

# The Role of Drug Abuse In the Evolving HIV Pandemic



**Steffanie A. Strathdee, PhD**  
**Professor and Harold Simon Chair,**  
**Chief, Division of International Health**  
**University of California San Diego School of Medicine**  
**Adjunct Professor, Johns Hopkins University**



Uzbekistan



Brazil

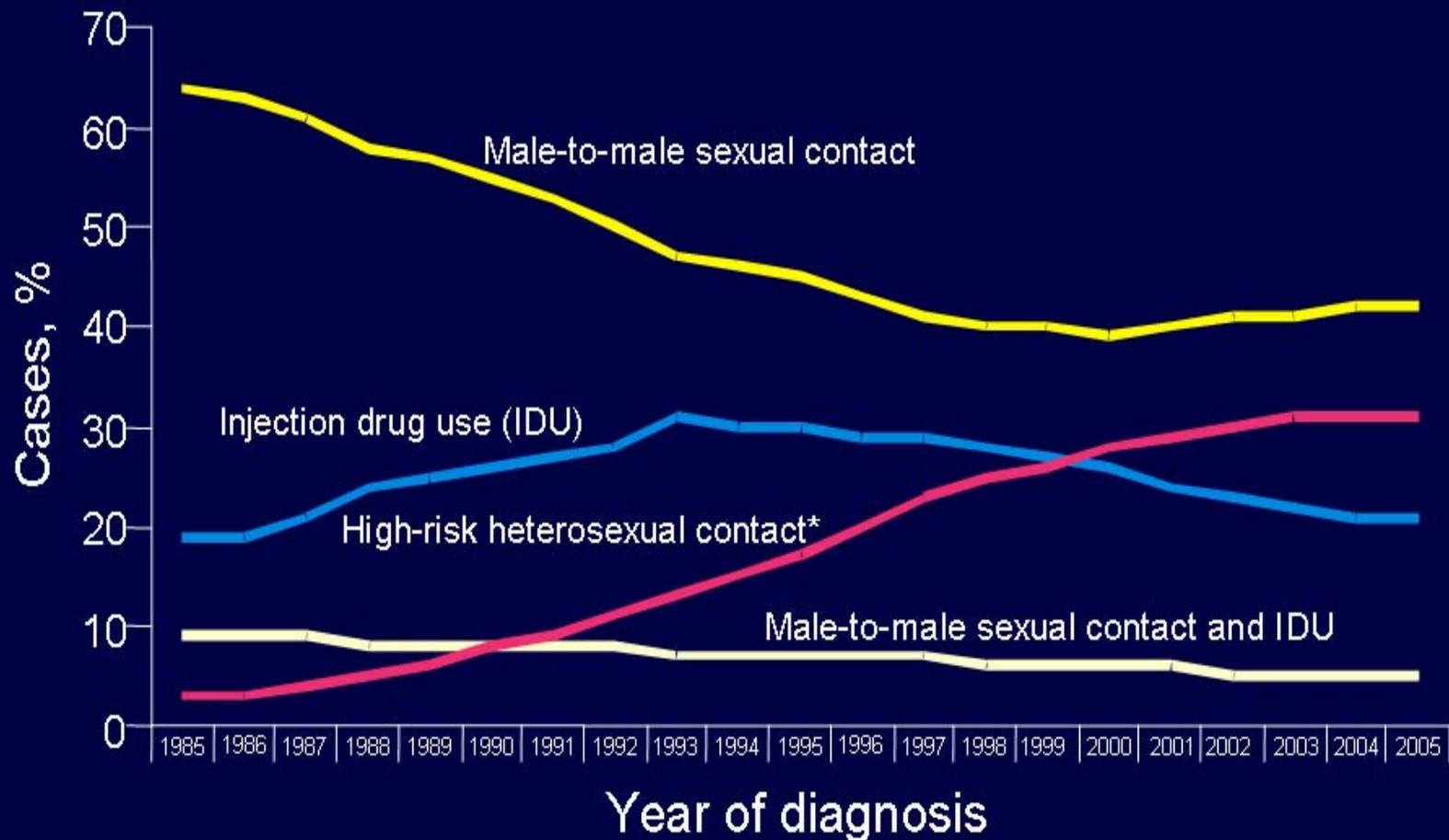


Mexico

# Goals of Presentation

- Update on HIV epidemiology linked to drug use in domestic and international settings
- Interventions to reduce HIV among drug users: how are we doing?
- Case studies
- Gaps in research and resource allocation

# Proportion of AIDS Cases among Adults and Adolescents, by Transmission Category and Year of Diagnosis, 1985–2005—United States and Dependent Areas

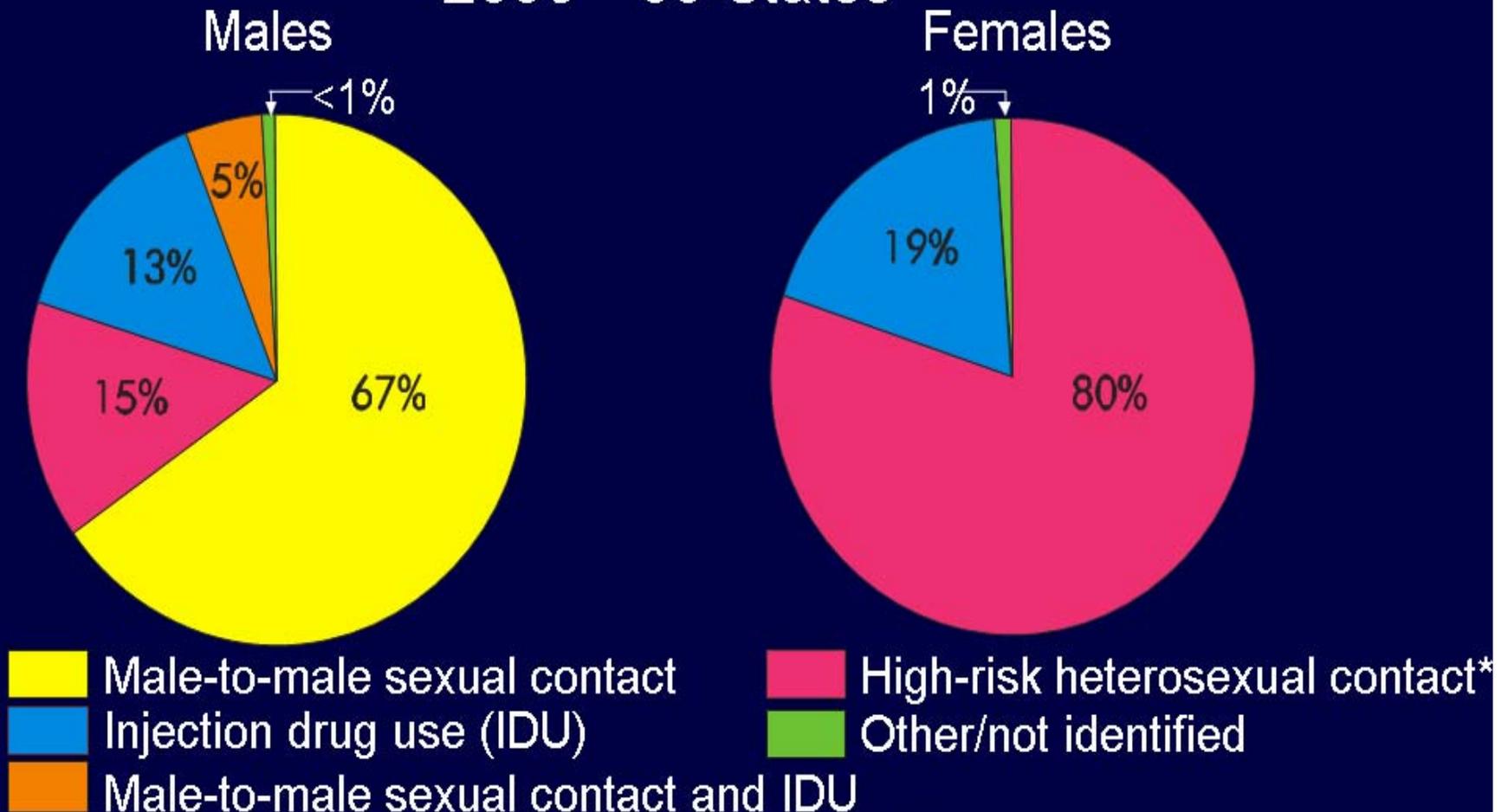


Note. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

\* Heterosexual contact with a person known to have or to be at high risk for HIV infection.



# Proportion of HIV/AIDS Cases among Adults and Adolescents, by Sex and Transmission Category 2005—33 States



Note. Data include persons with a diagnosis of HIV infection regardless of their AIDS status at diagnosis. Data from 33 states with confidential name-based HIV infection reporting since at least 2001. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

\* Heterosexual contact with a person known to have or to be at high risk for HIV infection.



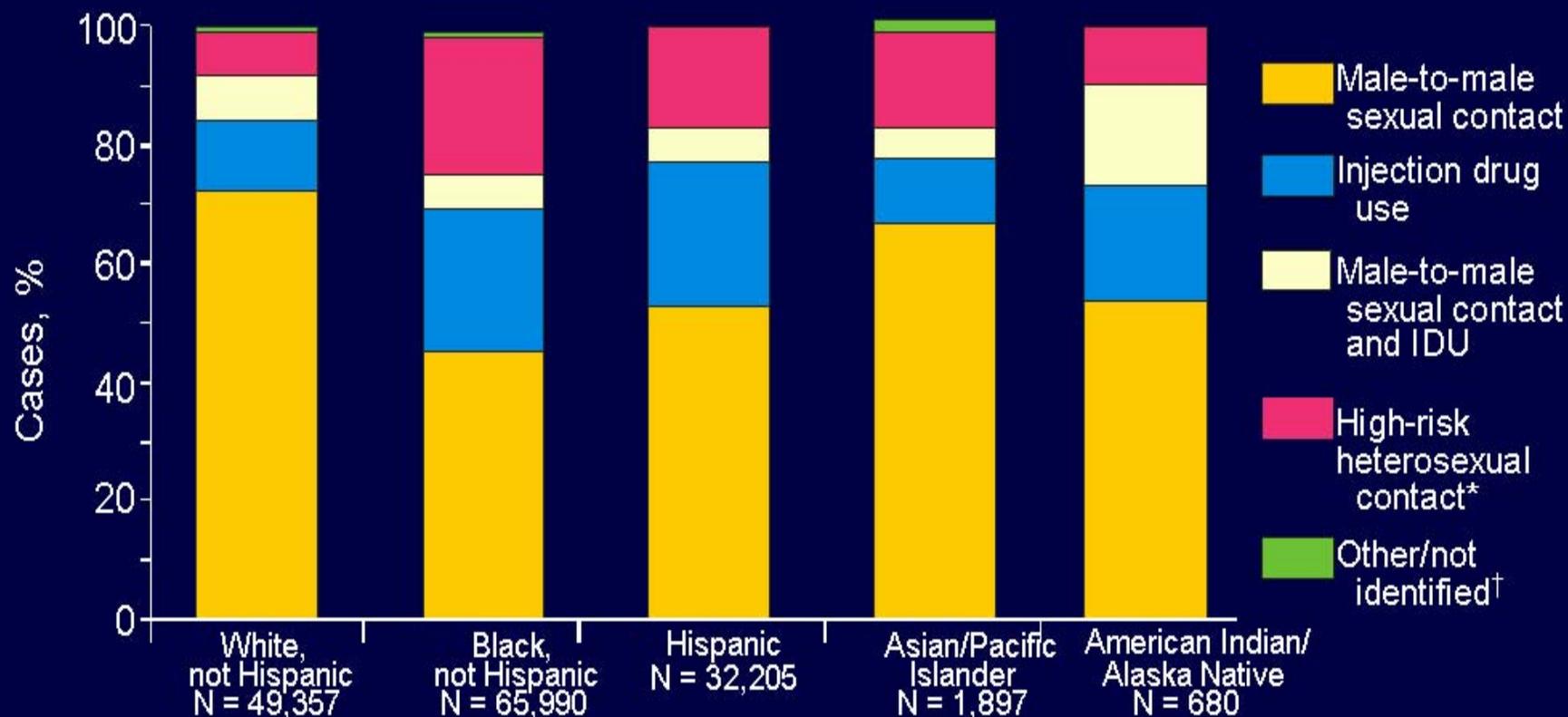
## Estimated Number and Proportion of AIDS Cases Associated with Injection Drug Use, by Transmission Category Diagnosed in 2005—United States and Dependent Areas

	<u>No.</u>	<u>%</u>
Heterosexual male injection drug user (IDU)	6,273	45
Female IDU	3,278	24
Male-to-male sexual contact and IDU	2,251	16
Heterosexual sex partners of IDUs	2,127	15
Children whose mothers are IDUs or sex partners of IDUs	<u>5</u>	<u>&lt;1</u>
<b>Total</b>	<b>13,934</b>	

Note. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.



# Proportions of AIDS Cases among Male Adults and Adolescents, by Transmission Category and Race/Ethnicity 2001–2005—United States and Dependent Areas



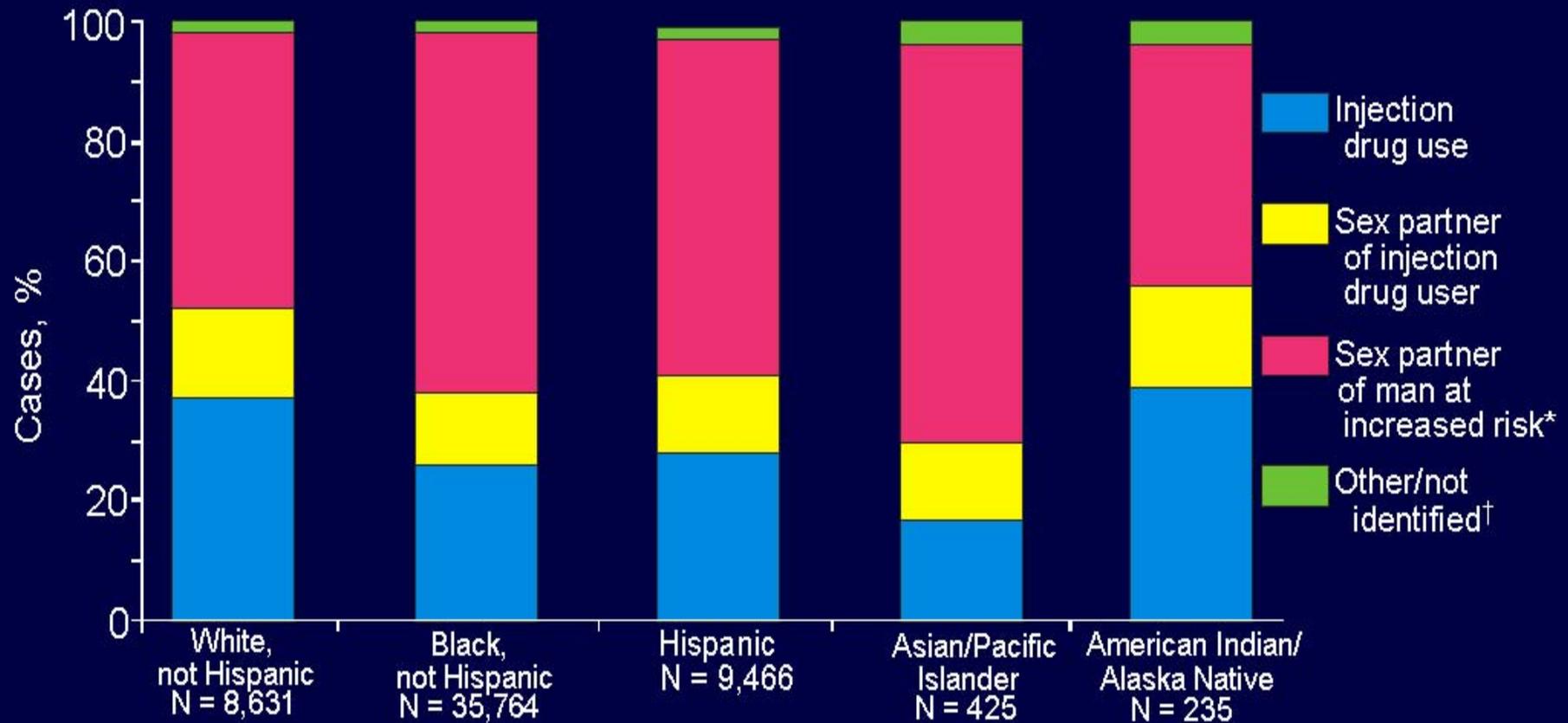
Note. Data have been adjusted for reporting delays, and cases without risk factor information have been proportionally redistributed. IDU, injection drug use.

\* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



# Proportions of AIDS Cases among Female Adults and Adolescents, by Transmission Category and Race/Ethnicity 2001–2005—United States and Dependent Areas



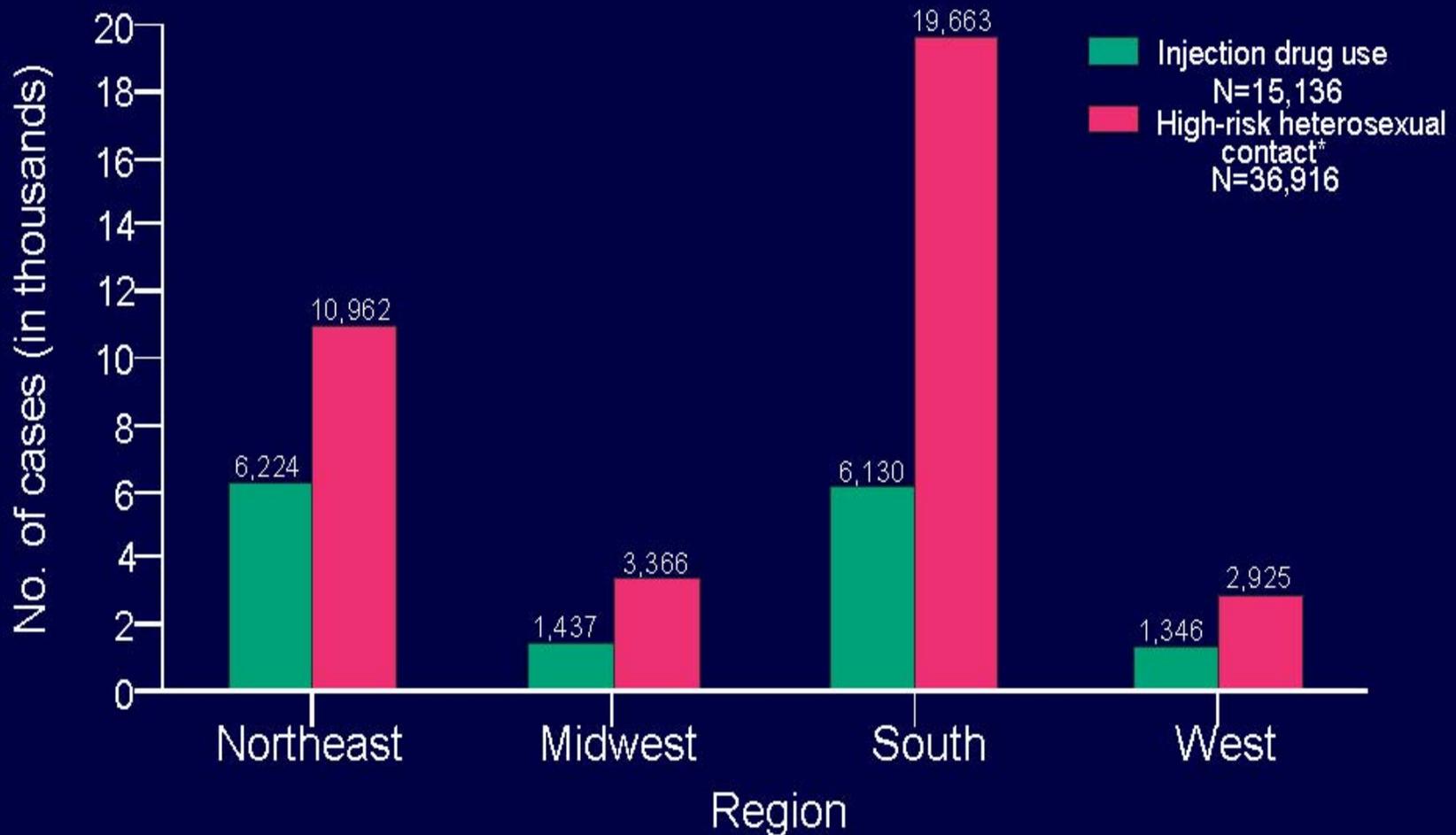
Note. Data have been adjusted for reporting delays, and cases without risk factor information have been proportionally redistributed.

\* Includes sex with a bisexual male, a person with hemophilia, an HIV-infected transfusion recipient, or an HIV-infected person whose risk factor was not specified.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



# AIDS Cases among Female Adults and Adolescents Attributed to Injection Drug Use or High-Risk Heterosexual Contact, by Region, 2001–2005—50 States and DC



Note. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

\* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.



## Estimates on the size of the IDU populations available in 130 countries and territories (1998/2003)



Countries with estimates on the size of IDU

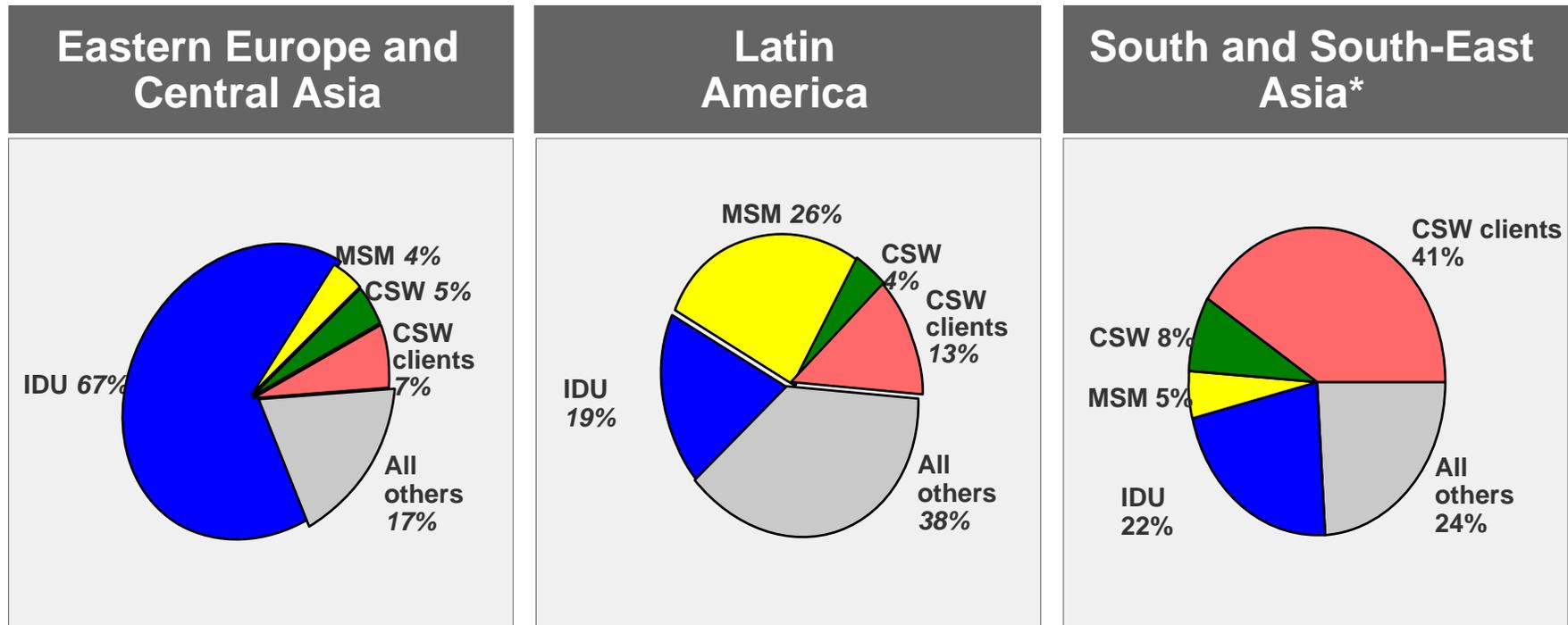
To ease comprehension, both absolute nos. and %s have been rounded up

© UN Reference Group on HIV/AIDS Prevention and Care among IDUs in Developing and Transitional Countries

**13,158,345 IDUs Worldwide**

**10,292,220 of them (78%) in developing countries**

# Proportions of HIV infections by Risk Groups and Region, 2005



**MSM:** Men having sex with men  
**CSW:** Commercial Sex Workers

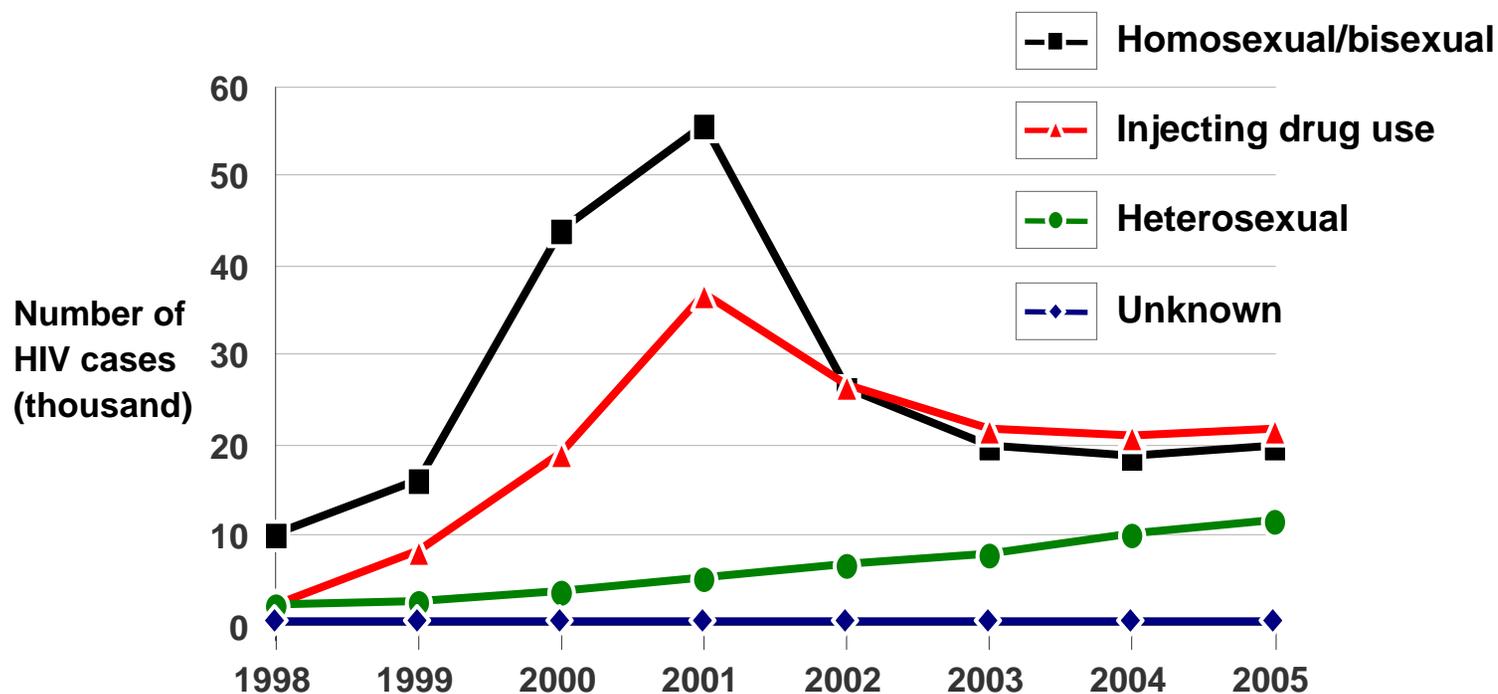
*\*excludes India*

# Diffusion of Injection and HIV along Heroin Trafficking Routes: Central Asia



# # of new HIV cases by risk group: 1998-2005

## 14 E. European/Central Asian countries\*



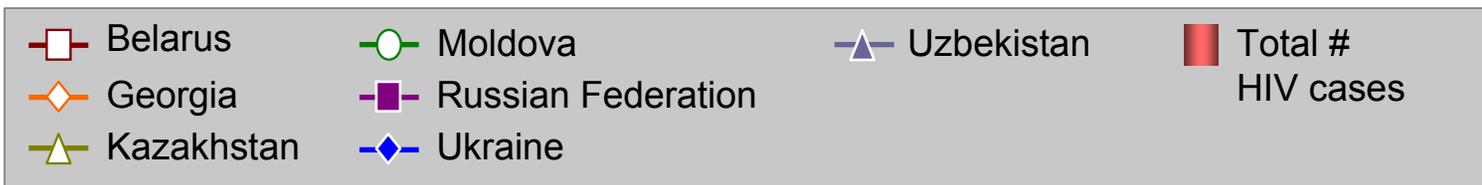
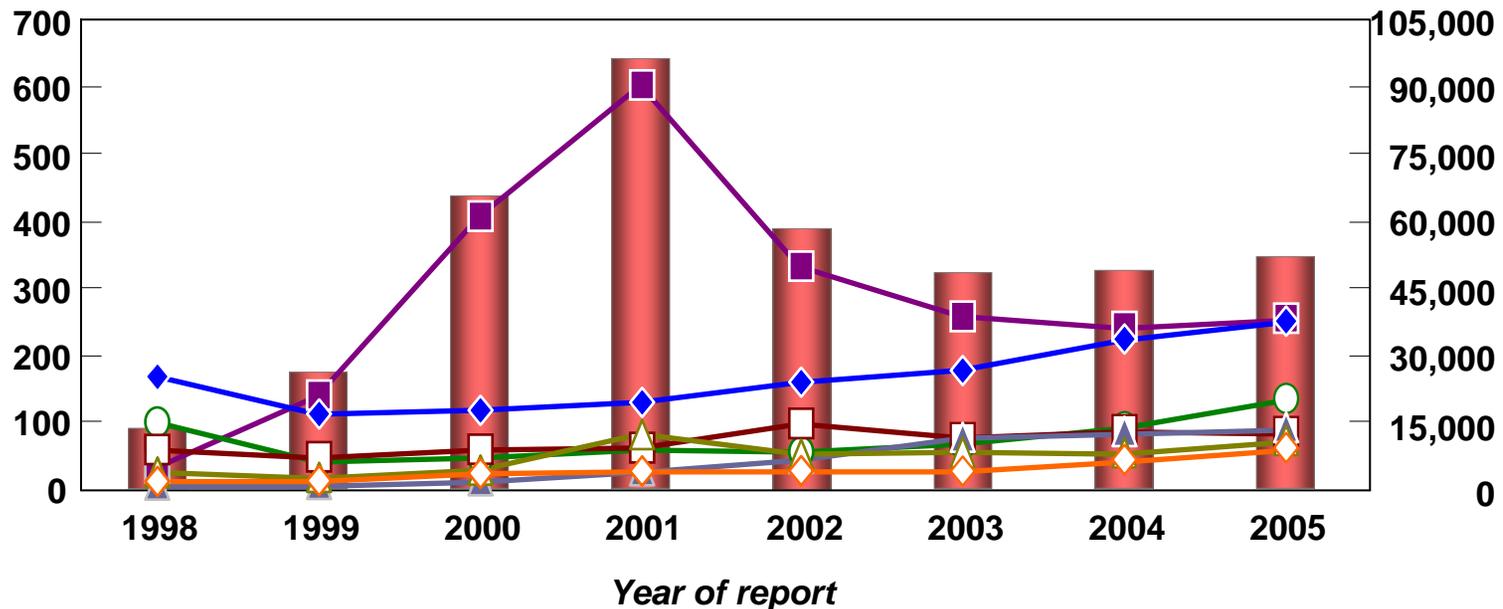
\*Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan

Source: EuroHIV Report, 2006.

# Annual new HIV infections: Eastern Europe/Central Asia, 1998–2005

HIV infections per million population

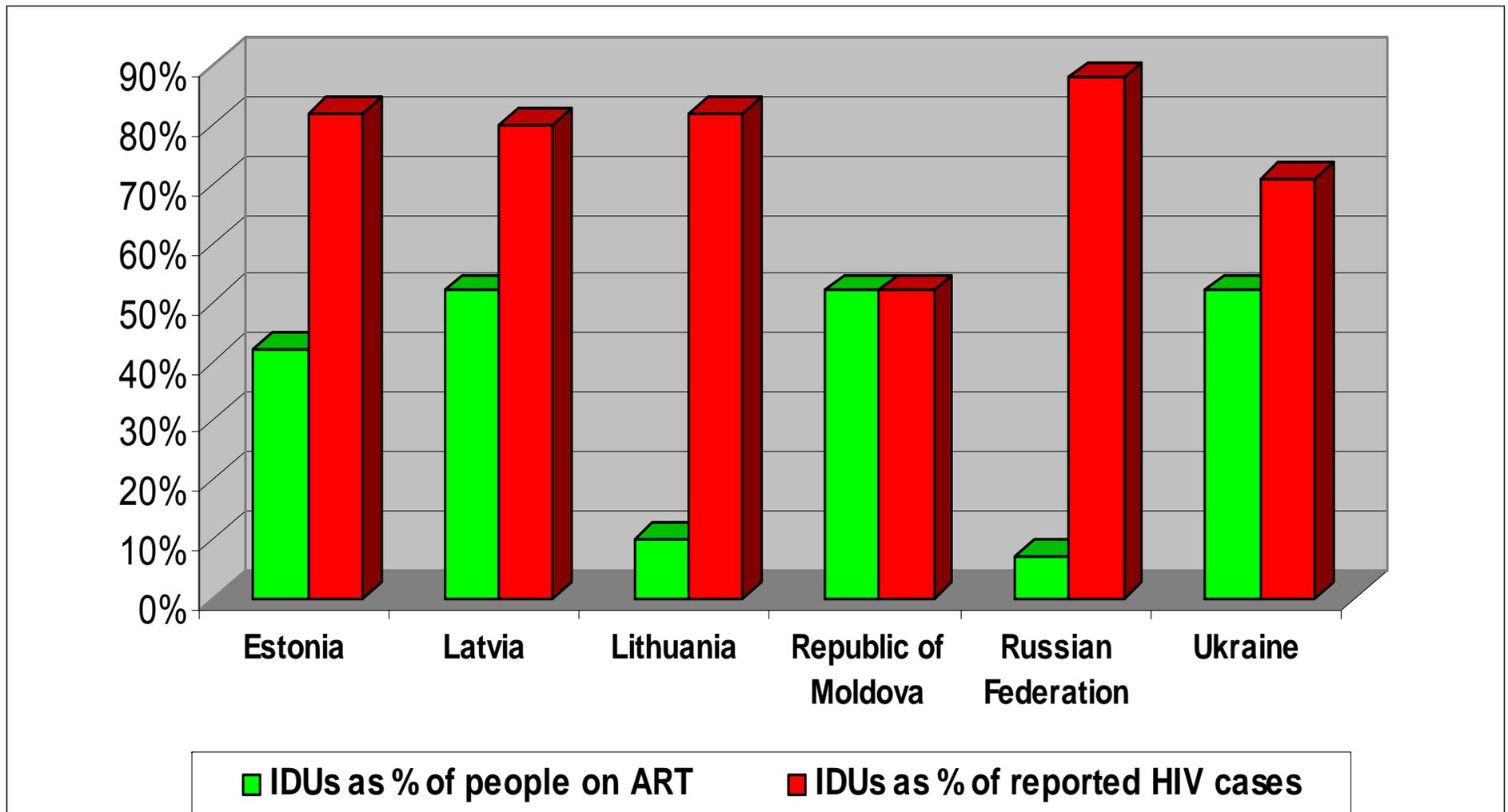
Total number of HIV infections



Source: EuroHIV Report, 2006

# HIV Antiretroviral treatment access among IDUs in Eastern Europe, 2004

Source: WHO, 2007



# Bridging Populations

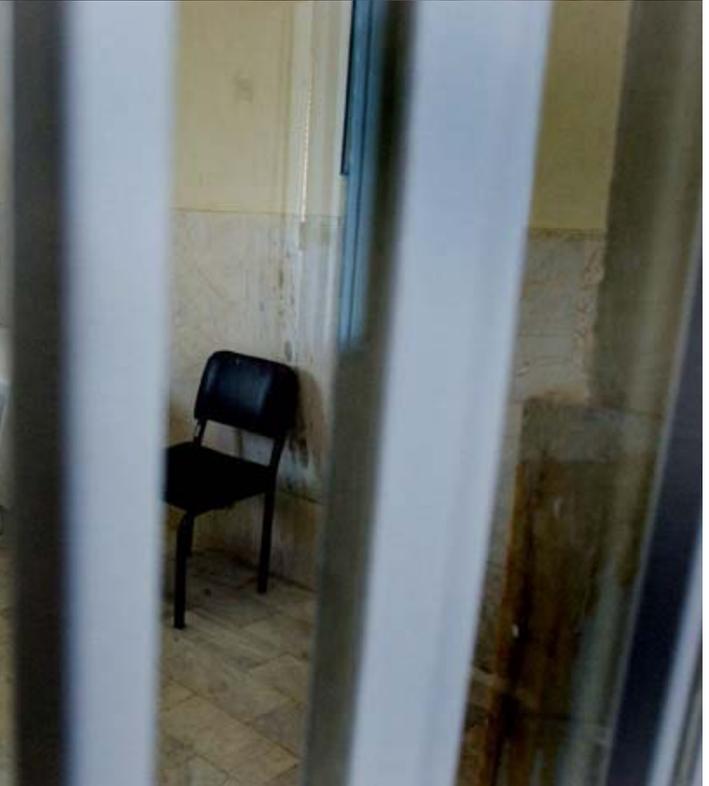


FEBRUARY 22, 2006

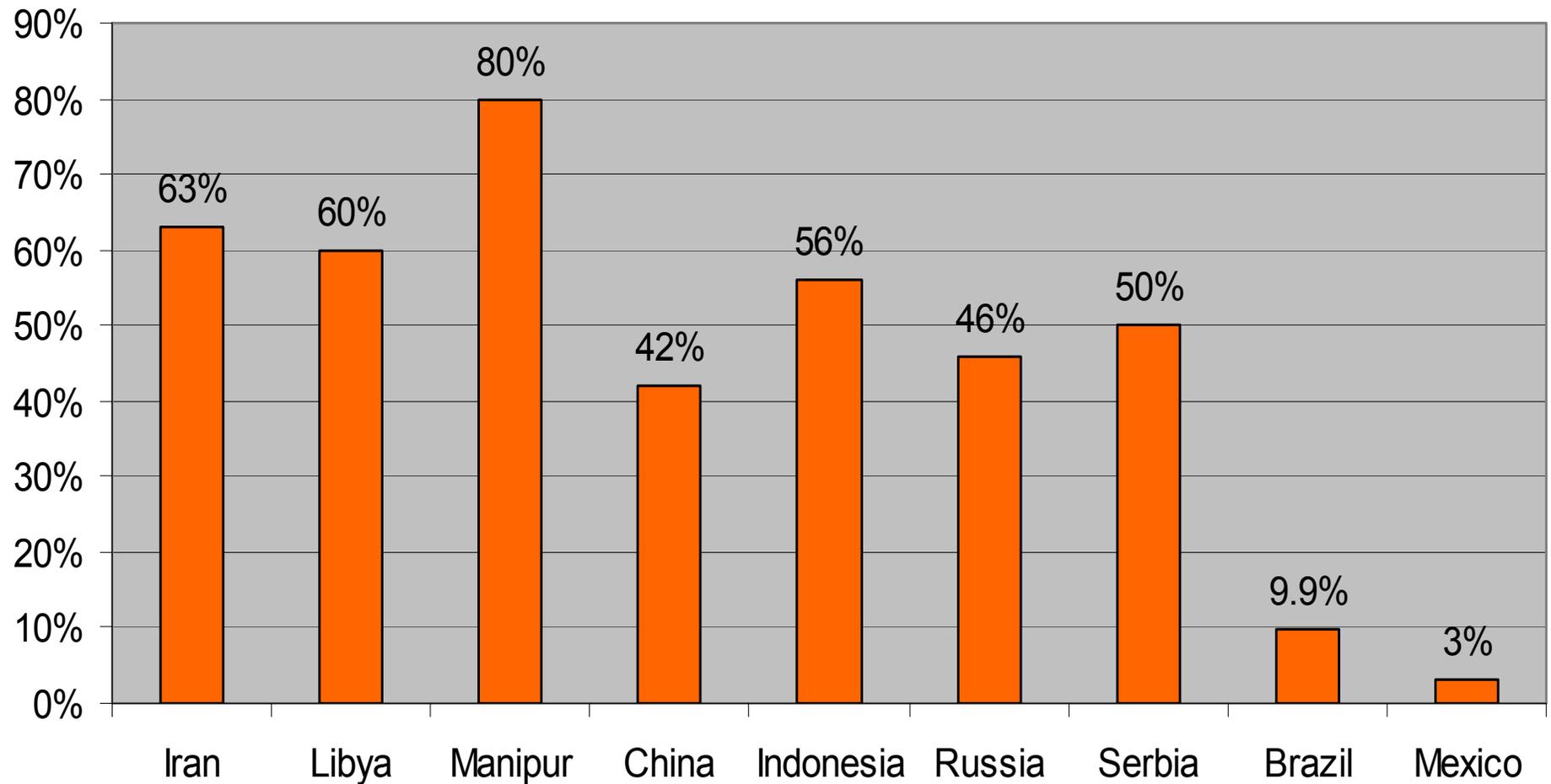
SAN DIEGO  
**CITY BEAT**  
FREE EVERY WEDNESDAY

Internet could bring a new era of discrimination p.7

**PLAYING IT UNSAFE**  
New HIV cases dropped in the '90s, but 'prevention fatigue' has the disease back on the rise  
BY KELLY DAVIS

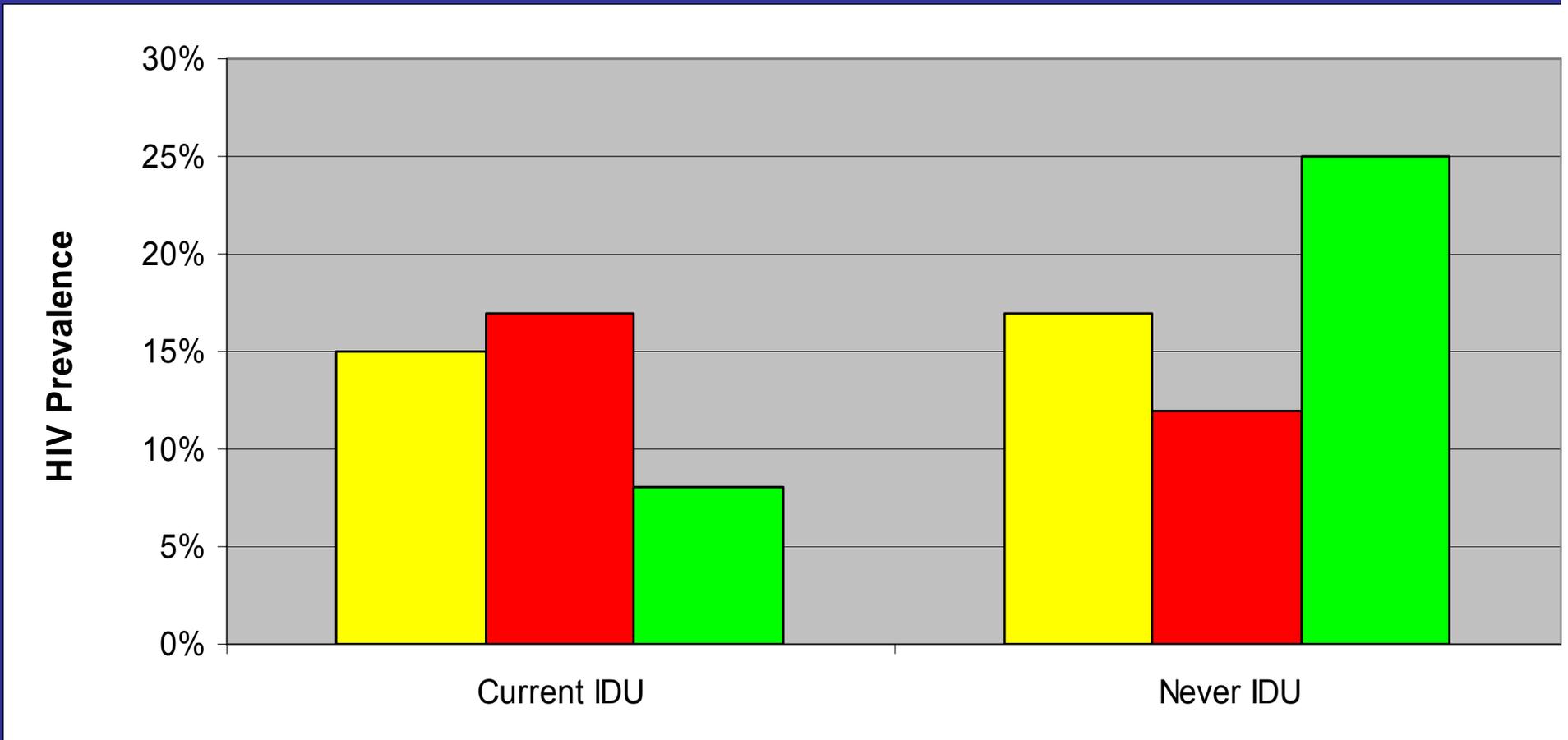
A graphic illustration of two human silhouettes facing each other, with a plus sign on the left and a minus sign on the right.

# HIV Prevalence in IDU Prisoners in Developing / Transitional Countries

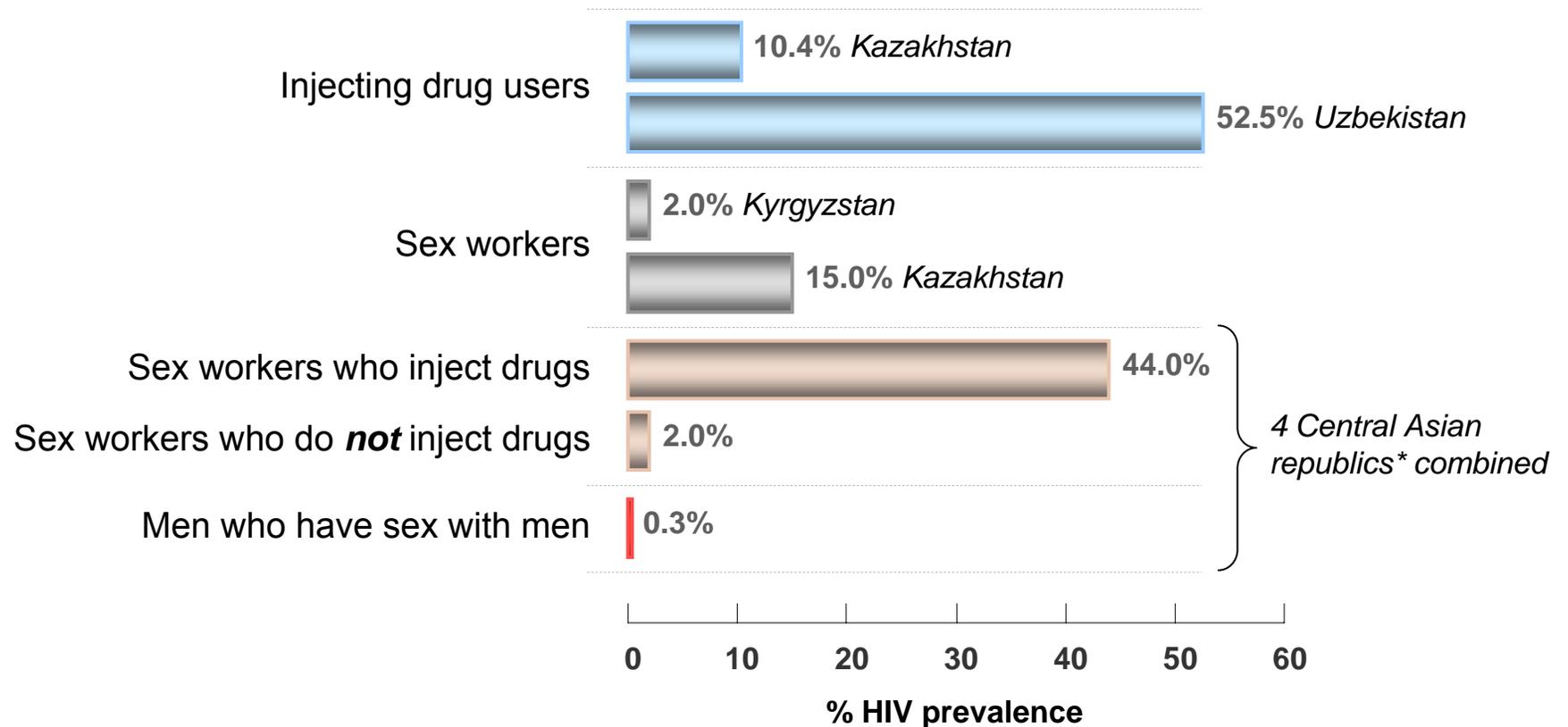


# HIV Prevalence among Current IDUs and Never IDUs in New York City: 2001-2004

Total ■ Male ■ Female ■



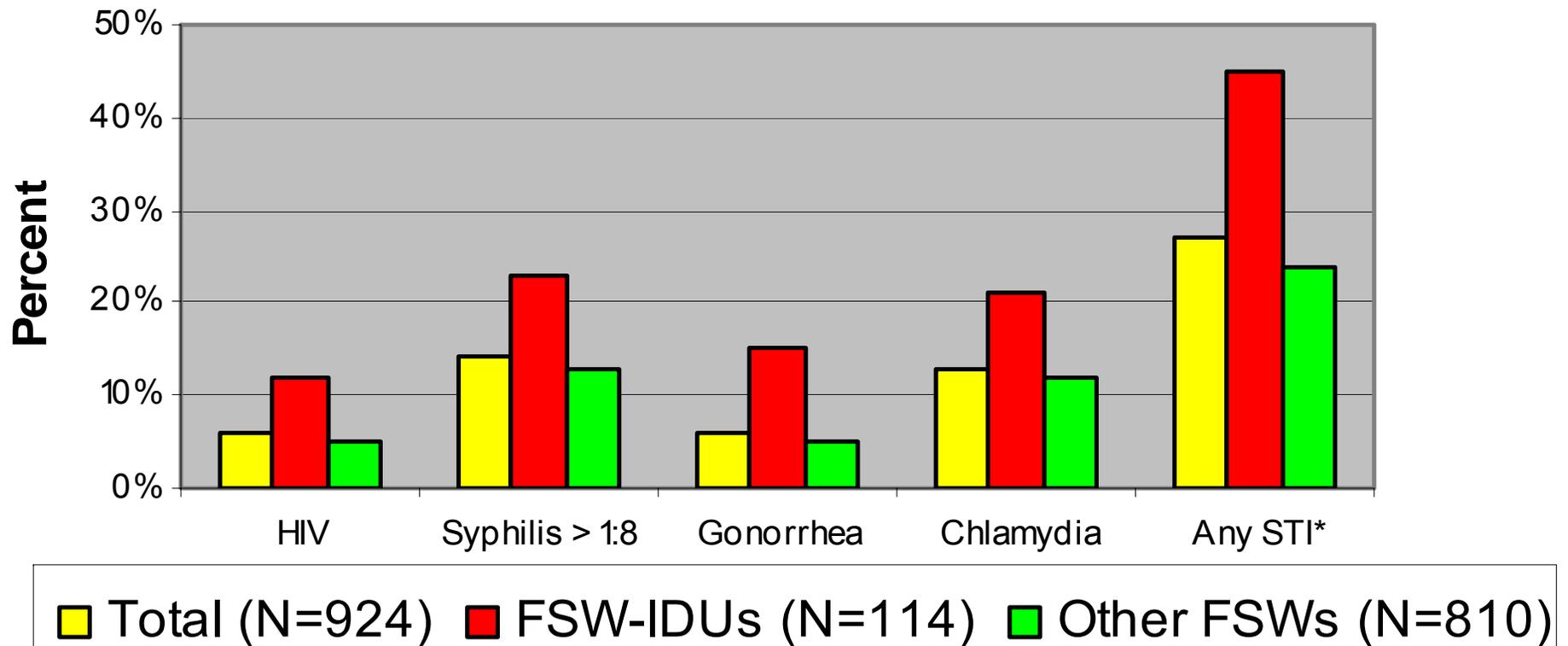
# HIV prevalence among injecting drug users, sex workers and men who have sex with men in Central Asia, selected studies, 2005



\* *Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan*

Source: CDC Central Asia offices (Almaty & Tashkent), National and City HIV/AIDS centers; Sanchez et al, 2006

# Prevalence of HIV/STIs among Female Sex workers (FSWs) and FSWs who Inject Drugs (FSW-IDUs) in Tijuana and Cd. Juarez, Mexico 2005 – 2006



# Characteristics Independently Associated with HIV Infection among FSWs in Tijuana and Cd. Juarez (N=920)

<u>Variable</u>	<u>Adjusted Odds Ratio</u>	<u>95% CI</u>
Injected cocaine last month	2.9	(1.3-6.8)
Snort/smoked meth last month	3.3	(1.9-5.9)
Syphilis titer >1:8	4.2	(2.3-7.6)

(Patterson et al, submitted)

# Stimulant Injection: Ukraine



tesy of Bob Booth

# Characteristics Independently Associated with HIV Incidence among IDUs in St. Petersburg, Russia (N=417)

Variable                      Adjusted Odds Ratio                      P-value

Stimulant  
Injection

1-2X/wk

1.89

<0.001

>3X/wk

8.15

>3 sex partners

3.3

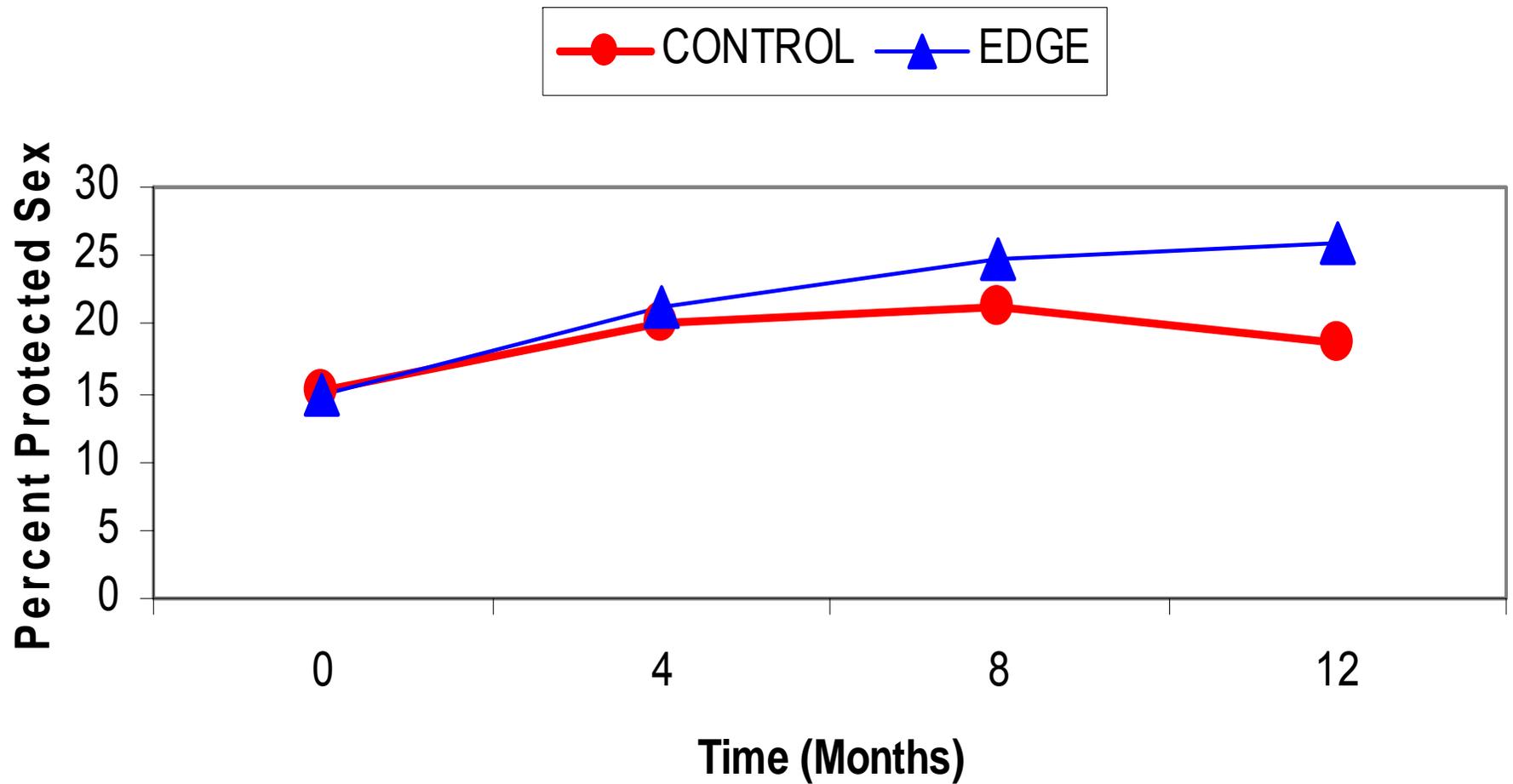
0.07



# Meta-analysis of HIV Interventions among IDUs

- 37 studies; only 12% conducted outside U.S;
- Only half grounded in behavioral theory;
- Only 6% had  $\geq 2$  follow-up visits;
- Effective studies focused on both sexual and injection risk reduction
- Overall, studies support effectiveness for increasing condom use, entry into drug abuse treatment, and reducing injection and non-injection drug use

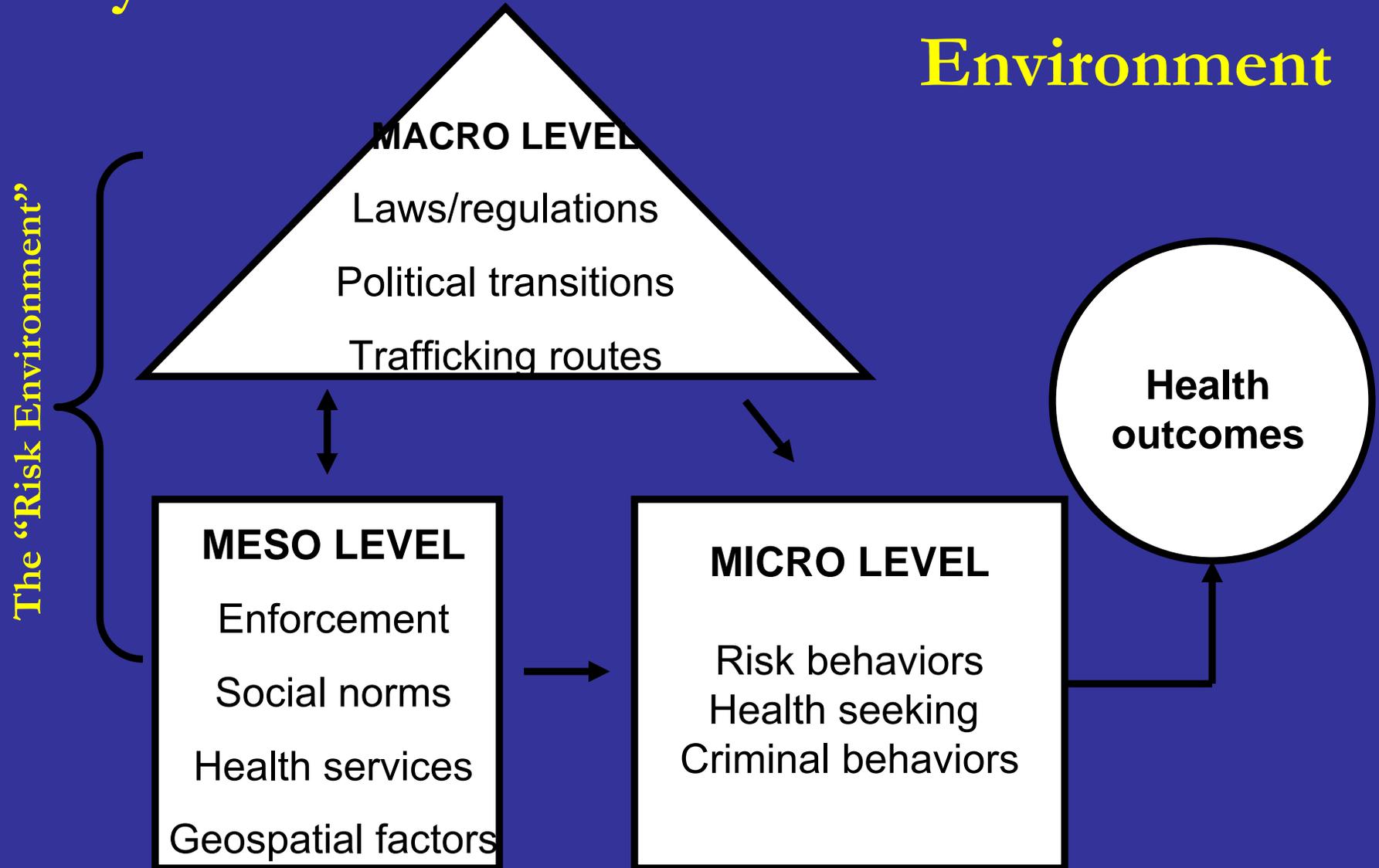
# Behavioral Intervention to Reduce High Risk Sex among HIV+ MSM Methamphetamine Users



$P < 0.001$

Mausbach et al, 2006

# Beyond Individual Risk Factors: The Risk Environment

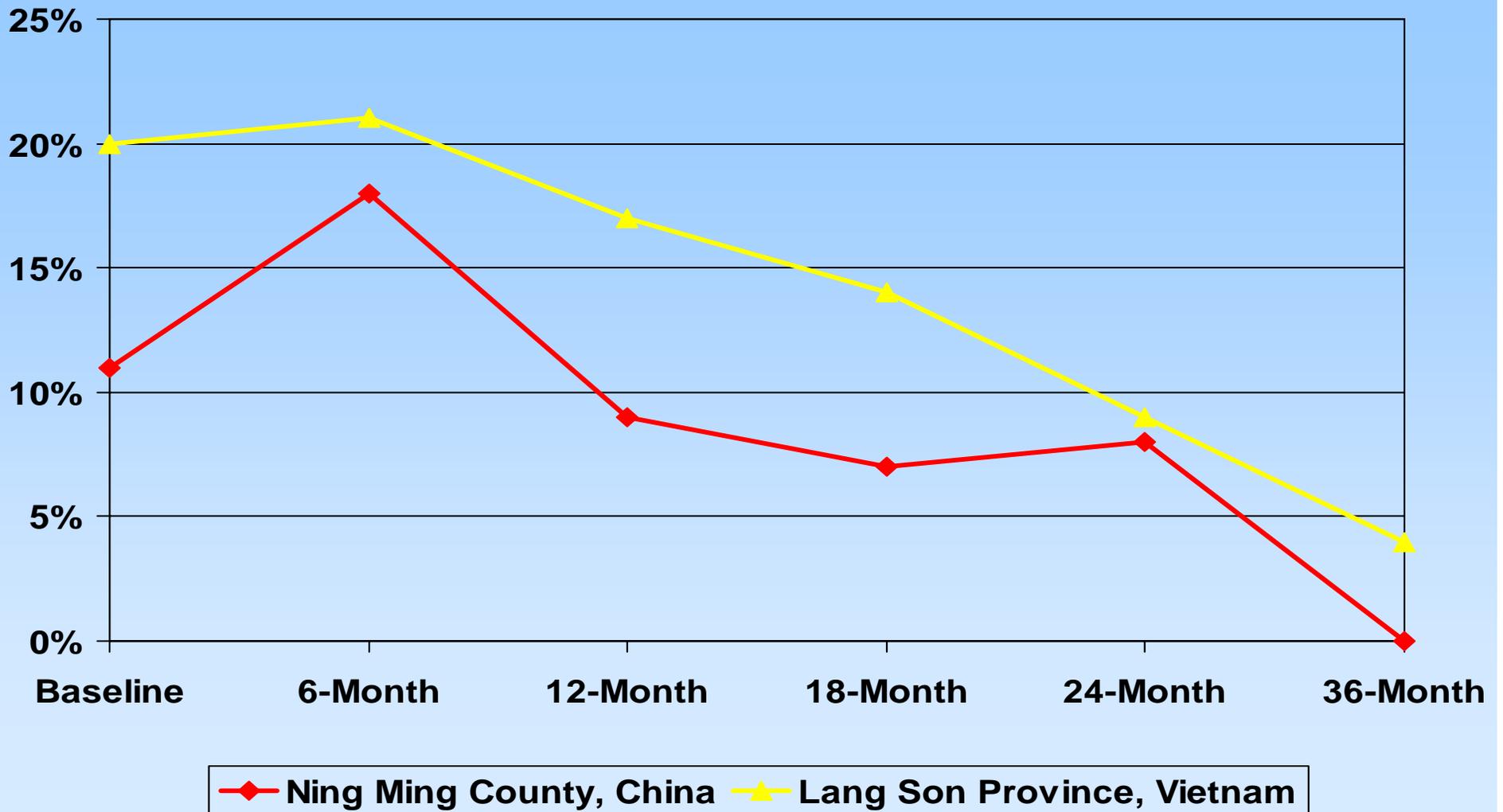


Adapted from Burris 2004, Galea 2003, and Rhodes 2003.

# Cross-Border Intervention Study in China/Vietnam

- Peer-Driven Intervention: Ha Giang, Vietnam & Guigang, China
- Collection/safe disposal of used needles/syringes
- Social marketing of new needles/syringes – direct distribution and through redemption of pharmacy/clinic vouchers
- Community education, vocational training
- Support for drug use cessation
- Full implementation of interventions in began July (Vietnam) – October (China), 2002

# HIV Incidence among New Injectors: Vietnam/China



Des Jarlais, Hammett et al, 2007

# Expanded Syringe Access Demonstration Program (ESAP): New York

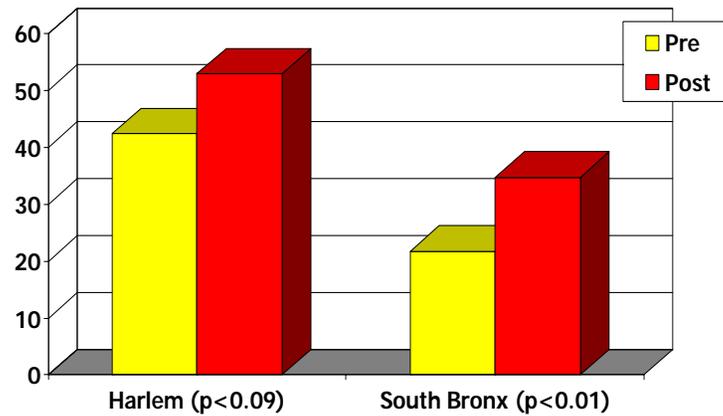
**As of January 1, 2001, pharmacies and health care facilities registered with health dept to:**

- **Sell or furnish up to 10 syringes per transaction.**
- **Sell to persons 18 years or older.**
- **Not advertise that syringes are for sale without a prescription.**
- **Provide ESAP safety pamphlet with each syringe sale.**

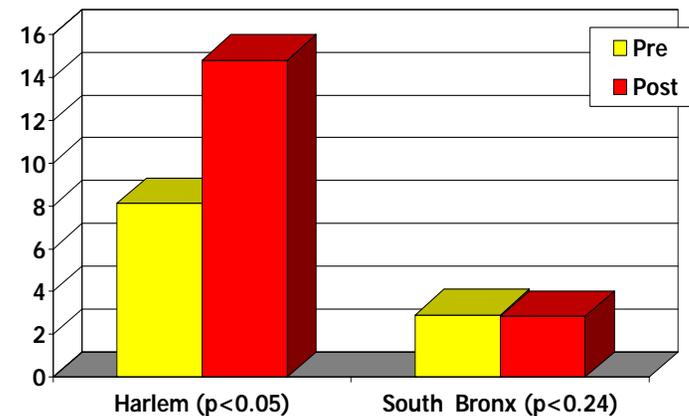
**An independent evaluation was mandated by law**

# Pre- and Post-Intervention Effects in Harlem (n=340) vs. South Bronx (control; n=377)

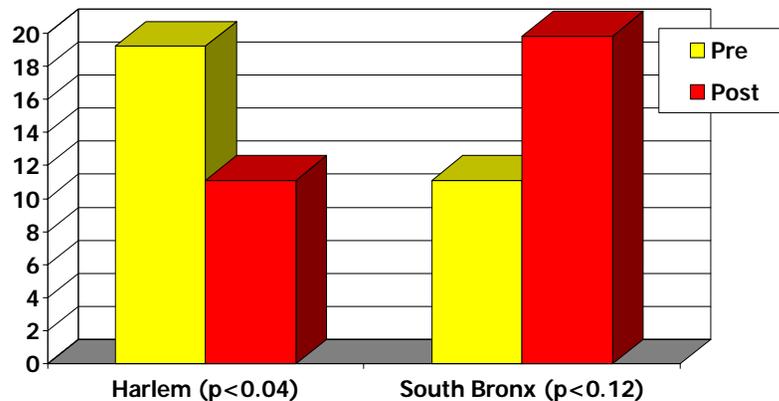
## Knowledge of ESAP



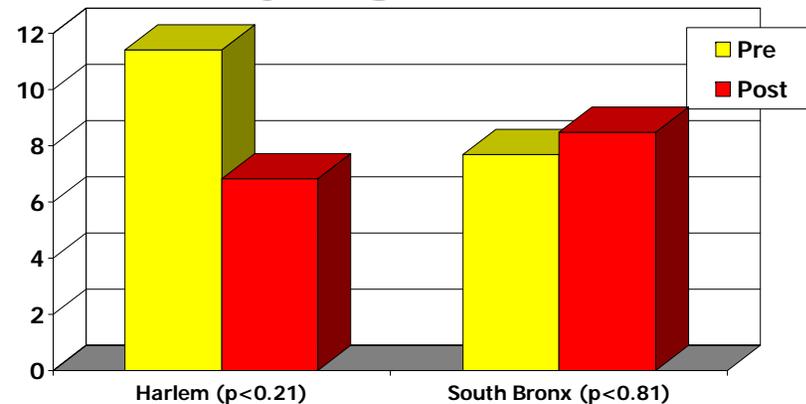
## Use Pharmacy at Last Injection



## Street Syringe Disposal



## Syringe Re-Use



# Response to HIV and Drug Use in China



- >3 million IDUs
- 650,000 HIV+ves in 2005 alone
  - Half among IDUs
- Former drug policy: Zero tolerance; mandatory “rehabilitation”
- Paradigm shift; by end of 2005:
  - 91 Needle exchange programs (NEPs)
  - 128 methadone maintenance clinics, 1500 by 2008
  - Buprenorphine maintenance (Suboxone) launched in 04/07

# Former Approach to Drug Treatment



Methadone Program Launch: Guizhou

中艾  
资讯

中国艾滋病资讯  
China AIDS Info



AIDS Prevention Rally, China



Source: UNAIDS

# IDU & HIV in Iran



- Highest per capita opiate dependence: 1 in 17 and >200,000 IDUs
- 30,000 HIV+ves
  - 67% attributed to IDU
- Progressive governmental response:
  - Expanded drug treatment, including substitution therapies
  - “Triangular clinics” – cater to needs of IDUs and FSWs
  - Community and pharmacy based NEPs
  - Subsidized treatment for drug abuse and ARVs
  - Drug law reform

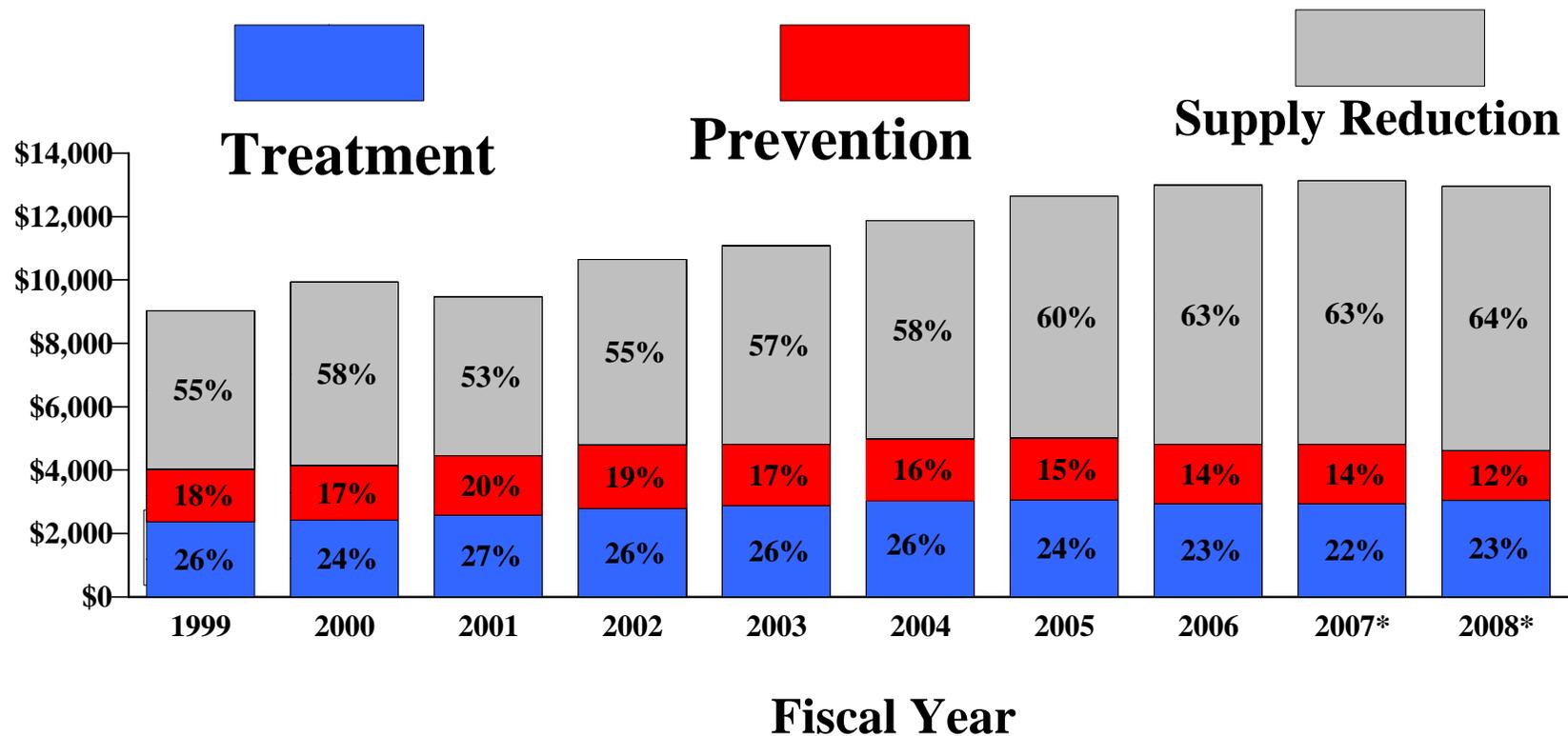
Razzaghi et al., 2006



## Risk Reduction in an Iranian Prison



# ***FY2008 U.S. Federal Drug Control Budget; Prevention Gets Smallest % in Past Decade***



SOURCES: Adapted by CESAR and National Drug Control Policy (ONDCP)

# Conclusions: Epidemiology

- Drug use continues to account for large proportions of HIV cases in the U.S. and internationally, especially in ethnic minorities
- Eastern Europe, Central, South and SE East Asia especially hard hit
- Increasingly important role of stimulants
- Need to target 'bridging populations' to prevent ongoing transmission

# Conclusions: Interventions

- Since HIV is transmitted both parenterally and sexually, interventions need to operate at multiple levels
- Growing recognition of the 'risk environment' beyond individual risk factors
- Impressive advances in some countries with otherwise repressive regimes
- Political will needed to shift resource allocation towards prevention and treatment in the U.S.

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