

# Reducing HIV/AIDS Risk Behavior through Office-Based Buprenorphine

L.E. Sullivan, M.C. Chawarski, P.G. O'Connor,

R. S. Schottenfeld, D.A. Fiellin

Yale University School of Medicine

Supported by NIDA grants: DA09803-04A2, DA00167, 2K12DA00167-11

# HIV transmitted through untreated opioid dependence

- Untreated opioid dependence plays a central and increasing role in HIV transmission, in the U.S. and internationally
- In the U.S. only 20% of the estimated 800,000 opioid dependent patients receive treatment
- 25% of the 40,000 new HIV infections per year in the U.S. are through injection drug use (CDC, 2001)

# Methadone treatment can decrease HIV seroconversion

- Prior research has demonstrated the effectiveness of methadone and substance abuse treatment, in general, in reducing HIV risk behavior and seroconversion
- One study followed 255 HIV seronegative opioid dependent injection drug users for 18 months (Metzger, 1993)
  - 103 out-of-treatment intravenous opiate users
  - 152 subjects receiving methadone treatment
    - HIV antibody conversion, 18 months
      - 22% of those out of treatment
      - 3.5% of those receiving methadone treatment

# Buprenorphine

- Partial mu-receptor agonist with low abuse and diversion potential
- Effective treatment for opioid dependent patients
  - Prior and ongoing studies from our group demonstrate feasible and effective in office-based and primary care settings
- Federal regulations allow for office-based treatment of opioid dependence with buprenorphine, less restrictive than methadone
- There is limited data on how buprenorphine treatment impacts on HIV risk behaviors

# Purpose

To determine if office-based treatment of opioid dependence with buprenorphine results in a reduction in HIV risk behaviors

# Study design

- Analysis of patients enrolled in a clinical trial of buprenorphine maintenance in a primary care center
- Assessment of baseline and in-treatment HIV risk
- Stratified analysis based on abstinence from illicit drug use

# Setting and subjects

## Setting:

Primary Care Center (PCC) of Yale-New Haven Hospital, an urban, academically affiliated medical center

## Subjects:

Patients enrolled in a 26-week randomized clinical trial of buprenorphine maintenance in a PCC

### Eligibility criteria:

- ❑ Age  $\geq 18$
- ❑ DSM-IV criteria for opioid dependence, opioid positive urine
- ❑ FDA criteria for methadone maintenance treatment
- ❑ No dependence on alcohol, benzodiazepines or sedatives
- ❑ No acute medical or psychiatric conditions
- ❑ Ability to read or understand English
- ❑ Agree to adequate contraception and monthly pregnancy monitoring

# Data collection

## ■ Measures

- AIDS/HIV Risk Inventory (ARI) (Chawarski et al, 1998):
  - Validated structured interview
  - Assesses for high-risk drug and sexual behaviors in opioid dependent patients
- Illicit drug use:
  - Weekly urine toxicology analysis
  - Abstinence defined as  $\geq 6$  consecutive weeks of opioid-free urine toxicology analyses

# Data analysis

- Descriptive statistics
- T-test for continuous measures
- Chi-square for categorical data
- Examined baseline and 12-week overall, drug behavior, and sexual ARI sub-scores
  - Total patient sample
  - Stratified by abstinence category

# Demographic characteristics

Characteristic	N=75
Age, years, mean, (range)	37 (20-55)
% Male, (n)	80% (60)
% White, (n)	77% (58)
% Full-time employed, (n)	44% (33)
% High school education or greater, (n)	84% (63)

# Substance use characteristics

Characteristic	N=75
% Current heroin use, (n)	67% (50)
% Current prescription drug use, (n)	33% (25)
% Current injection drug use, (n)	29% (22)
% Current cocaine use, (n)	32% (24)
% Current alcohol use, (n)	49% (65)
Opioid dependence in years, mean (range)	10 (0-35)
% Prior methadone maintenance, (n)	27% (20)
Lifetime methadone maintenance in years, mean (range)	2.6 (1-12)

# ARI scores baseline and 12 weeks

	Baseline ARI	12-week ARI	P
Overall ARI score	14.3	11.4	0.19
<b>Drug ARI sub-score</b>	<b>5.5</b>	<b>2.5</b>	<b>&lt;0.001</b>
Sexual ARI sub-score	8.3	7.4	0.46

# Baseline ARI scores based on opioid abstinence

	Opioid abstinent (n/N=55/75)	Non-opioid abstinent (n/N=20/75)	P
Baseline mean overall ARI score	13.1	17.9	0.16
<b>Baseline mean drug ARI sub-score</b>	<b>4.3</b>	<b>9.2</b>	<b>0.024</b>
Baseline mean sexual sub-score	8.2	8.5	0.9

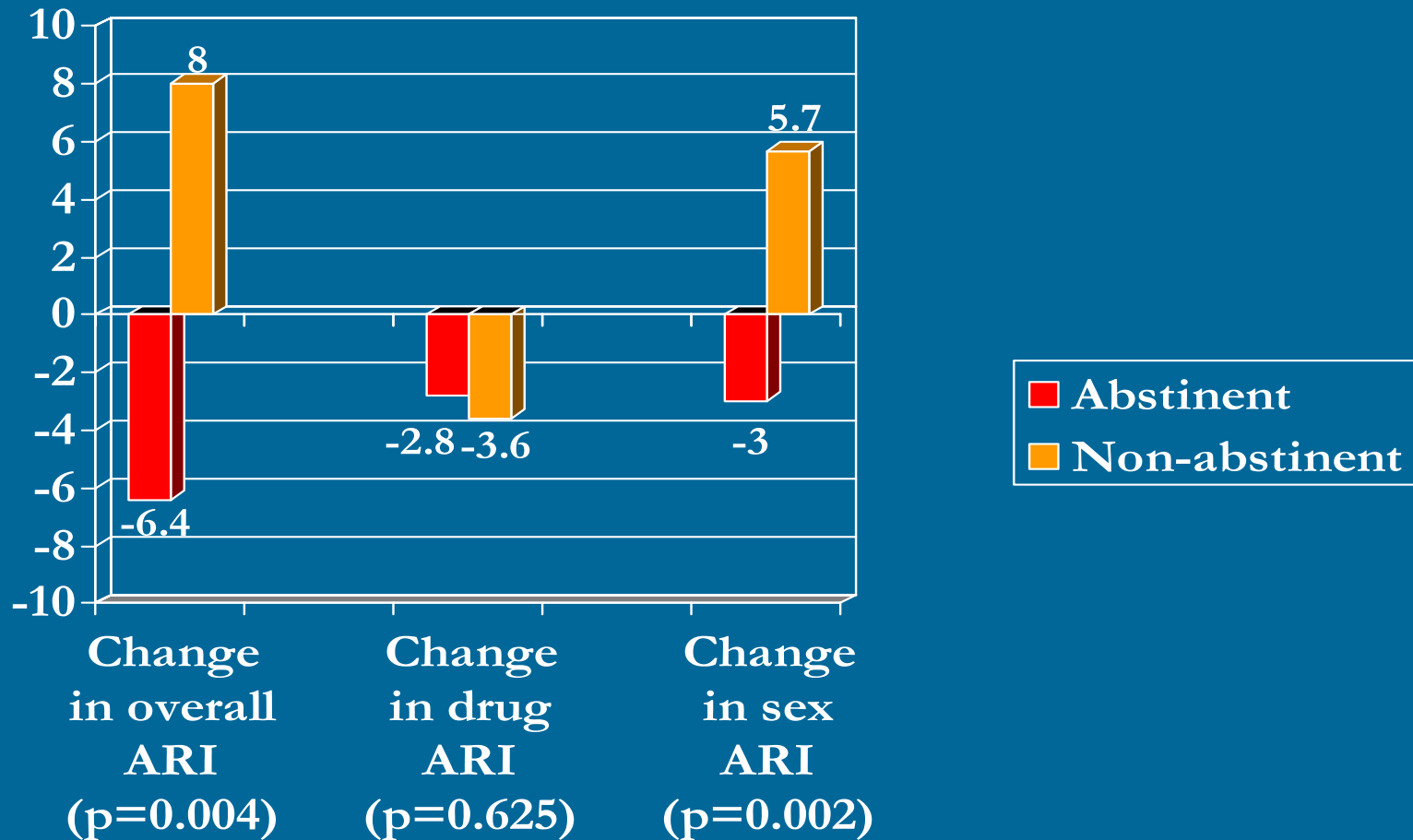
# 12-week ARI scores based on opioid abstinence

---

	Opioid abstinent (n/N=55/75)	Non-opioid abstinent (n/N=20/75)	P
<b>12-week mean overall ARI score</b>	<b>6.7</b>	<b>25.9</b>	<b>&lt;0.001</b>
<b>12-week mean drug ARI sub-score</b>	<b>1.5</b>	<b>5.6</b>	<b>&lt;0.001</b>
<b>12-week mean sexual ARI sub-score</b>	<b>5.2</b>	<b>14.2</b>	<b>&lt;0.001</b>

---

# Change in ARI scores by abstinence category



# Summary

- Office-based buprenorphine treatment produced a reduction in overall drug-related and sex-related HIV risk behaviors
- Abstinent vs. non-abstinent patients had:
  - At baseline:
    - Lower overall and drug-related HIV risk, and similar sex HIV risk
  - After 12 weeks of treatment:
    - Lower overall, drug- and sex-related HIV risk
  - Significant reductions in overall and drug-related HIV risk, while both groups experienced reductions in sex-related risk

# Conclusions

- Office-based buprenorphine reduces drug-related HIV risk behaviors in both abstinent and non-abstinent patients
- Abstinent patients engage in fewer HIV risk behaviors, both at baseline and after treatment
- Non-abstinent patients exhibit an increase in overall and sex-related HIV risk behaviors from baseline to after treatment
- Counseling and educational efforts are needed to address sex-related HIV risk behaviors in patients receiving buprenorphine treatment, especially those who do not achieve sustained drug abstinence