

Heroin Addiction Treatment: A Comparison of Methadone and LAAM

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Window of Vulnerability Concept

- Within the effective period after each opiate agonist dose, there is less likelihood of injecting heroin.
 - ↓ In the case of methadone, this constitutes the first 12 hours, with increasing likelihood of injection in the subsequent 12 hours.
 - ↓ In the case of LAAM, which has a 48 to 72-hour half-life, this period increases to 36 to 60 hours with the likelihood of injection increasing in the final 12 hours before the next dose.
- The “window of vulnerability” is the period of time during which blood levels of the maintenance drug are lowest and the craving for heroin likely to be highest.

Hypotheses

- Because of the longer half-life of LAAM, the “window of vulnerability” is smaller for LAAM subjects than for those on methadone.
- Thus for clients on LAAM, there will be less drug use, greater retention in treatment, and less high-risk behavior associated with both drug use and withdrawal.

Method

- The project is a two-group, repeated-measures experimental design.
- Heroin addicts seeking treatment in LA County are randomly assigned in a two to one ratio to either LAAM or methadone under maintenance protocols for 12 months of subsidized care.
- Both groups receive all treatment services provided by the dosing clinic.
- Subjects are assessed with face-to-face interviews three times during treatment (Intake, 6, and 12 months) and after treatment (18 month post admission follow-up).
- Short weekly and monthly interviews are also done, as well as data abstraction of urine analysis, dosing records, and other information in clinic files.

Introduction

- The purposes of this study are:
 - ↓ to test the effectiveness of LAAM treatment, compared with the standard methadone maintenance (MM) treatment, in reducing HIV risk behaviors;
 - ↓ to determine the differences in treatment retention and clinic attendance between LAAM and MM treatment and to assess which patient characteristics contribute to optimal performance;
 - ↓ to compare the effectiveness of LAAM and MM treatment in relation to patient characteristics in reducing HIV risk behaviors associated with heroin addiction.

Preliminary Analysis

- Descriptive statistics completed on the first 186 clients with Intake interviews.
- Retention analysis completed on the first 102 clients who entered and would have completed the planned one year of treatment as of July 31, 1998.
- Monthly urine tests analyzed for these clients.

Demographics of Clinic Patients

(N=186)

Variable	N	%
Sex		
Male	135	73
Female	51	27
Ethnicity		
White	27	15
African American	80	43
Hispanic	71	38
Random Assignment		
Methadone	62	33
LAAM	124	67
Finished 12th grade	108	58
Currently Employed	39	21
Legal income past 6 months	178	96
Illegal income past 6 months	66	36
Ever Arrested	181	97
Ever Convicted	159	86
Ever Incarcerated	150	81

Drug Use at Intake

(N=186)

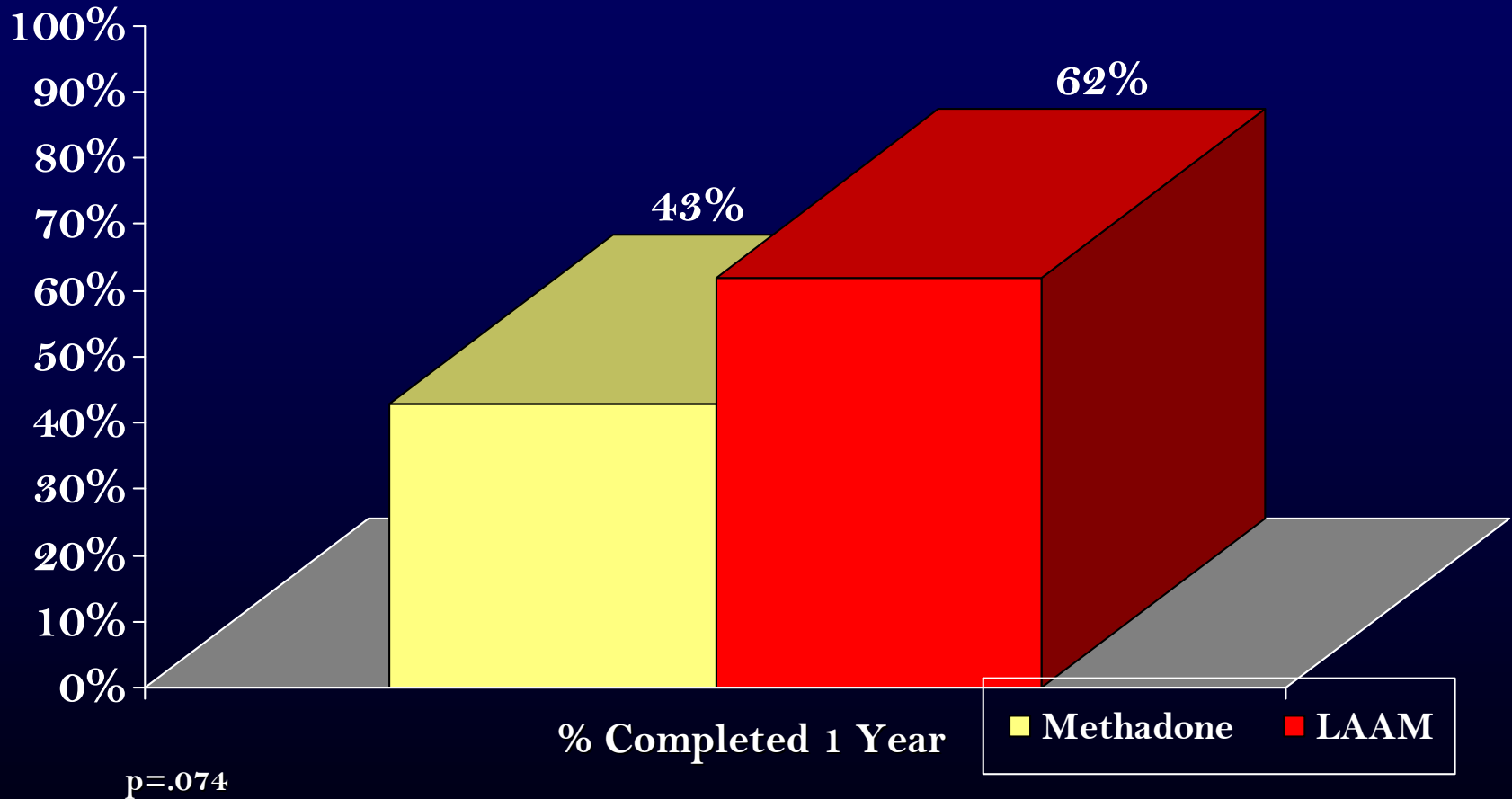
Drug	% Ever	% Past Month
Heroin	100	94
Crack	77	27
Cocaine	91	17
Marijuana	97	23
Downers	82	3
Amph/Methamphetamines	57	4
Alcohol	97	51
Tobacco	97	91
 <u>Injection Drug Use</u>		
Heroin	96	87
Cocaine	71	9
Speedball	80	13
Amph/Methamphetamines	30	3
 <u>Past Treatment</u>	 95	 0

HIV Risk Behaviors at Intake

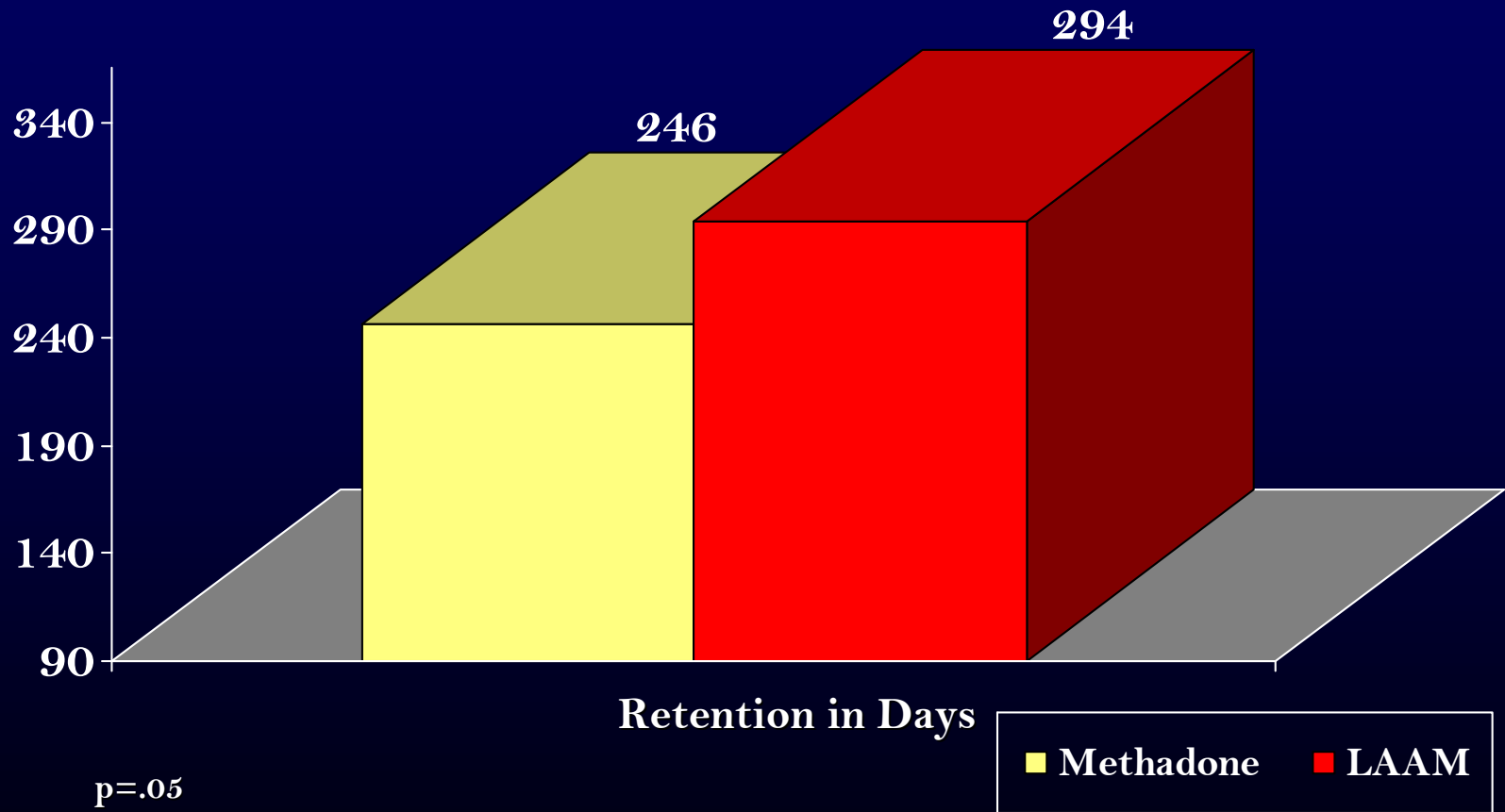
(N=186)

<u>Behavior past 6 months 1x/month or more</u>	<u>%</u>
Needle Use	
Use needle to shoot drugs	96
Use needle to split drugs	25
Use cooker after someone	43
Use cotton after someone	28
Use same rinse water	32
Use shooting gallery needle	8
Shoot with used needle	29
Shoot after someone with AIDS	2
Shoot drugs after a stranger	5
Clean previously used needle with bleach	27
Sex Behavior with main sex partner (n=115)	
Vaginal sex	96
Used condoms during vaginal sex	26
Anal sex	7
Used condoms during anal sex	2
Use drugs or alcohol during/after sex	81
Sex with persons other than main partner	17

Completed Treatment (N=102)



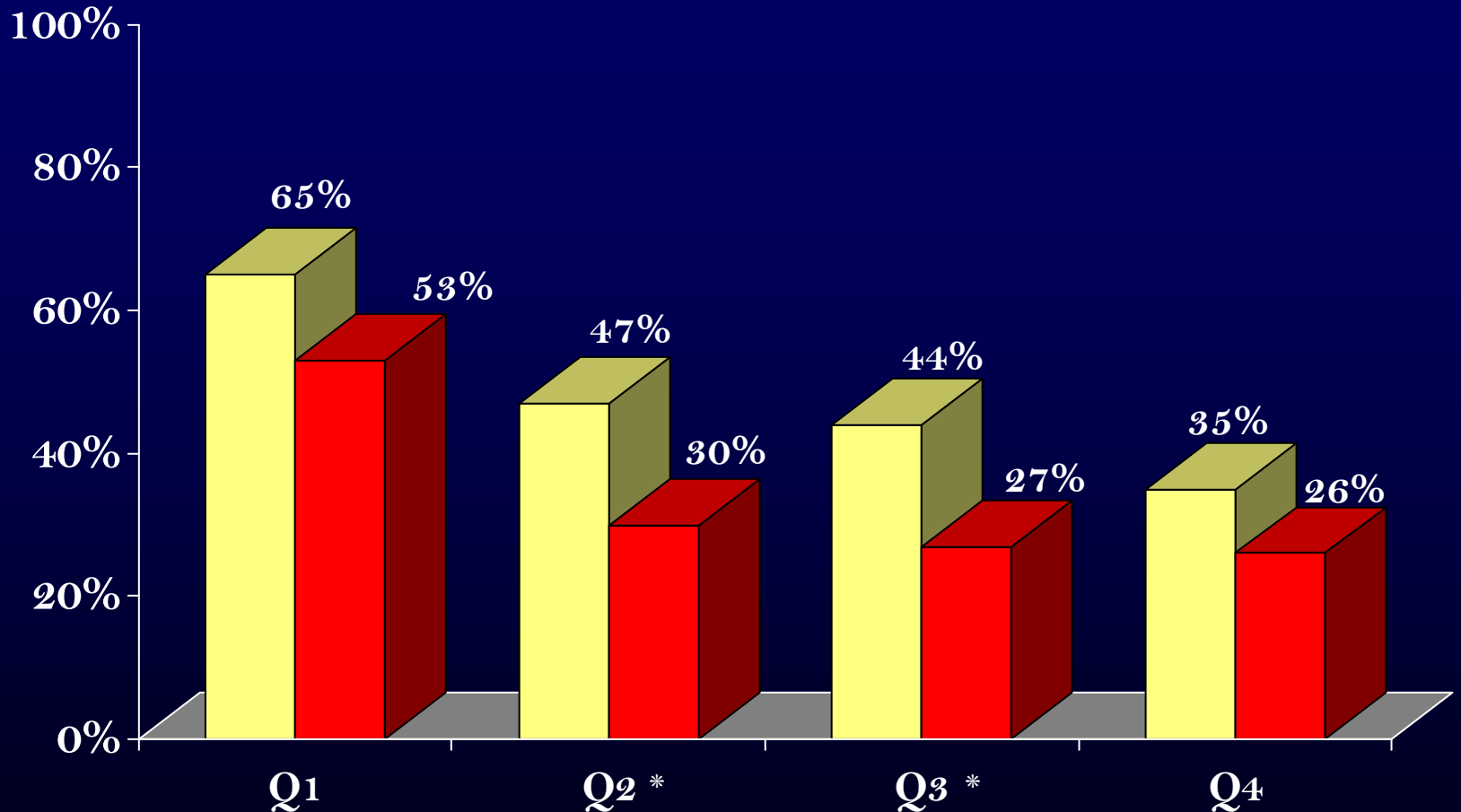
Retention of Those Reaching 1 Year Anniversary (N=102)



Reasons for Leaving Treatment (N=102)

Reason	% MM (n=37)	% LAAM (n=65)
Incarceration	24	19
No-Show	14	9
Medical Problem	5	5
Left for other treatment	5	0
Geographic change	5	6
Deceased	3	0
Completed Program	43	62

Opiate Positives by Quarter

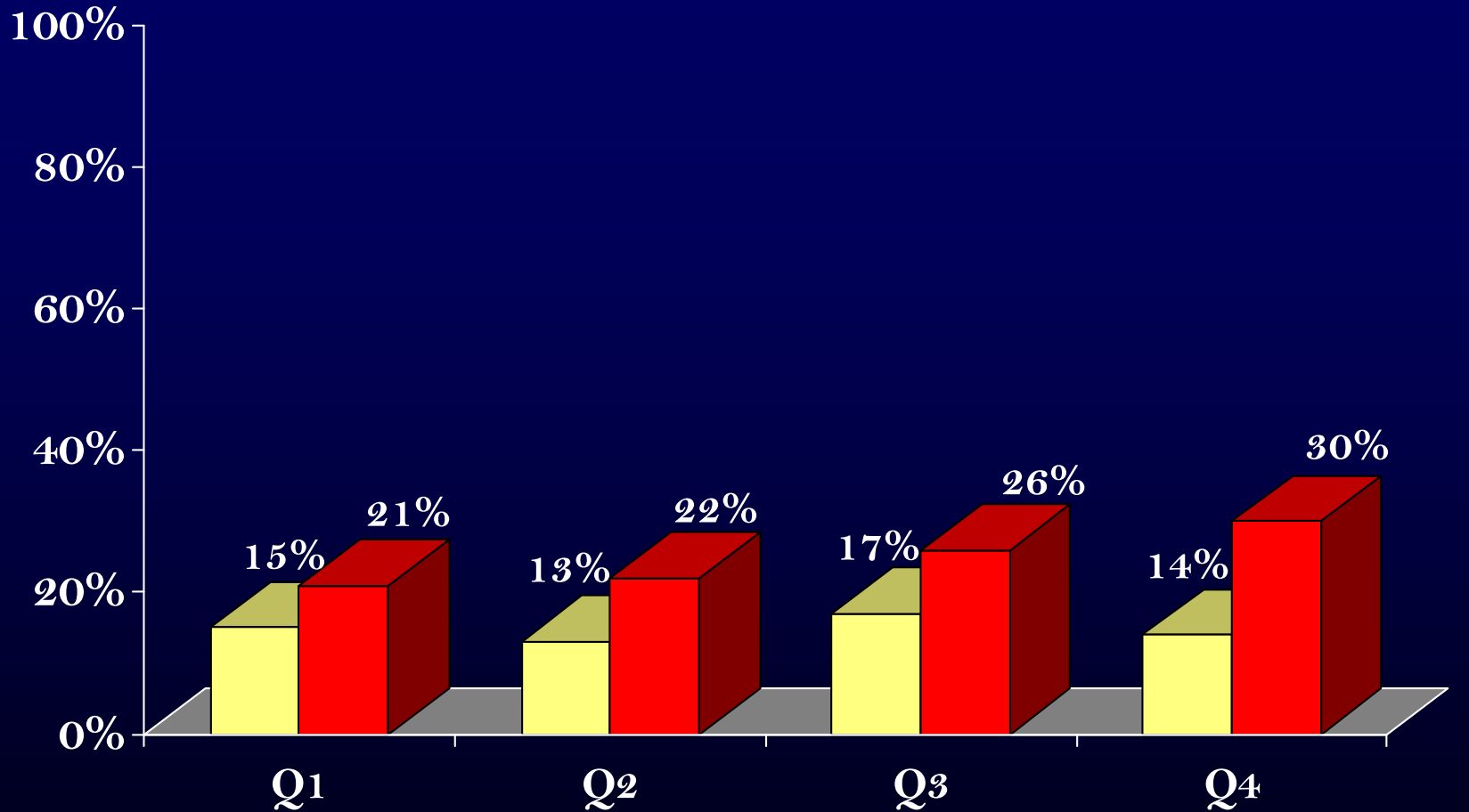


*p<.05

Positive UA / number of tests

■ Methadone ■ LAAM

Cocaine Positives by Quarter



p=NS

Positive UA / number of tests

■ Methadone ■ LAAM

Summary of Findings

- LAAM is retaining clients in treatment longer than methadone maintenance clients, and there is a trend toward a higher rate of program completion
- There are some differences between MM and LAAM clients in their reasons for leaving treatment.
- LAAM clients retained in treatment are using less opiates than MM clients.
- LAAM clients may be using more cocaine than MM clients during treatment.

Discussion

- The “window of vulnerability” concept, while simple, is a starting point for thinking about how addicts in opiate replacement therapy behave and how and when they are more vulnerable to using drugs and engaging in high risk HIV behaviors.
- LAAM Clients stay in treatment longer but the reason may be as a result of easier clinic attendance and not the “window of vulnerability” concept.
- However, the lower rate of heroin positive urines suggests some support for the “Window of Vulnerability” idea.
- The higher use of cocaine by LAAM patients may be explained by the “chasing the high” phenomenon in which addicts no longer get high from heroin and thus turn to other drugs.

Future Analysis

- **Survival analysis comparing LAAM and MM patients with other addicts in treatment in the LA area (CADDIS).**
- **Comparison of LAAM and MM clients who cease all drug use, clients who cease all opiate use but continue to use cocaine, and clients who never stop using opiates or cocaine.**
- **Sex and ethnic differences in treatment response and retention.**
- **Comparison of the HIV risk behavior of LAAM and MM clients at 6 month follow-up (AMTA).**

Abstract

This is a preliminary report on the first year of a four year study of heroin addicts comparing the differential effects of methadone and levo-alpha-acetyl methadol (LAAM) on retention in treatment and drug use. It is hypothesized that the “window of vulnerability”, the period during which blood levels of the maintenance drug are lowest and craving for heroin highest, is smaller for LAAM subjects than for those on methadone and thus there will be greater retention and less drug use for LAAM maintenance clients. This study is recruiting 320 heroin addicts in the Los Angeles area and randomly assigning them to either a methadone or LAAM maintenance treatment condition. The first 186 clients in the study are 73% male, 15% white, 43% African American and 38% Latino. Of the 102 clients who have reached their one year anniversary date, 43% of the methadone maintenance subjects completed treatment, compared to 62% of the LAAM maintenance subjects. Incarceration continues to be the primary reason for discharge with methadone clients having more incarcerations and “no-shows” than LAAM clients. There was less opiate use during treatment for LAAM clients. Cocaine use may be more prevalent among LAAM clients than those on methadone. Plans for future analysis included survival analysis comparing LAAM and MM patients, contrasting drug use patterns within experimental groups, as well as comparing MM and LAAM HIV risk behavior at six month follow-up.