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HIV Prevention among Injection Drug Users in the U.S.

Crystal M. Fuller, PhD

Associate Professor of Clinical Epidemiology

Overview

- **Risk factor-driven vs. social contextual-driven prevention strategies**
- **Previous intervention strategies (behavioral)**
- **Current / future intervention strategies (structural/multilevel)**
- **Recommendations**

Political and social context of injection drug use

Political and social factors fundamentally shape the nature of substance abuse behaviors and HIV prevention approaches:

- HIV epidemic among IDUs in NYC grew rapidly in the 1980s, due to the reuse and sharing of syringes.
- Legalization of syringe exchange programs in major urban cities has largely decreased HIV incidence among the general population of IDUs



Drug-use behaviors

- **Syringe & injection equipment sharing:**
 - most common mode of HIV transmission among IDUs worldwide
- **Cocaine and/or methamphetamine injection:**
 - associated with increased frequency in injection episodes which increases the likelihood of using contaminated syringes
- **Crack-cocaine smoking:**
 - associated with an elevated risk of sexual transmission
- **Short duration of injection (and younger age):**
 - HIV risk is highest within first few years of initiating injection drug use

Political and social context of injection drug use (con't)

Characteristics of the social environment help create high-risk environments that promote injection drug use and HIV risk behaviors:

- limited opportunities for gainful employment**
- income inequality**
- crime**
- availability of drugs**
- racial segregation**
- disproportionate incarceration rates**
- social norms**

Social and environmental factors

- **Race/ethnicity:**

- Black and Hispanic IDUs are disproportionately burdened with HIV and at higher risk

- **Socioeconomic status:**

- Limited resources can increase exposure to high risk social conditions (e.g., incarceration) and influence high risk drug-use and sexual behaviors (i.e., shooting gallery use, and trading sex)

- **Social networks:**

- Characteristics of a person's social network (e.g., drug-using networks) have shown to have an independent effect on continued heroin and cocaine use and sexual risk behaviors (adult and young adult IDUs).

- **Environment/neighborhood:**

- When adjusting for individual behaviors, neighborhood social and physical disorder have shown an independent association with the onset and prevalence of injection drug use

Social and environmental factors

- **Migration:**

- Recent migration among Puerto Rican drug users has been shown to be a factor for riskier injection and sexual behaviors. Recent Hispanic migrants are typically faced with limited access to information and services, are more affected by poverty and unemployment, and lack access to sterile needles

- **Access to services:**

- Black and Hispanic drug users have been shown to have lower levels of access to HIV testing and antiretroviral therapy, compared to whites.

- **Discrimination:**

- Among black and Hispanic IDUs, past experience of perceived race discrimination was independently associated with lower rates of syringe access.

Individual-level Randomized Controlled Trials

- **INSPIRE (CDC-funded Multi-site)**
 - Case management for HIV+ IDUs
- **DUIT (CDC-funded Multi-site)**
 - Peer education intervention for HCV-/ HIV- IDUs
- **STRIVE (CDC-funded Multi-site)**
 - Peer education intervention for HCV+/ HIV- IDUs

.... no intervention effect

Social Network-based Interventions

- **SAIL study (single-site, Baltimore, MD)**
 - social network based intervention; use peer-advocates; targeted the peer network
- **ACTION (NIDA-funded New York City)**
 - Social network based intervention

Social Network-based Structural Interventions

- **Harlem ESAP Intervention Project**
 - Increasing syringe access among black/Hispanic IDUs via pharmacies using multilevel design targeting IDUs, pharmacies and community
- **PhARM-Link Intervention Studies**
 - Targeting pharmacies to increase safe behaviors and increase access to HIV prevention services, and other social and medical services

Where do we go from here?

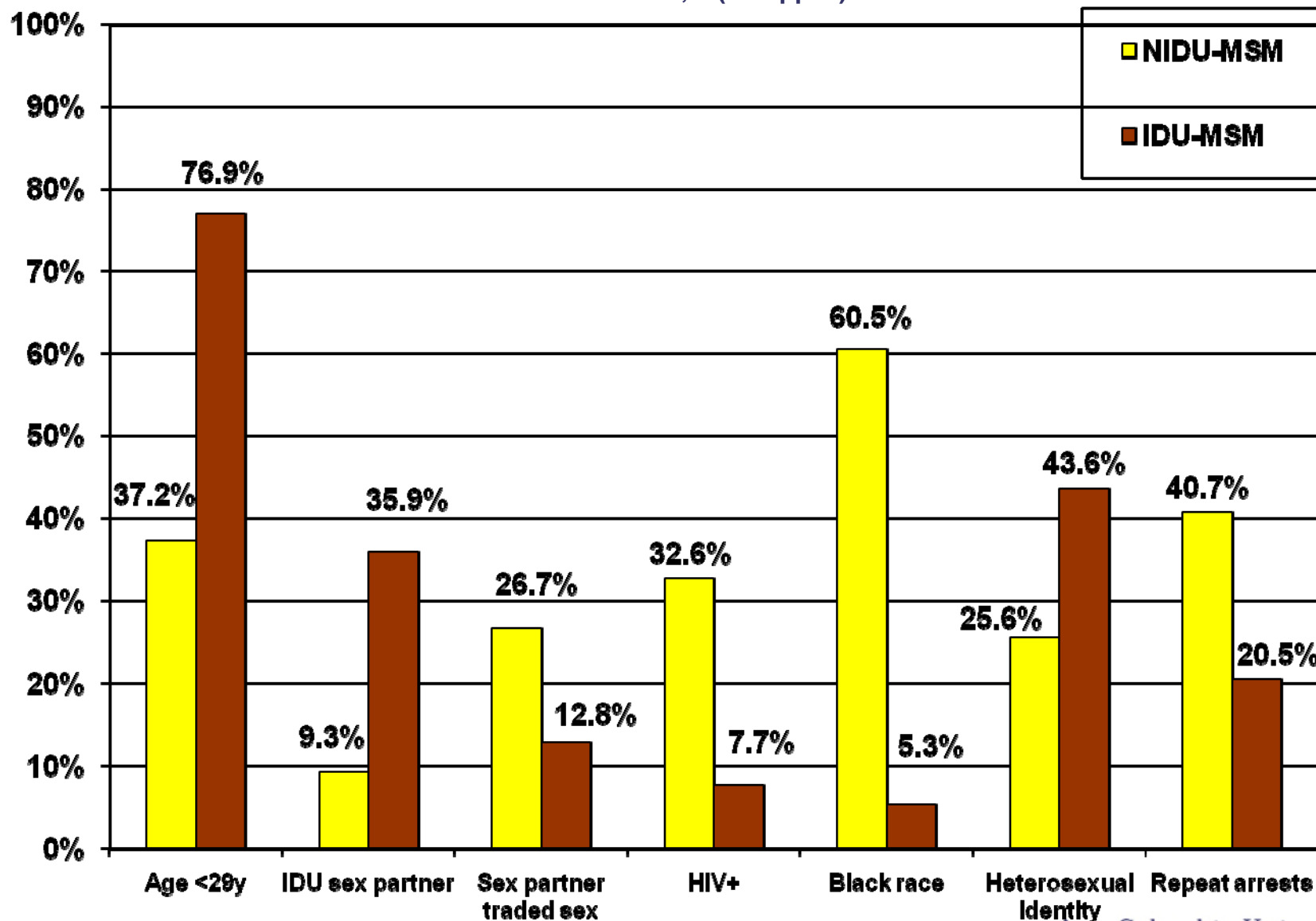
HIV Burden among Illicit Drug Users (2000-2003)

HIV Prevalence Male		HIV Prevalence Female	
MSM	41%	WSW / M	20%
MSM / W	9%	WSW	17%
Heterosexual	5%	Heterosexual	12%

Bivariate associations comparing nonIDU-MSM vs. IDU-MSM, NYC (2000-2004)

XVI International AIDS Conference, 13-18 August 2006, Toronto, Canada

J Urban Health. 2005 Mar;82(1 Suppl 1):i51-61



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Final model of sociodemographic and sexual partnership characteristics associated with nonIDU among heroin and crack cocaine users in NYC, 2000-2004 (N=125).

Characteristic	Crude OR	95% CI	Adj. OR	95% CI
Age \geq 29 vs. < 29 years	5.62	2.37 – 13.30	5.90	2.00 – 17.43
Black race vs. white/other race	36.4	5.90 – 224.6	28.75	5.86 – 141.11
IDU sex partner vs. not	0.18	0.07 – 0.49	0.23	0.63 – 0.82
HIV positive vs. negative	5.79	1.64 – 20.40	2.48	0.87 – 7.11

Who, what, and where do we target interventions?

- **Subgroups most highly burdened**
- **Communities / neighborhoods most highly burdened**
- **Include social and structural factors**

ART for HIV Prevention among IDUs

- **Data on use of nPEP in injection drug users (IDUs) is practically nonexistent.**
- **Challenges - too frequently exposed, access to medical care, adherence/viral resistance, and drug interactions.**
- **PrEP awaiting results from CDC-sponsored Thailand IDU trial (set for completion 2010)**

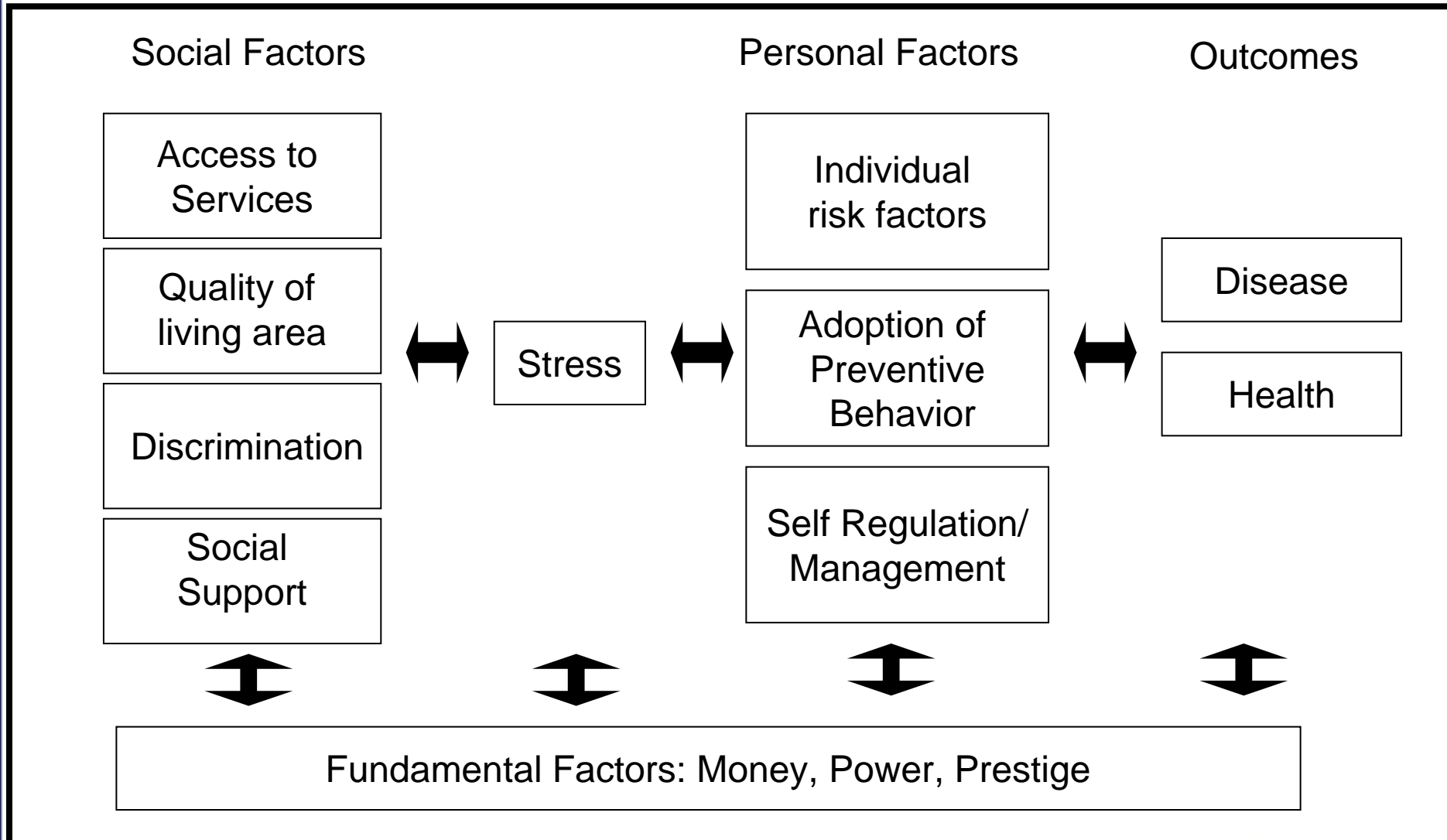
PHARM-Link Studies: Pharmacies As Resources Making Links to Community Services

- **PHARM-Link**
 - Randomized pharmacy intervention targeting pharmacy staff as health resources to IDU syringe customers
- **PHARM-HIV**
 - Pilot intervention in Harlem utilizing HIV testing in 2 pharmacies compared to pharmacies providing HIV testing referrals
- **PhARM-Services**
 - Pilot intervention combining HIV testing with other screening services

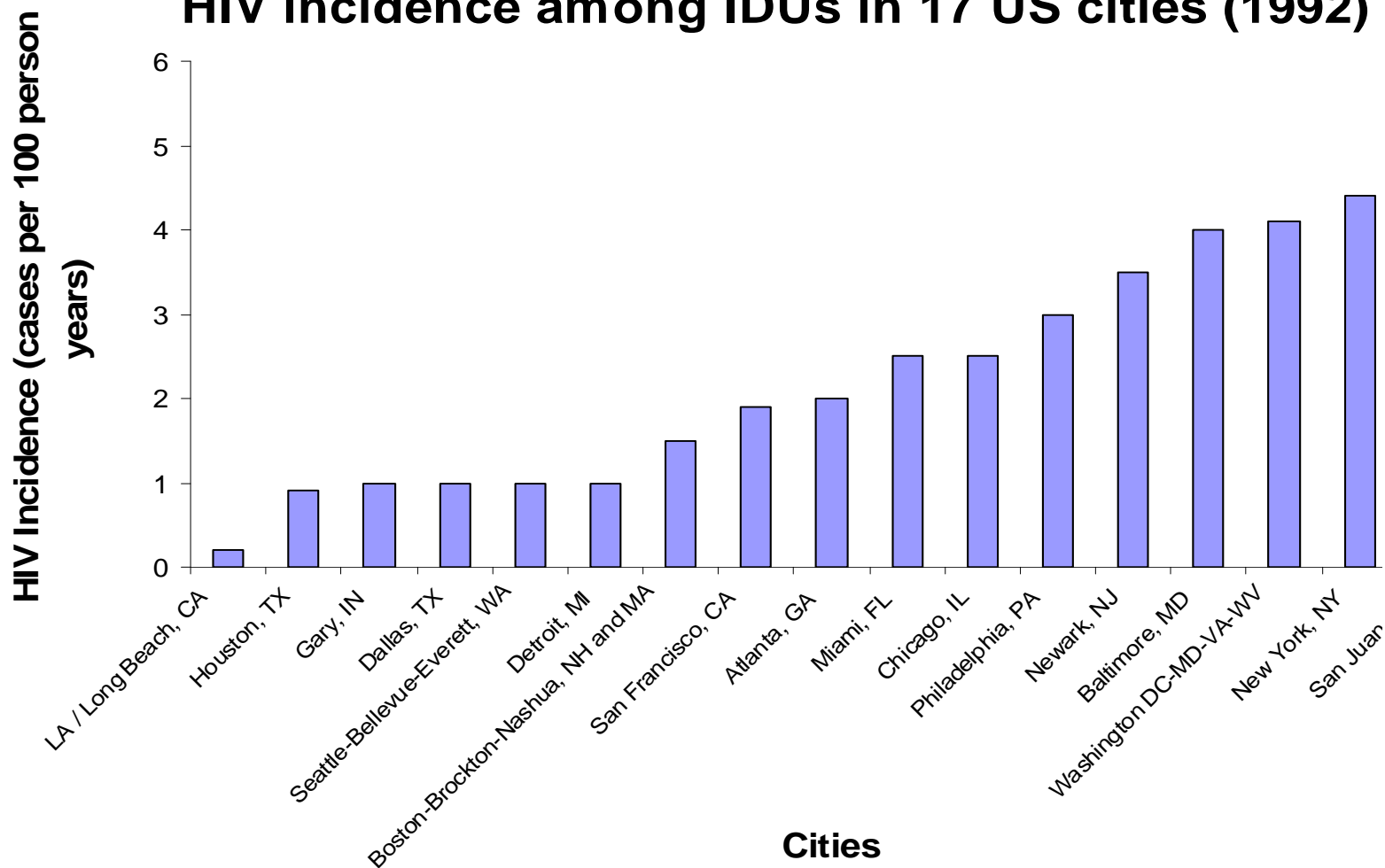
Individual-level and hierarchical logistic regression models of high-risk behaviors and neighborhood effects associated with adolescent initiation of injection drug use among 144 young, recent IDUs in Baltimore, Maryland (1997-1999).

Characteristics	Individual Effects		Individual & Neighborhood Effects	
	Adj. OR ^a	95% CI ^c	Adj. OR ^b	95% CI ^c
African-American vs. White	0.18	0.08–0.40	0.07	0.05 - 0.11
Juvenile arrests vs. vs. Never	3.65	1.31–10.20	3.72	1.65 - 8.40
Share injection equipment year after initiation vs. Never	0.38	0.16–0.82	0.38	0.16 - 0.91
High-risk network during 2 years after initiation vs. Never	17.52	1.89–162.47	14.06	5.98 - 33.02
Condom use always year after initiation vs. Not always	2.03	0.89 – 4.64	2.08	1.09 - 3.99
Minority composition ≥ 75% vs. < 75%	-		0.87	0.48 - 1.60
Completed high school ≤ 45% vs. > 45%	-		1.67	0.10 - 26.62
3-way interaction term ^d	-		3.66	2.11 - 6.34
AA × ≥75% minority × ≤45% HS diploma	-		1.56	0.08 - 31.30
AA × ≥75% minority × >45% HS diploma vs. White × <75% minority × >45% HS diploma (ref)	-		-	-

General model of determinants of health



HIV incidence among IDUs in 17 US cities (1992)

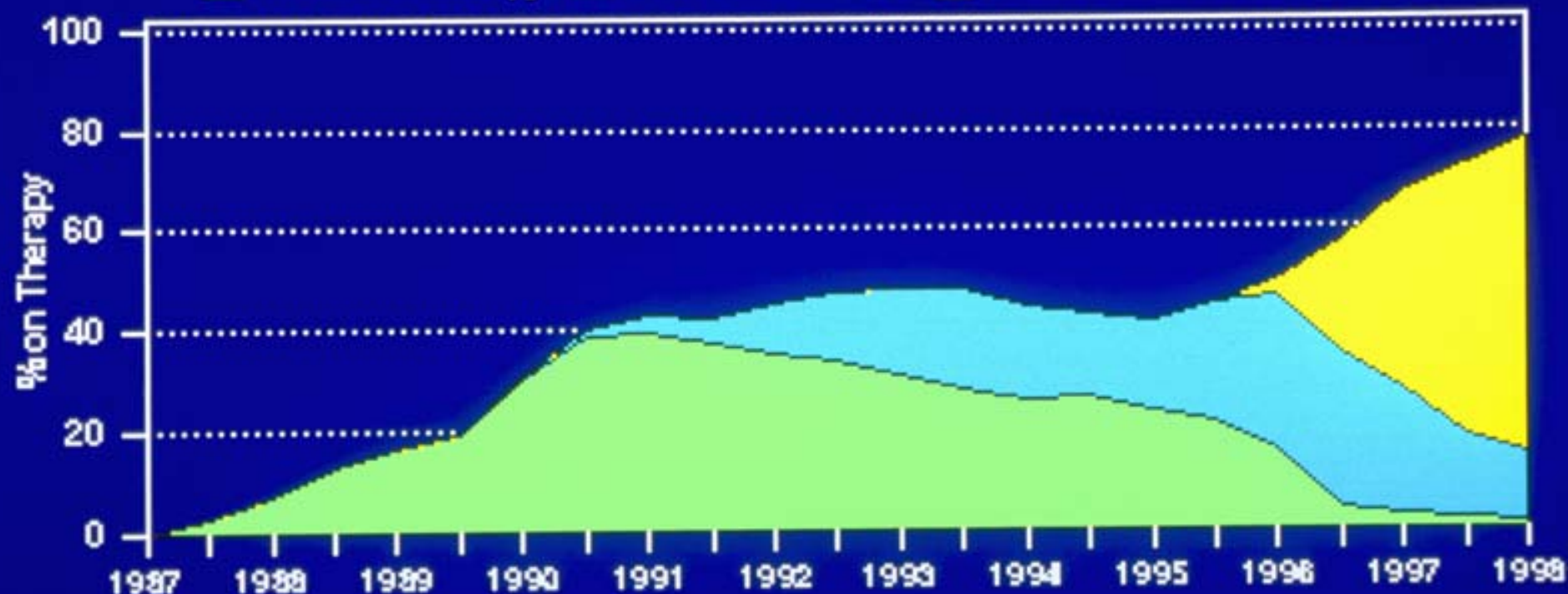


HIV incidence among IDUs in 17 US cities. Reproduced under BioMed Central Open Access license agreement; originally appeared in Holmberg (1996).

Use of Antiretroviral Therapy* by Seropositive MACS Participants without Clinical AIDS**

Detels, Muñoz, McFarlane, et al. JAMA 1998 (update)

■ NRTI Monotherapy ■ NRTI Combination ■ Potent Antiretroviral Therapy



* Non-trial drug use only

** CDC 1993 definition excluding immunologically defined AIDS

October 1998

ART History in the ALIVE Study

