

DREXEL UNIVERSITY ornsife School of Public Health Community Health and Prevention

Pairing STI Control and Syringe Exchange Services Increases Case Finding among Persons Who Inject Drugs Alexis Roth, PhD MPH¹, Jesse Goldshear, MPH², Ana Martinez-Donate, PhD¹, Seth Welles, PhD ScD³, Martha Chavis, MA⁴ and Barbara Van Der Pol, PhD, MPH⁵ ¹Community Health and Prevention, Drexel University Dornsife School of Public Health, Philadelphia, PA, ²Social Media and Health Innovation Lab, University of Pennsylvania, Philadelphia, PA, ³Epidemiology and Biostatistics, Drexel University Dornsife School of Public Health, Philadelphia, PA, ⁴Camden Area Health Education Centers, Inc., Camden, NJ, ⁵Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, AL

Background

- PWID are not considered a priority population under current national STI testing and treatn Therefore, we have no national STI prevalen population.
- Despite this, there are reasons to suspect high this group including National HIV Behavioral S that indicate high rates of concurrent sexulimited condom use, and engagement in trans both women and men.
- Offering STI control services at non-traditio based locations has been proposed as a novel the reach of STI control efforts, but in the exchange program, this strategy has yet implemented.

Objectives

- 1) To assess the acceptability of co-locating with syringe exchange program (SEP) serv
- 1) To estimate prevalence of chlamydia and g among SEP users

Methods

Eligibility

• Participants were 1) \geq 18 years old, 2) had within the last month, 3) had had sex within and 4) spoke English.

Study Flow

- Participants completed a self-administered sur drug use, sexual behaviors, and STI history months, followed by collecting self-obtained sp testing from up to three anatomic sites: geni and rectal.
- Participants then completed a short post-tes their experience.
- Specimen(s) were tested for chlamydia (CT) (GC) by the NJ infectious disease lab using amplification testing.

Analysis

 Descriptive statistics were calculated for de prevalence data, and chi-square and Mann-Whitney U tests were performed to assess factors associated with STI positivity (defined as CT or GC infection at any site).

| h for STI control nent guidelines. Ice data for this h rates of STI in urveillance Data al partnerships, sactional sex by | Characteristic Age (median, IC Race White Black Hispanic/Lati Other |
|---|---|
| onal community- way to increase case of syringe to be routinely | Table 2: S Sexual Rise Sexual Orientation Bisexual |
| STI screening vices | Heterosexual Homosexual Sexual behavior Oral sex Vaginal sex |
| | Anal sex |
| d injected drugs the last month, | Sexual risk factor Number of sex p (median, IQR) Inconsistent cor STI within 6 mo Transactional se |
| rvey about their in the prior 6 ecimens for STI ital, oropharynx, | Sex with PWID Sex with HIV-pc partner (vs. no) Yes Unsure |
| st survey about and gonorrhea ng nucleic acid | Table microorganie |
| emographic and | Gonorrhea alone |

| Table 1: Sample Description | | | | |
|--|--|---|--|--------------------|
| haracteristic | | Female N = 60 (%) | Male N = 60 (% |) |
| ge (median, IQ | R) | 31 (25, 37) | 33 (28, 42 |) 0.10 |
| ace White Black Hispanic/Latin Other | o(a) | 47 (78.3%) 4 (6.7%) 3 (5.0%) 6 (10.0%) | 41 (68.3% 12 (20.0% 3 (5.0%) 4 (6.7%) |)) 0.04 |
| Table 2: So | exual Orienta | tion, Sexu | al Behavi | or and |
| exual Risk | Factors Amo | ng Sexual | ly Active | Male and |
| | Female Inject | tion Drug | Users | |
| | Women | | len (-60) | р |
| exual Orientatior | (א=00) ו | | -00) | |
| Bisexual | 18/59 (30.5%) | 5/60 | (8.3%) | |
| leterosexual | 39/59 | 52/60 | (86.7%) | .01 |
| Iomosexual | (00.1%) 3/59 (5.1% | 6) 2/60 | (3.3%) | |
| exual behaviors, | 6 months | | | |
| Jiai sex | 52/60 (86.7%) | 48/60 | (80.0%) | .33 |
| /aginal sex | 53/60 (88.3%) | 41/60 | (68.3%) | .01 |
| Anal sex | 14/60 (23.3%) | 9/60 (| 15.0%)** | .25 |
| exual risk factors | s, 6 months | | | |
| nedian, IQR) | 5 stranger | (2,10) | 2 (1,5) | .003 |
| nconsistent cond | lom use 49/5 | 7 (86.0%) | 46/54 (85.2%) | .91 |
| STI within 6 mont | hs 5/52 | 2 (9.6%) | 4/57 (7.0%) | .62 |
| ransactional sex | 36/5 | 7 (63.2%) | 10/55 (18.2%) | .01 |
| Sex with PWID | 31/58 | 8 (53.4%) | 40/57 (70.2%) | .16 |
| Sex with HIV-pos artner (vs. no) Yes | itive | 9 (በ በ%) | 2/57 (3 5%) | .04 |
| Unsure | 14/59 | 9 (23.7%) | 5/57 (8.8%) | |
| Table 3croorganisa | : Distribution m and gender nd female inje | of CT/GC r, among s ection dru | infections sexually ac g users | s by ctive male |
| | Women (N = 60) |) Men (N | = 60) Tota | al (N = 120) |
| Sonorrhea Ione | 5 (8.3%) | 3 (5.0 |)%) { | 3 (6.7%) |
| Chlamydia Ione | 8 (13.3%) | 2 (3.3 | 3%) 1 | 0 (8.3%) |
| Sonorrhea nd Chlamydia | 3 (5.0%) | _ | | 3 (2.5%) |

| Table 1: Sample Description | | | | |
|--|------------------------|------------------------------------|--------------------------------------|------------------|
| Characteristic | | Female N = 60 (%) | Male N = 60 (% | p |
| Age (median, IQF | २) | 31 (25, 37) | 33 (28, 42 |) 0.10 |
| Race White Black Hispanic/Lating | o(a) | 47 (78.3%) 4 (6.7%) 3 (5.0%) | 41 (68.3%) 12 (20.0%) 3 (5.0%) |) 0.04 |
| Other | | 6 (10.0%) | 4 (6.7%) | |
| Table 2: Sexual Orientation, Sexual Behavior and Sexual Risk Factors Among Sexually Active Male and | | | | |
| | Female Injec | tion Drug | Úsers | |
| | Women | | Men | n |
| Sexual Orientation | (N=60) | | N=60) | Ρ |
| Bisexual | 18/59 (30.5%) | 5/6 | 0 (8.3%) | 01 |
| Heterosexual | 39/59 (66.1%) | 52/6 | 0 (86.7%) | |
| Homosexual | 3/59 (5.1% | %) 2/6 | 0 (3.3%) | |
| Sexual behaviors, Oral sex | b months 52/60 | 10/0 | | 00 |
| Vaginal agy | (86.7%) | 48/6 | 0 (80.0%) | .33 |
| vaginai sex | 53/60 (88.3%) | 41/6 | 0 (68.3%) | .01 |
| Anal sex | 14/60 (23.3%) | 9/60 | (15.0%)** | .25 |
| Sexual risk factors Number of sex pa (median, IQR) | , 6 months rtners 5 | (2,10) | 2 (1,5) | .003 |
| Inconsistent cond | om use 49/5 | 7 (86.0%) | 46/54 | .91 |
| STI within 6 mont | hs 5/5 | 2 (9.6%) | (85.2%) 4/57 (7.0%) | .62 |
| Transactional sex | 36/5 | 7 (63.2%) | 10/55 (18.2%) | .01 |
| Sex with PWID | 31/5 | 8 (53.4%) | 40/57 (70.2%) | .16 |
| Sex with HIV-posi partner (vs. no) Yes | tive 0/5 | 9 (0.0%) | 2/57 (3.5%) | .04 |
| Unsule | 14/5 | 3 (23.1%) | 5/57 (8.8%) | |
| Table 3: | Distribution | of CT/GC | infections | s by |
| an al | nd female inj | r, among ection dru | Jg users | |
| | Women (N = 60 |) Men (N | N = 60) Tota | al (N = 120) |
| Gonorrhea alone | 5 (8.3%) | 3 (5. | 0%) 8 | 8 (6.7%) |
| Chlamydia alone | 8 (13.3%) | 2 (3. | 3%) 1 | 0 (8.3%) |
| Gonorrhea and Chlamydia | 3 (5.0%) | - | - | 3 (2.5%) |

| | Table 1: Sam | nple Descr | iption | |
|---|--|---|--|-----------|
| Characteristic | | Female N = 60 (%) | Male N = 60 (%) | p |
| Age (median, IQR) | | 31 (25, 37) | 33 (28, 42) | 0.10 |
| Race White Black Hispanic/Latino(Other | a) | 47 (78.3%) 4 (6.7%) 3 (5.0%) 6 (10.0%) | 41 (68.3%) 12 (20.0%) 3 (5.0%) 4 (6.7%) | 0.04 |
| Table 2: Sexual Orientation, Sexual Behavior andSexual Risk Factors Among Sexually Active Male andFemale Injection Drug Users | | | | |
| | Women (N=60) | N (N: | len =60) | р |
| Sexual Orientation Bisexual Heterosexual Homosexual Sexual behaviors, 6 | 18/59 (30.5%) 39/59 (66.1%) 3/59 (5.1% months | 5/60 52/60 %) 2/60 | (8.3%) (86.7%) (3.3%) | .01 |
| Oral sex | 52/60 (86.7%) | 48/60 | (80.0%) | .33 |
| Vaginal sex | 53/60 (88.3%) | 41/60 | (68.3%) | .01 |
| Anal sex | (23.3%) | 9/60 (1 | 5.0%)** | .25 |
| Sexual risk factors, Number of sex part (median, IQR) | 6 months ners 5 | (2,10) | 2 (1,5) | .003 |
| Inconsistent condo | m use 49/5 | 7 (86.0%) | 46/54 (85.2%) | .91 |
| STI within 6 months Transactional sex | s 5/5/ | 2 (9.6%) | 4/57 (7.0%) 10/55 | .62 |
| Sex with PWID | 36/5 | 7 (63.2%) | (18.2%) 40/57 | .01 |
| Sex with HIV-positive partner (vs. no) Yes Unsure | 0/59 0/59 | 9 (0.0%) 9 (23.7%) | (70.2%) 2/57 (3.5%) 5/57 (8.8%) | .10 |
| Table 3: Distribution of CT/GC infections by microorganism and gender, among sexually active male and female injection drug users | | | | |
| | Nomen (N = 60 |) Men (N | = 60) Total | (N = 120) |
| Gonorrhea alone | 5 (8.3%) | 3 (5.0 | %) 8 | (6.7%) |
| Chlamydia alone | 8 (13.3%) | 2 (3.3 | %) 10 | (8.3%) |
| Gonorrhea and Chlamydia | 3 (5.0%) | _ | 3 | (2.5%) |

| Table 4: Infections by Anatomic Site* | | | | |
|--|-------------------|-----------------|--|--|
| | Women (N = 60) | Men (N = 60) | | |
| Genital only | 3/59 | 2/60 | | |
| Pharyngeal only | 5/55 | 3/21 | | |
| Rectal only | 0/6 | 0/5 | | |
| Genital and Pharyngeal | 6/55 | 0/21 | | |
| Rectal and Pharyngeal | 1/6 | 0/5 | | |
| Genital and Rectal | 0/6 | 0/5 | | |
| Multiple site | 1/6 | 0/5 | | |
| *Number of positive tests at anatomic site over number of samples collected per anatomic site. | | | | |

Return Rates & Preferences for STI Screening

- In this sample, rates of return for results were nearly 60% among those without CT/GC.
- 3:4 persons screening positive returned for results and received timely treatment of their infection.
- 86% preferred to receive future STI screening at SEP vs. traditional clinic

Among this convenience sample of PWID, we found high rates of STI. Rates were similar to those in STI clinics and other outreach projects and substantially higher than the general population nationally. Findings suggest that extragenital screening is essential to disease finding efforts in this population. This may be influenced by sexual behaviors, particularly among women reporting transactional sex where oral sex may present a substantial risk.

- Small exploratory study with a convenience sample.
- Participants were not required to collect all sample types and thus, we may have missed some infections.
- Given that PWID who exchange syringes are more focused on preventing parenteral infection to preserve health, our findings most probably represent conservative estimates of infection in this high-risk population.
- High levels of oral GC infection could be attributable to environmental contaminates at study/lab sites.

Department of Health, Division of HIV/AIDS, TB and STD Services.

Alexis M. Roth 3215 Market Street, Room 435 Philadelphia, PA 19104



Discussion

Limitations

Acknowledgements

This study would be impossible without our participants and the tremendous help of the outreach team at Camden AHEC including Ms. Ruth Williams, RN and Mr. Sam Meyers, MA. This study was sponsored by Community Driven Research Day; an effort of Drexel University, the University of Pennsylvania, Temple University and The Children's Hospital of Philadelphia and New Jersey

Contact

Phone: (267) 359-6123 Fax: (267) 359-6225 Email: alexisroth@drexel.edu