

Association of Syringe Source and Syringe Sharing in New York City

Results from National HIV Behavioral Surveillance
among Injection Drug Users

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Background

- HIV prevalence and incidence decreasing among IDU in New York City
- Sterile syringes available from multiple legal sources
 - Syringe exchange, pharmacies, medical providers

Background (2)

- Yet IDU continue to share syringes
 - Demographic factors
 - Community and cultural norms
 - Psychological factors
 - Frequent polydrug use
 - Monogamous, serosorted sharing
 - Programmatic factors
 - Design, allocation, and marketing of syringe access programs

Objectives

- Current objectives
 - Examine correlates of receptive syringe sharing
 - Understand programmatic influences on sharing for better targeting & marketing of syringe access programs

National HIV Behavioral Surveillance (NHBS) Study Design

- National, multi-site survey designed by CDC
 - 25 project areas throughout the United States
- Cross-sectional study design
- Anonymous recruitment, interviewing, and HIV testing
 - Respondent-Driven Sampling (RDS) method
- Data collection from July to December 2005
- Total Eligible Participants: 500

Respondent-Driven Sampling (RDS)

- A method of peer-referral sampling that uses modeling to reduce biases associated with peer recruitment
- Participants recruit members of their social networks to participate; relationship tracked through serial numbers
- Network size and recruitment patterns are used to weight the data

NHBS-IDU Study Population

- Injected non-prescribed drugs within past 12 months
- Visible signs of injection and/or detailed knowledge of injection drug use practices
- Resident of NYC metropolitan area (5 boroughs and Westchester and Rockland counties)
- 18+ years old
- Has a valid coupon from member in social network for NHBS-IDU study
- Alert and able to complete the survey in English or Spanish

Demographics

(n=500)

Gender

Male	71%
Female	27%
Transgender	2%

Age

18 - 29	11%
30 - 39	29%
40 - 49	37%
50 - 59	21%
60+	2%

Race

Hispanic	58%
Black	29%
White	12%
Other	<1%

Sexual Orientation

Heterosexual	87%
Bisexual	8%
Homosexual	5%

Demographics

(n=500)

Birthplace

United States	61%
Puerto Rico	35%
Foreign-Born	5%

Homeless

Past Year	42%
Currently	37%

Income

\$0 – 5k	40%
\$5k – 10k	29%
\$10k – 15k	13%
\$15k – 20k	5%
≥ \$20k	12%

Education

≤ Some High School	45%
≥ High School Grad	55%

Self-Reported HIV Prevalence by Borough

New York City Overall
22%

Bronx
24%

Manhattan
22%

Queens
16%

Brooklyn
19%

Staten Island
No Data

0 1.5 3 6 9 12 Miles



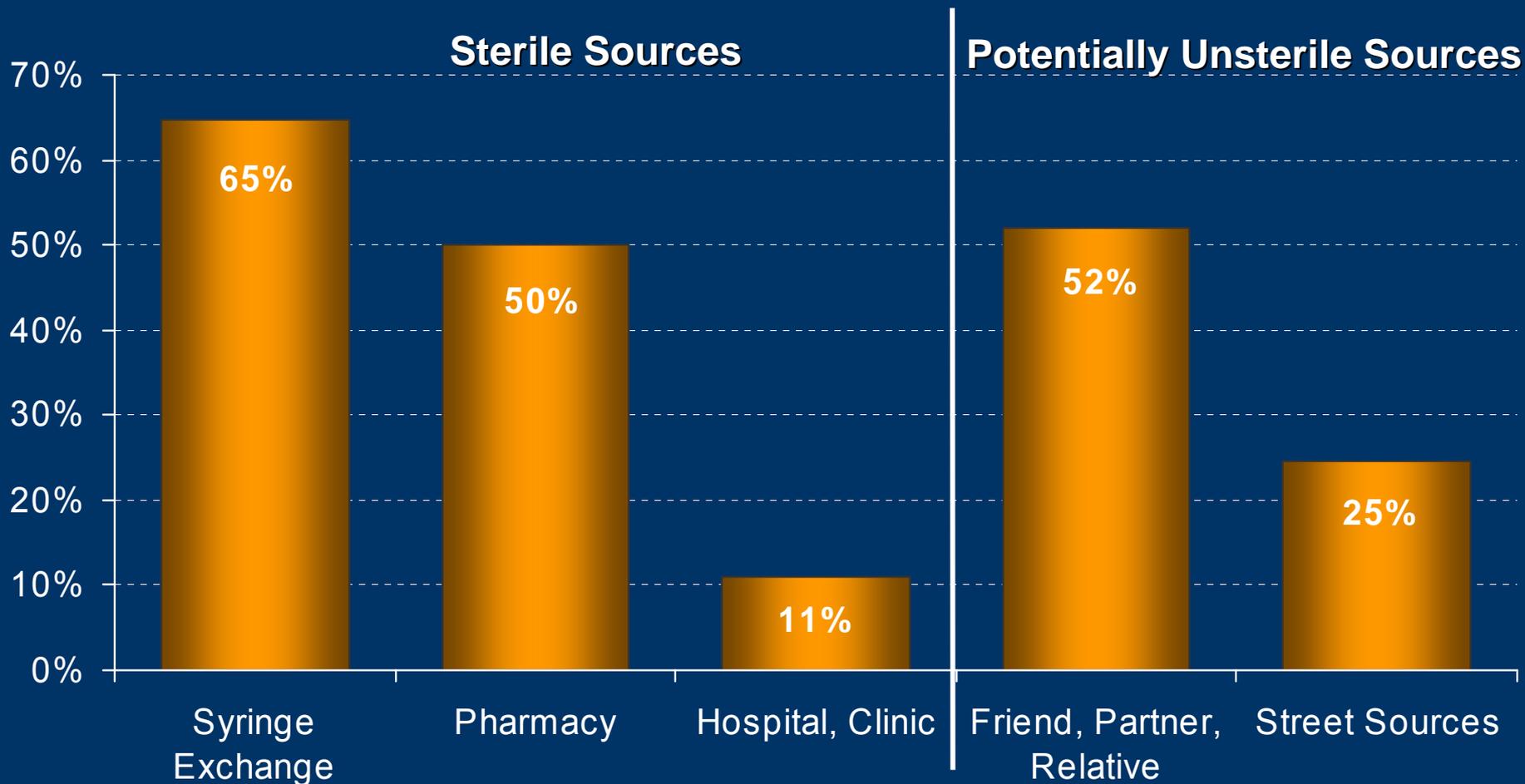
Sharing-Related HIV Risk Factors

(n=500)

Sharing Risks in Past Year	%
Receptive Sharing (Used after someone else)	19
Distributive Sharing (Given to someone who then used)	16
Shared Cooker	38
Shared Cotton	29
Shared Water	27
Any Syringe or Paraphernalia Sharing	48

Source of Syringes in Past 12 Months

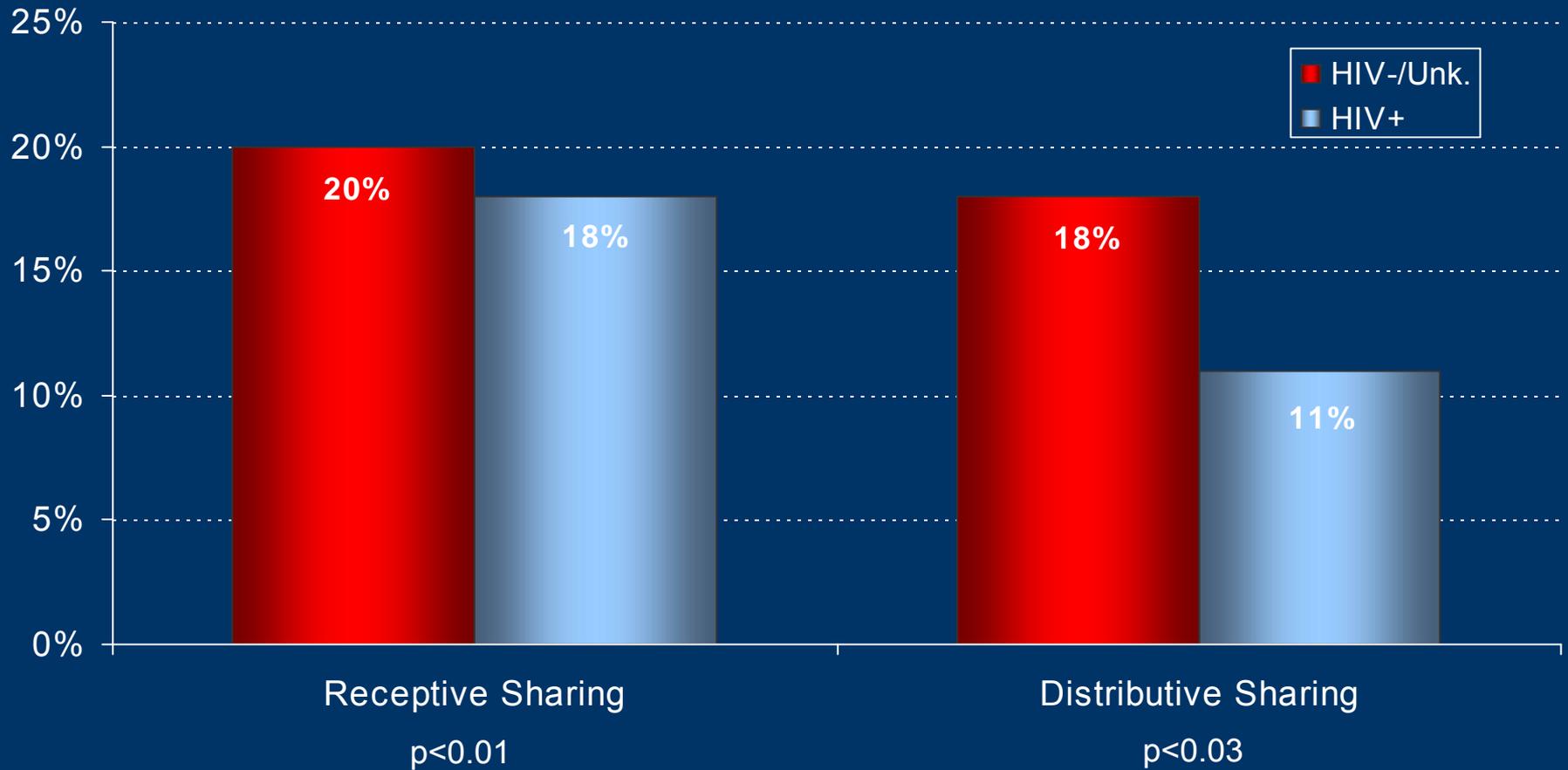
(n=500)



Association of Receptive Syringe Sharing and Demographics

Demographics	Shared Syringes	Crude OR	p
Race/Ethnicity			NS
Black	15%	1.0	
White	21%	1.5	
Hispanic	25%	1.8	
Gender			NS
Female	18%	1.0	
Male	23%	1.3	
Homeless in Past Year			<0.01
No	13%	1.0	
Yes	31%	3.0	
Arrested in Past Year			<0.01
No	17%	1.0	
Yes	28%	1.9	

Association of Syringe Sharing in Past 12 Months and Reported HIV Status



Association of Receptive Syringe Sharing and Geography

Geography	Shared Syringes	Crude OR	p
Borough of Residence			NS
Queens	19%	1.0	
Brooklyn	19%	1.0	
Bronx	21%	1.2	
Manhattan	29%	1.8	
Birthplace			0.02
U.S.	18%	1.0	
Puerto Rico	27%	1.6	
Foreign-Born	41%	3.2	

Association of Receptive Syringe Sharing and Drugs Injected in Past Year

Drugs Injected	Shared Syringes	Crude OR	p
Heroin			NS
No	22%	1.0	
Yes	21%	1.0	
Speedballs			<0.01
No	14%	1.0	
Yes	26%	2.1	
Cocaine			<0.01
No	14%	1.0	
Yes	28%	2.4	
Other			<0.01
No	18%	1.0	
Yes	42%	3.2	

Association of Receptive Syringe Sharing and Drug-Related Factors

Drug-Related Factors	Shared Syringes	Crude OR	p
“Shooting Gallery” Attendance			<0.01
No	15%	1.0	
Yes	35%	3.0	
Number of Drugs Injected			<0.01
1-2	15%	1.0	
>2	29%	2.3	
Frequency of Injection			<0.01
Less than 1x/Day	15%	1.0	
At least 1x/Day	25%	1.9	

Association of Receptive Syringe Sharing and Syringe Source

Source Variable	Shared Syringes	Crude OR	p
All Syringes from Unsterile Sources			<0.01
No	9%	1.0	
Yes	29%	4.1	
Number of Syringe Source Categories in Past Year (SEP, pharm., MD, friend, street sources)			<0.01
One Source	11%	1.0	
Two Sources	19%	1.8	
Three Sources	29%	3.3	
Four Sources	37%	4.7	
Five Sources	50%	7.9	

Multiple Logistic Regression: Factors Associated with Receptive Syringe Sharing

Predictor Variable	Adjusted OR (95% CI)
Number of Drugs Injected (Past Year)	
>2 vs. 1-2 (Reference)	2.1 (1.2 - 4.1)
Unprotected Sex (Past Year)	
Yes vs. No (Reference)	2.5 (1.2 - 5.2)
Arrested (Past Year)	
Yes vs. No (Reference)	2.6 (1.4 - 4.8)
Age	
18-41 vs. 42+ (Reference)	3.3 (1.6 - 6.8)
All Syringes from Unsterile Sources	
Yes vs. No (Reference)	5.8 (2.8 - 11.9)

Multiple Logistic Regression: Association of Syringe Source and Syringe Sharing

Syringe Source	Adjusted OR (95% CI)
Syringe Exchange	
Yes vs. No (reference)	0.55 (0.31 - 0.99)
Medical Provider	
Yes vs. No (reference)	0.9 (0.4 - 2.0)
Pharmacy	
Yes vs. No (reference)	1.2 (0.7 - 2.0)
Street Sources	
Yes vs. No (reference)	2.0 (1.2 - 3.6)
Friend	
Yes vs. No (reference)	2.2 (1.2 - 3.8)

Strengths & Limitations

- Strengths
 - NHBS-IDU is the first citywide survey of HIV in active injection drug users in New York City
 - Sampling outside traditional venue-based or institutional settings may yield a more representative IDU population
- Limitations
 - May not be a representative sample of the IDU population in NYC despite RDS adjustment
 - Geographical gaps in recruitment do not allow for targeted neighborhood analyses

Discussion & Recommendations

- Bidirectional association: SEPs & Sharing
 - SEPs may contribute more to risk reduction than other syringe sources
 - Less risky IDU may obtain syringes from SEPs
- Obtaining syringes from friends & street sources and inconsistent sources associated with increased sharing
- Recommendations
 - Target SEP in areas with low use
 - Market SEP to encourage ongoing use

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