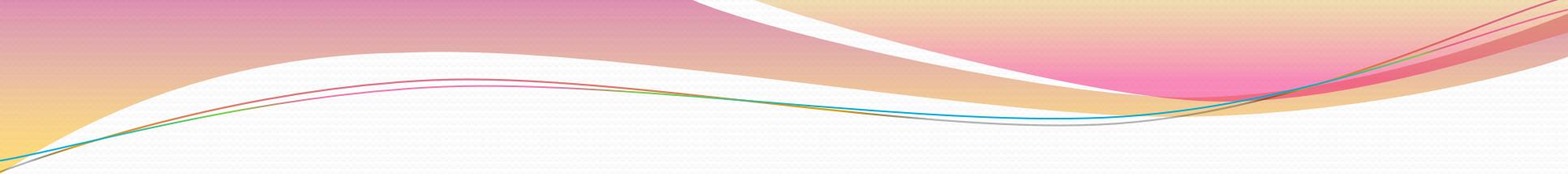


# Medication Adherence and Diversion among HIV+ Substance Abusers in South Florida

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# Background

- Miami is a high-incidence community for HIV; In 2009, it had the highest rate of new HIV infections in the nation.
- Miami consistently ranks as one of the major illicit drug centers in the U.S., and South Florida is also noted for its high prevalence of prescription drug abuse and diversion.
- Media and key informants have indicated that ARV medication diversion is an active enterprise in South Florida. ARV diversion is a largely hidden phenomenon, and no systematic studies have examined this topic.
- The health implications of ARV non-adherence and diversion are substantial. Many individuals are not consistently adhering to their medication regimens, and fail to achieve the full benefits of ARV treatment.

# Primary Aims

- The overall goal of our mixed methods study is to examine the patterns and predictors of ARV medication adherence and diversion among HIV+ substance abusers in Miami.
- We are exploring multi-level (individual, provider and environmental) risk and protective factors in order to identify salient targets for intervention to reduce vulnerability to diversion among indigent HIV positive substance abusers.

# Methods

- Using targeted sampling strategies, this study is recruiting indigent, HIV+ cocaine and heroin users ages 18 and above in South Florida.
- To date, we have conducted structured face to face interviews with 369 individuals using standardized data collection instruments.
- For this presentation, logistic regression models were developed to examine the factors associated with ARV medication adherence and diversion.

# Eligibility and Recruitment

## □ Eligible participants:

- Are at least 18 years of age;
- Have confirmed HIV+ serostatus;
- Currently prescribed ARV medications;
- Engage in illegal drug use 12+ days in past 90.

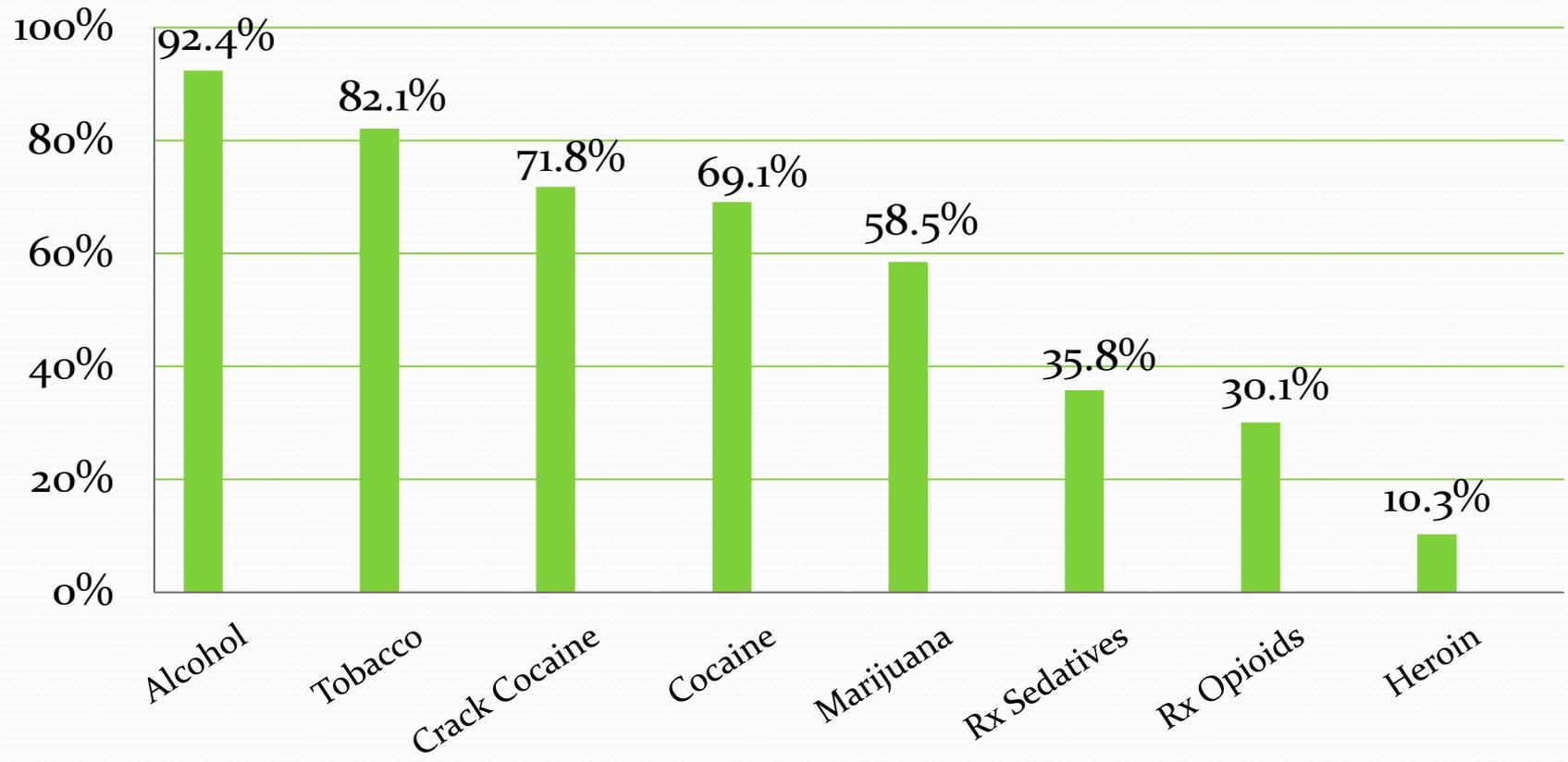
□ 369 eligible participants were enrolled into the study between March, 2010 and August, 2011.

# Demographic Characteristics

( N=369 )

<b>Age (median)</b>	46.0 years
<b>Female gender</b>	41.2%
<b>Race/Ethnicity</b>	
Hispanic	22.2%
African American	61.4%
White/Anglo	16.4%
<b>Education</b>	
High School or more	56.1%
<b>Monthly income ≤ \$1,000</b>	78.7%
<b>Homeless (Past 3 Months)</b>	35.5%
<b>HIV Diagnosis (median)</b>	14.0 years

# Drug Use Characteristics: Percent Using in Past 3 Months



# Sample Characteristics

( N = 369 )

- ❑ 80.8% meet DSM-IV criteria for past year substance dependence;
- ❑ 65.6% of the sample report past year severe depression, anxiety, and/or traumatic stress;
- ❑ ARV adherence levels are moderate:
  - 25.7% report past week adherence below 80%;
  - 15.0% achieved 80-94% adherence;
  - 59.3% report 95%+ ARV adherence.

# Sample Characteristics

( N = 369 )

- To date, 37.9% of the sample reports at least one occasion of ARV medication diversion in the 3 months prior to interview.

# Logistic Regression Models: Past Week ARV Medication Adherence $\geq 80\%$ (N=369)

	Bivariate models		Multivariate model	
	<u>OR</u>	<u>p</u>	<u>OR</u>	<u>p</u>
<b>ENVIRONMENTAL FACTORS</b>				
Homeless (past week)	.426	.002	.611	ns
Neighborhood disorder	.962	.002	<b>.973</b>	<b>.045</b>
<b>MENTAL HEALTH</b>				
Severe depression	.469	.038	1.602	ns
Severe anxiety	.391	.003	.451	ns
<b>HEALTH-RELATED FACTORS</b>				
HIV TREATMENT KNOWLEDGE	1.445	.000	<b>1.322</b>	<b>.009</b>
ARV MEDICATION ATTITUDES	1.233	.002	1.107	ns
HIV-RELATED STIGMA	.960	.008	.997	ns

# Logistic Regression Models: Past 90 Day ARV Medication Diversion (N=369)

	Bivariate models		Multivariate model	
	<u>OR</u>	<u>p</u>	<u>OR</u>	<u>p</u>
<b>ENVIRONMENTAL FACTORS</b>				
Homeless (past 90 days)	1.588	.038	1.229	ns
<b>SUBSTANCE USE</b>				
Current crack use	1.645	.045	---	
Current Rx opioid misuse	1.614	.038	---	
Current Rx sedative misuse	1.718	.015	---	
Substance dependence	1.871	.032	1.522	ns
<b>MENTAL HEALTH</b>				
Severe depression	2.344	.007	1.602	ns
<b>HEALTH-RELATED FACTORS</b>				
HEALTH LITERACY	.910	.010	.961	ns
HIV TREATMENT KNOWLEDGE	.664	.000	<b>.721</b>	<b>.001</b>
ARV MEDICATION ATTITUDES	.827	.003	.948	ns

# Discussion

- ❑ Severe depression or anxiety, current homelessness, high levels of neighborhood disorder and HIV-related stigma were associated with lower odds of 80%+ ARV adherence.
- ❑ Higher HIV knowledge and more positive attitudes about ARVs were associated with higher odds of 80%+ ARV adherence.
- ❑ Severe depression, substance dependence, and homelessness were associated with higher odds of ARV medication diversion.
- ❑ Higher HIV knowledge, higher health literacy, and more positive attitudes about ARVs were associated with lower odds of diversion.

# Discussion

- ARV medication diversion is visible in South Florida drug markets, and may be occurring in other major urban centers as well.
- Study participants routinely reported being targeted by “pill brokers” or “collectors” offering small financial incentives to purchase their medications.
- Economic vulnerability, unstable environments, and low levels of knowledge about ARV treatment regimens must be acknowledged as significant stressors that increase the likelihood of diversion behaviors among this vulnerable population.
- HIV treatment providers can play a critical role in enhanced educational interventions with this population; however, the economic drivers of ARV diversion must be addressed through structural changes.