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Screening for STIs among criminal legal system involved youth of color in community settings

Alwyn Cohall^{1,2*} , Renee Cohall¹, Laura Staeheli¹, Curtis Dolezal³, Stephanie Campos³, Sin Lee³, Megan O'Grady⁴, Susan Tross³, Patrick Wilson⁵ and Katherine Elkington³

Abstract

Background Sexually transmitted infections are a significant, and growing, public health problem in this country – particularly among youth. Innovative strategies are needed to reduce the community burden of infection. Preliminary studies indicate that individuals involved in the criminal legal system have high rates of infection. While gaps exist in providing screening for incarcerated individuals, there are minimal efforts that have been initiated to screen individuals diverted from incarceration. In this study, we examined the STI risk profile and feasibility of screening for sexually transmitted infections for youth who were attending an alternative sentencing program after arrest for a minor offense. Youth were screened for chlamydia and gonorrhea using urine-based nucleic acid amplification tests.

Results Of the 307 participants engaged in a program providing supportive services for criminal legal system involved youth at the Brooklyn Court House in New York City, 186 agreed to screening for sexually transmitted infections, and 8% were positive for chlamydia, gonorrhea, or both.

Conclusions Screening programs within carceral settings have proven effective in identifying individuals with STIs. However, with policy changes diverting more young people away from incarceration and into community-based programs, innovative programs are needed to identify STIs among youth in these settings. Our findings indicate that it is feasible to conduct venue-based screening in these settings, and, doing so may identify youth in need of treatment and further evaluation.

Keywords STI screening, Criminal legal system, Youth of color

Background

Rates of sexually transmitted infections (STIs) are increasing in the United States, particularly among youth (Centers for Disease Control and Prevention. Sexually

Transmitted Disease Surveillance. 2021). Current estimates show youth aged 15-24 account for half of all new STI cases (Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance. 2021). Although alarming, these statistics may, unfortunately, represent only a partial glimpse of the true dimensions of the problem as young people are inadequately screened for STIs. Despite the high rates of STIs, studies have found only 21-36% of young adults have been tested for an STI (Thompson et al. 2021; Febo-Vazquez et al. 2018) and only 10-20% report being screened in the past year (Cuffe et al. 2016; Liddon et al. 2022; Kann et al. 2018). Reasons for lack of screening include decreased access

*Correspondence:

Alwyn Cohall

Atc1@cumc.columbia.edu

¹ Columbia University Mailman School of Public Health, New York, USA

² Columbia University Irving Medical Center, New York, USA

³ New York State Psychiatric Institute, New York, USA

⁴ University of Connecticut, Storrs, USA

⁵ University of California, Los Angeles, USA



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to healthcare, inadequate sexual education, low self-perceived need for evaluation and the asymptomatic nature of the infections (Allan-Blitz et al. 2021).

Absent screening, identification and treatment, youth may potentially suffer serious sequelae (for example: pelvic inflammatory disease, ectopic pregnancy, infertility, and cancer). Additionally, they may unwittingly transmit infections to members of their sexual networks, thereby increasing the STI burden for the community at large (Price et al. 2013; Institute and of Allergy and Infectious Disease (NIH). 2015). Further, certain STIs may facilitate the acquisition and transmission of HIV (Pathela et al. 2013; Hayes et al. 2010).

Youth of color are disproportionately impacted by both STIs and criminal legal system involvement (Richetelli et al. 2009; Crosby et al. 2003; Belenko and Dembo 2003). Studies have found that African American youth are at the highest risk of contracting an STI compared to other racial-ethnic groups (Crosby et al. 2003; Belenko and Dembo 2003).

Here and below, we use the term Criminal Legal System Involved Youth (CLSIY) to refer to young people who have been involved with the overarching system that entails “policing, prosecution, courts and corrections in the United States” (<https://www.vera.org/news/why-we-say-criminal-legal-system-not-criminal-justice-system>). This terminology is becoming more broadly used as compared to the “justice system” as the origins and legacy of the legal system in this country build upon and support structural racism, rather than just and equitable treatment.

Criminal Legal System Involved Youth (CLSIY) are more likely to be sexually active and engage in unprotected sex than their peers, increasing their chances of contracting an STI (Martin et al. 2003; Maruschak 2011; New York State Department of Health 2010; Spaulding et al. 2009; Dembo et al. 2010; Elkington et al. 2008). For example, within the criminal legal system for youth in Florida, 19.2% of adolescent girls and 10.5% of adolescent boys aged 12-18 tested positive for chlamydia, gonorrhea, or both, surpassing the estimated national rate of 5% of adolescents (Belenko et al. 2009).

The intersection of STI prevalence and high rates of incarceration for youth of color increases risks to the health of these young people and the communities to which they return following detention or incarceration if infections are not identified and treated promptly.

However, while screening programs within juvenile detention facilities, jails and prisons have become more common, the practice is still not universal (Belenko et al. 2009; Pathela et al. 2009; Belenko et al. 2008). Available evidence suggests that 5% of juvenile detention facilities, 35% of jails, and 19% of prisons have screening

protocols for STIs upon entry into their facilities (Solomon et al. 2014 Mar). While some facilities offer “opt-out” screening, which means STI testing is included for everyone in the routine standard of care (unless the individual specifically declines the test (Branson et al. 2006), a larger majority offering testing only when symptomatic (Belenko et al. 2008), or offer “opt-in” testing – meaning individuals have to request services (Wiehe et al. 2015). Of note, when screening programs are initiated, a high yield of STIs are uncovered. For example, a study screening individuals incarcerated in a NYC jail found 40% more cases of gonorrhea and chlamydia than in all 10 sexual health clinics in NYC combined (Pathela et al. 2009).

While considering the broad spectrum of criminal legal system involvement, the high rates of STIs necessitate the initiation and maintenance of screening programs that take place within locked facilities (e.g., detention, jail, and prison). Additionally, over the past several years there have been substantial gains made in justice reform policies that provide alternatives to detention/incarceration and placement in community supervision (CS) programs for people arrested for minor offenses. While these reforms are laudable and necessary, an unintended consequence of justice reform policies is the lack of screening for STIs among young people in these community programs.

Innovative strategies to engage this population in testing and care within community settings are necessary to improve the health of these young people and their communities. However, there is a lack of research addressing community based STI interventions for individuals with a history of criminal legal system involvement (Shannon and Klausner 2018). A study in Tampa implemented a voluntary screening program during the arrest process rather than after charges were filed (Belenko et al. 2008); 11.5% of adolescents screened positive for Chlamydia and 4.2% were positive for Gonorrhea. More recently, an implementation intervention focused on increasing the uptake of HIV and STI testing in juvenile community supervision settings that were linked to public health agencies found that of the youth tested, 43.2% had an STI (Elkington et al. 2020). Despite the potential utility of linking public health agencies to community service programs, a recent national survey of community supervision settings found that <1% of community supervision agencies offered on-site testing and 82% reported no collaboration with community health agencies, with 20-30% of agency leadership not knowing where to locate STI services within the county (Elkington et al. 2020). In the context of shifting justice policy that has moved away from detention and incarceration, particularly for younger offending populations, the absence of STI

testing in community supervision settings represents a significant missed opportunity for community supervision agencies to serve as an “entry point” for youth to engage in early STI prevention and sexual health promotion. The elevated STI rates for CSIY call for new strategies to engage more of this population in testing and treatment. In particular, a specific focus on young adults is necessary given that rates of certain STIs (chlamydia and gonorrhea) are highest in this age group compared to all other age groups and are increasing (Agwu 2020), and those aged 18–24 are disproportionately represented in the criminal legal system, accounting for 9.5 % of the US population yet comprise 23 % of all arrests (SAMHSA. 2018). Yet to our knowledge, almost all studies of STI risk and prevention behaviors are among CSIY are of juveniles (i.e. younger than 18 years). In the context of considerable risk factors – chaotic and disconnected families, school dropout, unemployment, and residence in high-risk neighborhoods – criminal system-involved young adults must also navigate numerous stressful developmental transitions associated with young adulthood (Arnett and Tanner 2006), such as lessening of social supports, changes in living situation, and increasing economic independence. Not surprisingly, these young adults are often disconnected from health services in the community.

The primary goal of the current study is to understand the STI risk profile and feasibility of a community-based STI screening initiative for young people arrested for minor offenses and referred to community-based programming instead of incarceration. With respect to STI screening, we focused in this project on the identification of Chlamydia and Gonorrhea. Given that screening occurred in non-clinical settings, we did not have access to phlebotomy to screen for syphilis. Further, while we also added HIV screening (via OraSure oral swabs), no clients screened positive for HIV. Therefore, we restricted the reporting in this paper to describe our efforts to screen for Chlamydia and Gonorrhea. Specifically, we examine the rate of acceptance of Chlamydia and Gonorrhea screening, reasons for declining, and differences in characteristics between those who declined versus those who accepted testing. We also report Chlamydia and Gonorrhea screening results and compare characteristics between those who screened positive and those who screened negative.

Methods

Aim, design and setting

This investigation is part of a larger study conducted at an alternative sentencing program (ASP), run by a community-based organization located in a criminal courthouse in a large city in the northeast, and was reviewed

and approved by the Institutional Review Board at the Columbia University Irving Medical Center. Materials and methods are described elsewhere in detail (Elkington et al. 2020). The larger study was designed to assess the benefits of an evidenced-informed individual and small group education and counseling intervention (#MoveUp) in substance use and STI/HIV service readiness and risk reduction. Young adults received the intervention on-site at the ASP. It was administered by embedded health educators trained by an academic medical center under the auspices of a community venue-based screening initiative serving young people at risk of contracting STIs and/or HIV. Services offered through the venue-based screening program included individual risk-assessments; screening for STIs/HIV; risk reduction counseling; and linkages to care for: STI/HIV treatment, post-exposure, and pre-exposure prophylaxis (PEP/PrEP), primary care, reproductive health, and mental health services (Cohall et al. 2022). The community-based venue-based screening program provides services for a network of over 25 community agencies including alternative high schools, community colleges, colleges, workforce development programs, agencies serving LGBTQ+ youth, and organizations serving the formerly incarcerated.

Characteristics of participants

Between 2017–2020, we enrolled $N=307$ youth, ages 18–24 years, who were mandated to the ASP. CLSIY were eligible to participate if they were 18–24 years old, were enrolled in the ASP, reported having had unprotected vaginal or anal intercourse in the past 3 months, were HIV negative, and were conversant in English.

Study processes

CLSIY were informed of the larger study by either ASP staff or by study staff including peer recruiters (members of the research team who were previously enrolled at the ASP). If interested in being involved in the larger study, a peer recruiter or research assistant (RA) explained the study and conducted a brief screen to assess eligibility. If eligible, a baseline interview was scheduled, and written informed consent was obtained by the RA. Specific details of the larger study have been described previously (Elkington et al. 2020).

Following acceptance into the study, youth were interviewed at baseline to obtain information about sexual health, sexual risk-taking, and substance use. Subsequently, youth were randomized (1:1) into either a single session standard of care condition or the 4-session intervention over 4 weeks designed to enhance reduce HIV/STI risk and increase acceptance of HIV/STI testing and referrals to mental health and substance abuse counseling (see Elkington et al., (Elkington et al. 2020)

for more detailed description of the intervention). There were no differences in youth gender, age, race/ethnicity or STI history by randomization assignment. Regardless of group assignment, all youth were offered STI testing during the baseline interview, the acceptance of which is a focus of the current study. Youth in the *intervention group* during session 1 engaged in a discussion with a health educator to further explore their sexual history, relationship status, and condom use, drawing from the Brief Negotiated Interview approach. At the end of the sexual health assessment, youth were offered free, confidential HIV and STI screening. Youth in the *standard of care group* received a “neutral” offer of HIV and STI screening by a health educator, along with basic HIV/STI prevention education. There were no differences in STI testing uptake by intervention group assignment ($p=0.21$).

Materials

Baseline survey

CLSIY sexual risk and substance use behavior was collected using an adapted version of the AIDS-Risk Behavior Assessment (ARBA) (Donenberg et al. 2002; Teplin et al. 2003), a validated instrument that assesses substance use in the past 30 days, 3 months, 12 months and life-spanning as well as sexual risk behaviors including condom use, knowledge of partner sexual history, and sex while drunk/high. For this study, a high-risk sex partner is a person the participant has engaged in sex with in the previous 3 months who themselves have had: multiple sex partners; an STD; engaged in sex work; injected drugs; or has a positive HIV status. Additionally, mental health and trauma history were assessed by Brief Symptom Inventory and the Lifetime Incidence of Traumatic Events (Derogatis 1993; Greenwald et al. 2002)).

STI testing

STI testing for chlamydia and gonorrhea were collected using the Gen-probe Aptima Urine Specimen Collection Kit and sent to the New York City Department of Health and Mental Hygiene (NYC DOHMH) for analysis. Results of STI screens were sent to supervisory staff at the academic medical center. Subsequently, attempts were made to contact individuals with positive STI results for treatment.

Statistical analysis

As there were no differences in STI testing uptake by intervention group assignment ($p=0.21$) and data on sexual risk behaviors were drawn from baseline (pre-randomization to intervention), analysis was conducted on the full sample of youth. Descriptive statistics were performed for demographic, life events, arrest history,

sexual behavior, and STD variables. Two-group analyses were done comparing those who tested vs. those who did not and comparing those who tested STI positive vs. tested STI negative. For these comparisons, chi-square tests were run with dichotomous variables and Mann-Whitney tests were run with continuous variables. Non-parametric Mann-Whitney statistics were used because some of the continuous variables (number of adult justice contacts and number of condomless sex occasions in particular) had skewed distributions.

Results

Sample characteristics and STI risk

The mean age of the sample ($n=307$) was 21.1 years and most identified as cisgender male and as non-Hispanic African American. About half the sample completed high school or a GED equivalent. At the time of the survey, about one-third were currently employed. The majority were not currently married or living with a partner. Youth endorsed substantial exposure to lifetime traumatic events with a median score of 7 (range 0-15). In addition to the current index offense, almost 90% had also been arrested in the previous 12 months (see Table 1).

STI testing profiles

Within the sample ($n=307$), 19% had sex with a high-risk sex partner in the past 3 months, as defined above (Table 2). There was a large range in number of occasions of condomless vaginal or anal sex per individual, with responses ranging from 0-432 instances. In the prior 3 months, 65% had been drunk or high immediately prior to having sex. There was a large range in frequency of alcohol use and marijuana use in the previous 30 days. The majority (84%) had been tested for an STI previously with 85% of those reporting testing in a medical facility, and 6% in jail/prison. The mean age of the first STI test was 18, and the mean number of times tested was 5.9. While 89% had no STI diagnosis in the past 3 months, 8.5% had one diagnosis, 2.6% had 2 diagnoses, and 0.7% had 3 diagnoses. Of the 307, 186 accepted screening at the ASP (60.6%) and 121 declined (39.4%). Of those who declined testing ($N=121$), 119 gave a reason for not testing. The most frequent reasons given were that they were recently tested (30%). Others simply refused to test (24%), reported that they were regularly tested at a doctor's office (9%), could not urinate (8%) or did not have time to stay for the test (7%).

In comparing those who accepted testing to those who declined, those who had reported a higher number of traumatic lifetime events ($p=0.001$), those who reported never testing for an STI prior ($p=0.031$) and those who reported fewer number of prior STI tests ($p=0.034$) were

Table 1 Sample Description (N=307)

	Mean (SD) Range
Age	21.13 (2.07) 18-24 N (%) ^a
Gender	
Male	228 (74%)
Female	77 (25%)
Transfemale	1 (<1%)
Genderqueer	1 (<1%)
Race/Ethnicity	
Non-Hispanic	
African American	167 (55%)
More than one race	16 (5%)
Other	15 (5%)
Hispanic	
African American	36 (12%)
More than one race	46 (15%)
Other	25(8%)
Education	
Less than HS grad	149 (49%)
HS grad/GED	149 (49%)
College grad	7 (2%)
Currently employed	94 (31%)
Currently married or living with a partner	48 (15.6%)
	Median (Range)
# Traumatic events, lifetime	7 (0-15)
Arrested for the first time in the past 12 months	95 (36.0%)
Arrested 2+ times in the past 12 months (Range = 1-16)	133 (51.4%)
Previous arrest 12+ months ago	36 (11.7%)

^a Valid Percent used to adjust for missing responses

more likely to test. There were no differences between the control and intervention groups (Table 3).

Out of those screened (n=186), 15 screened positive (8.1%) (Table 4). The results showed 11 (5.9%) positive for chlamydia, 1 (<1%) positive for gonorrhea, and 3 (1.6%) positive for chlamydia & gonorrhea. The majority were cisgender male (73.3%) and Non-Hispanic African American (60.0%). In comparing characteristics between those who received a positive test result and those who received a negative test result, no significant differences were found (Table 5). Results of positive screens were obtained by the health team from the NYC Department of Health, and team health educators made multiple confidential attempts to contact youth in need of treatment. Of those 15 youth who screened positive for an STI, all were referred and 8 went on to receive treatment following their diagnosis. Depending on the nature of the infection, youth were referred to an academic medical center or the NYC Department of Health for ceftriaxone

Table 2 STI risk and testing profile (N=307)

	N (%) ^a
High risk sex partner, past 3 months	58 (18.9%)
	Median (Range)
# Condomless vaginal/anal sex occasions, past 3 months	7 (0-432)
# Times used alcohol, past 3 months	5 (0-420)
# Times used marijuana, past 3 months	90 (0-2520)
Sex while drunk or high, past 3 months	195 (63.5%)
Age first STD test ^b	18.36 (2.83) 11-24
# Times tested for STD	5.83(7.58) 0-50
Number of STD diagnoses, past 3 months	N (%)^c
0	271 (88.3%)
1	26 (8.5%)
2	8 (2.6%)
3	2 (0.7%)
Ever tested for STD	255 (83.1%)
Location of last STD test ^b	
Clinic, hospital, doctor's office	218 (71%)
Jail or prison	17 (5.5%)
Other	20 (6.5%)
Last test offered by provider ^b	105 (34.2%)
Accepted STI test offered by program health educator	186 (60.6%)

^a Valid Percent used to adjust for missing responses

^b N=265 ever tested

^c Percents may add up to more than 100 due to rounding

injections (gonorrhea). Those youth screening positive for Chlamydia were offered those options but also could select having a prescription sent to their local pharmacy if they had insurance coverage. Senior staff from the academic medical center confirmed receipt of treatment at one of these facilities.

Discussion

Our findings suggest the urgent need for greater STI screening programs among this population of CLSIY in community settings. Almost 1 in 10 youth tested had gonorrhea, chlamydia, or both. On a positive note, the overwhelming majority of the sample reported a prior history of STI screening (85%). The percentage of STI screening among our sample far exceeds national averages for STI screening (21-36%) for youth generally. Further, over half of the youth in our study (60%) agreed to be tested in the ASP when offered, rates of STI testing greater than those seen in studies of younger youth under community supervision (Elkington et al. 2020). This indicates this sample of CLSIY has a reasonable appraisal of both risk and the need for periodic assessment.

Table 3 Description of participants by testing status ($n=307$)

	Not tested (N=121)	Tested (N=186)	Total (n=307)	P-value
Education				0.704
No GED/HS diploma	57 (47.5%)	92 (49.7%)	149 (48.9%)	-
GED/HS diploma	63 (52.5%)	93 (50.3%)	156 (51.1%)	-
Employment Status				0.773
Not currently employed	82 (68.3%)	130 (69.9%)	212 (69.3%)	-
Currently employed	38 (31.7%)	56 (30.1%)	94 (30.7%)	-
Currently married or living with a partner				0.705
No	100 (83.3%)	158 (84.9%)	258 (84.3%)	-
Yes	20 (16.7%)	28 (15.1%)	48 (15.7%)	-
High risk sex partner, past 3 months				0.564
No	100 (82.6%)	148 (80.0%)	248 (81.0%)	-
Yes	21 (17.4%)	37 (20.0%)	58 (19.0%)	-
Sex while drunk or high, past 3 months				0.291
No	46 (38.3%)	58 (32.4%)	104 (34.8%)	-
Yes	74 (61.7%)	121 (67.6%)	195 (65.2%)	-
Ever tested for an STI prior				0.031*
No	12 (10.2%)	36 (19.5%)	48 (15.8%)	-
Yes	106 (89.8%)	149 (80.5%)	255 (84.2%)	-
STI test results, past 3 months				0.666
STI neg	108 (89.3%)	163 (87.6%)	271 (88.3%)	-
STI pos	13 (10.7%)	23 (12.4%)	26 (11.7%)	-
	Mean (Range)	Mean (Range)		
Number of adult justice contacts	5.8 0-40	5.43 0-97		0.110
Number of condomless sex occasions past 3 months	36.68 0-432	39.74 0-360		0.309
Number of traumatic events experienced	6.33 0-14	7.89 0-15		0.001*
Number of times tested for STI	7.30 0-50	4.90 0-30		0.034*
More STI knowledge	7.46 3-10	7.52 1-10		0.486

¹ Ns may not sum to 307 due to missing data. Percents are of those with non-missing data

* p -value <0.5 is statistically significant

In light of persistent risk taking and involvement in sexual networks where the community prevalence of STIs is high, this need for consistent and repeated screening is noteworthy. Among those tested in our study, 67.6% admitted having sex while under the influence of drugs or alcohol, 20% had sex with a high-risk partner, and 12.4% reported a history of an STI infection within the past three months. Among the participants who agreed to testing, 8% ($n=15$) tested positive for at least one STI. There were no significant differences in psychosocial features (trauma exposure, educational attainment, etc.) or involvement in STI risk behaviors between those who were tested and those who were not; or between those who received a positive

result and those who did not. This may be due to the general high-risk profile of the entire population.

Of those youth who screened positive for an STI, eight went on to receive treatment following their diagnosis. While the majority of those who received a positive test result went on to treatment, those who did not remain of great concern. Despite obtaining several modes of contact for these young people (personal/family/friends' phone numbers; email; Facebook accounts) and utilizing multiple attempts to engage these individuals, these efforts were unsuccessful, indicating the challenges of working with this group of young people who are often inconsistently connected to both community-based agencies and technology. Additionally, 20% of those who

Table 4 Characteristics of participants with a positive STI test result

Characteristics	N (%)
Not tested	121 (39%)
Tested	186 (61%)
Tested negative ^a	171 (91.9%)
Positive STI test result ^a	15 (8.1%)
Positive for chlamydia ^a	11 (5.9%)
Positive for gonorrhea ^a	1 (<1%)
Positive for chlamydia & gonorrhea ^a	3 (1.6%)
Sex ^b	
Male (cisgender)	11 (73.3%)
Female (cisgender)	4 (26.7%)
Non-Hispanic ^b	
African American	9 (60.0%)
More than one race	1 (6.7%)
Hispanic ^b	
African American	1 (6.7%)
More than one race	1 (6.7%)
Other	3 (20.0%)

^a STI test rates are out of those who tested for an STI (n=186).

^b Demographic rates are out of those who tested positive for an STI (n=15)

screened positive for STIs in our sample had a previous positive result within the three months before our study. Given the difficulty in linking positive cases to treatment services in our intervention, some of these cases may represent previous infections that were not treated. Or, they may have been treated and re-infected by concurrent or new partners.

Regardless, the high rates of repeat infections indicate the need for concerted vigilance in providing treatment and risk-reduction services to this population. By comparison, 95% of non-CLSIY testing positive for STIs in another component of our venue-based screening program were treated successfully (Cohall et al. 2022). Further efforts should focus on identifying and addressing unique barriers to providing treatment following a positive result in community-based programs for CLSIY.

New York City has been a site of major reform in policing and prison policies in the past 20 years. Drug policies aimed at reducing arrest and conviction of minor drug offenses have been credited as the leading cause for the 66% reduction in drug arrests and 55% reduction in incarceration rate from 1998 to 2015 (Greene and Schiraldi 2016). A factor in the reduced incarceration rate is the preference to defer to alternative community-based programs, particularly for youth. While decreases in incarceration rates are laudable, this reduction in arrests and incarceration also lessens the opportunities for screening and treatment of STIs for CLSIY. As of 2000,

health services in NYC juvenile detention facilities and jails include universal screening for chlamydia and gonorrhea, within 72 hours of admission (Pathela et al. 2009). There is no comparable initiative for providing such services for youth diverted from incarceration and who remain under community supervision.

This study adds to the growing body of literature on methods to improve health interventions for adolescents and young adults involved with the criminal legal system. For example, one study found that upon implementing a voluntary screening protocol for the juvenile arrestees (prior to incarceration), 13.2% had an STI, 10.5% for males and 19.2% for females (24). However, there is a dearth of studies that focus on the population who have been redirected from detention and incarceration, particularly young adults. Our current study builds upon these previous findings and shows the potential for integration of health interventions in community supervision settings to better engage CLSIY and improve community health outcomes. While there have been studies indicating the challenges inherent in obtaining “buy-in” for community-based programs serving youth diverted from juvenile detention/jail (Tolou-Shams et al. 2017), our current study contributes to literature which indicates that collaboration is feasible and can be beneficial in achieving improvement in sexual health outcomes. (Elkington et al. 2020; Gardner et al. 2019).

This study, conducted with ASP participants in a courthouse, indicates that this type of location is potentially favorable for identifying youth with sexually transmitted infections. Further work is needed to address strategies to improve linkages to sexual health and primary care services.

This study had limitations, including small sample size. Further, the sample represents youth involved in an alternative to incarceration (ASP) program in NYC, and as such may not be representative of all youth involved in the criminal legal system. Despite limitations, findings fill a critical knowledge gap and have implications for the design and implementation of sexual health interventions for Black and Latinx youth involved in the criminal legal system.

Conclusion

Screening programs for STIs among CLSIY in alternative sentencing programs have been understudied and underutilized. This study demonstrated the feasibility of a community based STI screening initiative for CLSIY. More research is required in this area among a population that has been greatly overlooked. Furthermore, long-term outcomes of implementing screening programs are necessary, such as possible impact on

Table 5 Comparison of participants by STI Test Result (n=186)

	STI pos (N=15)	STI neg (N=171)	Total (n=186)	P value
Education				0.171
GED/HS diploma	5 (33.3%)	88 (51.8%)	93 (50.3%)	-
No GED/HS diploma	10 (66.7%)	82 (48.2%)	92 (49.7%)	-
Employment Status				0.373
Currently employed	3 (20.0%)	53 (31.0%)	56 (30.1%)	-
Not currently employed	12 (80.0%)	118 (69.0%)	130 (69.9%)	-
Currently married or living with a partner				0.343
No	14 (93.3%)	144 (84.2%)	158 (84.9%)	-
Yes	1 (6.7%)	27 (15.8%)	28 (15.1%)	-
High risk sex partner*, past 3 months				0.501
Yes	4 (26.7%)	33 (19.4%)	37 (20.0%)	-
No	11 (73.3%)	137 (80.6%)	148 (80.0%)	-
Sex while drunk or high, past 3 months				0.284
Yes	12 (80.0%)	109 (66.50%)	121 (67.6%)	-
No	3 (20.0%)	55 (33.50%)	58 (32.4%)	-
Ever tested for an STI prior				0.956
Yes	12 (80.0%)	137 (80.60%)	149 (80.5%)	-
No	3 (20.0%)	33 (19.40%)	36 (19.5%)	-
STI test results, past 3 months				0.349
STI pos	3 (20.0%)	20 (11.70%)	23 (12.4%)	-
STI neg	12 (80.0%)	151 (88.30%)	163 (87.6%)	-
	<i>Mean (Range)</i>	<i>Mean (Range)</i>		
Number of adult justice contacts	6.4 0-50	5.35 0-97		0.697
Number of condomless sex occasions past 3 months	51.4 0-225	38.71 0-360		0.671
Number of traumatic events experienced	6.8 2-13	7.99 0-15		0.129
Number of times tested for STD	3.87 0-20	4.99 0-30		0.291
More STD knowledge	6.93 (3-9)	7.57 (1-10)		0.143

¹ Ns may not sum to 186 due to missing data. Percents are of those with non-missing data

* Table 10 defines high risk sex partner variables

community STI rates. The success of this program suggests a need for increased resource allocation to STI screening and community-based programs for CLSIY, particularly among youth of color. To reduce the community burden of infections, innovative STI screening strategies are necessary at each point within the criminal system “cascade” including diversion/alternatives to incarceration programs; within carceral settings (detention, jail, and prisons); and, upon participant re-entry into community settings. Further, increasing screening for STIs in these settings, coupled with HIV screening, normalizes the importance of periodic evaluation, potentially decreases stigma associated with screening

and enhances opportunities for the provision of risk-reduction strategies.

CDC

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Authors' contributions

Alwyn Cohall: Conceptualization (lead); writing (lead); review and editing (equal). Renee Cohall: Conceptualization (equal); writing (equal); review and editing (equal). Laura Staeheli: Writing (equal). Curtis Dolezal: Formal analysis (lead). Stephanie Campos: Methodology (equal). Sin Lee: Methodology (equal); Formal analysis (equal). Megan O'Grady: Methodology (equal); review and editing (equal). Susan Tross: Methodology (equal); review and editing (equal). Patrick Wilson: Methodology (equal); Review and editing (equal). Katherine Elkington: Methodology (lead); formal analysis (equal); review and editing (lead)

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Availability of data and materials

All data generated or analyzed during this study are included in this published article [and its supplementary information files].

Declarations

Ethics approval and consent to participate

This study was approved by the IRB for Columbia University Irving Medical Center.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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