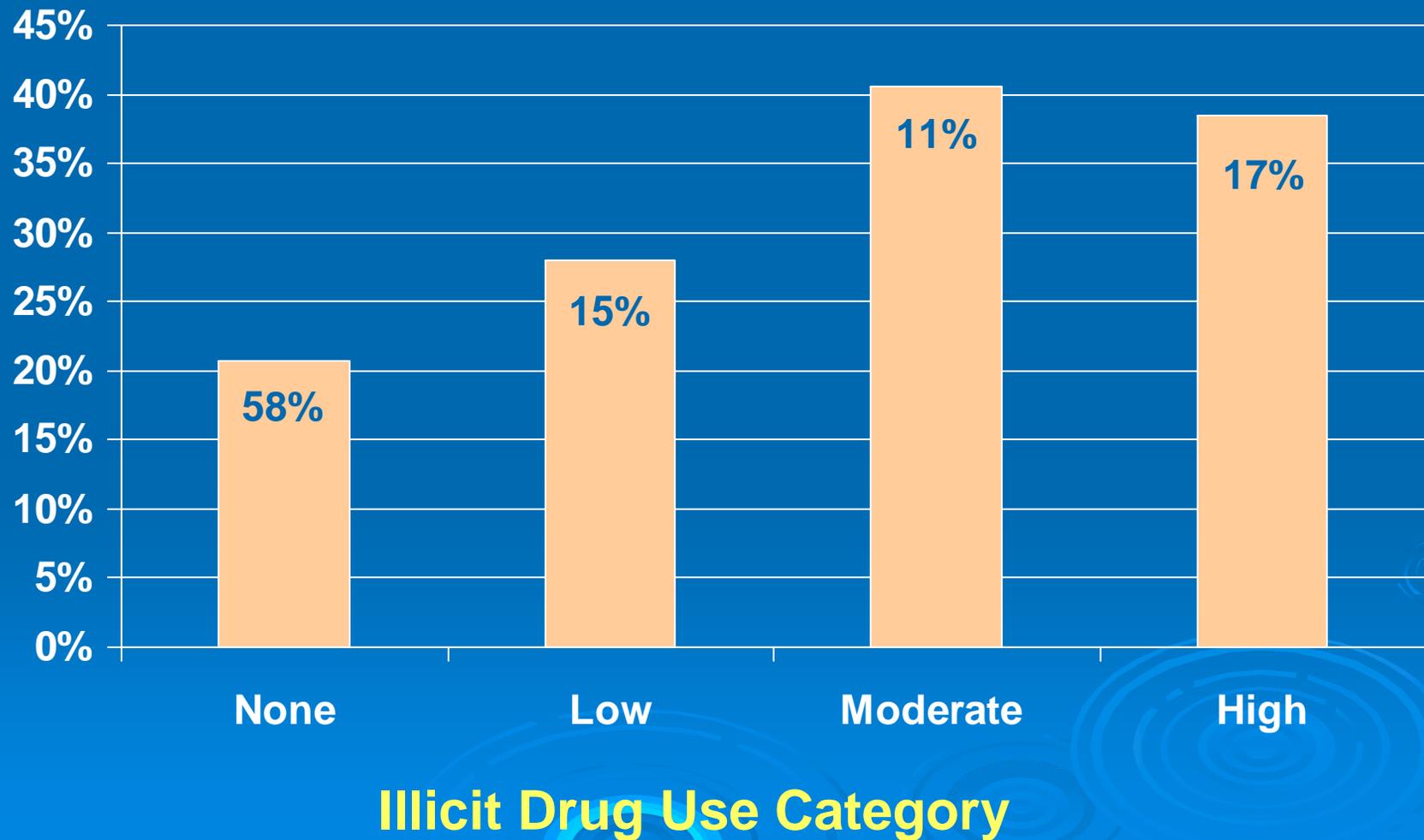Bar chart showing percentages by Illicit Drug Use Category. Y-axis ranges from 0% to 45%.

Illicit Drug Use Category	Value label
None	50%
Low	16%
Moderate	14%
High	20%

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

Illicit Drug Use Category

Unprotected Sex Within Past 6 Months (N=1,351)

Bar chart showing unprotected sex within past 6 months by illicit drug use category:
- None: ~20% (58%)
- Low: ~28% (15%)
- Moderate: ~40% (11%)
- High: ~38% (17%)

Illicit Drug Use Category

Adjusted Odds of Unprotected Sex Within Past 6 Months

Illicit Drug Use Category
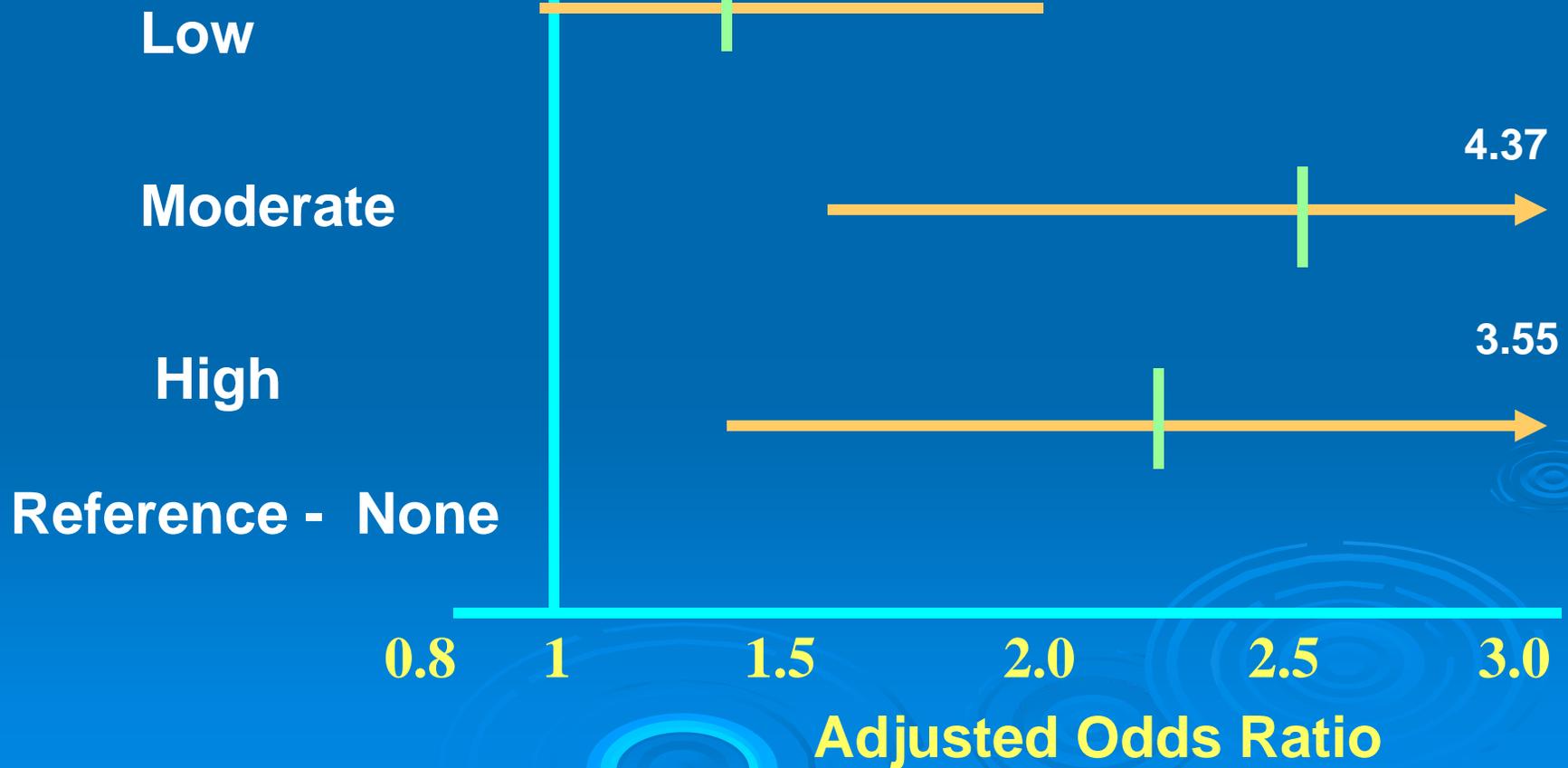
Additional Analyses

- 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

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