

## School Staff Referrals for Connecting Students to HIV/STD Testing

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National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention  
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### Presentation Objectives

- **At the end of the session, participants will be able to:**
  - Describe the association between receiving a referral from school staff for HIV/STD testing and having ever been tested
  - Identify predictors of having received a school staff referral for HIV/STD testing
  - Describe the relationship between reporting school staff follow up on an HIV/STD testing referral and having ever been tested

### Background: Youth and HIV/STD

- Youth are at disproportionately high risk for sexually transmitted diseases (STD)<sup>1</sup>
- Behaviors that place young people at risk for HIV and other STDs often begin in adolescence
  - 2015 National Youth Risk Behavior Survey data from U.S. high school students show:<sup>2</sup>
    - 41.2% have ever had sex
    - 30.1% are currently sexually active
      - 43.1% of those youth had not used a condom at last sex

### Background: Youth and HIV/STD Testing

- Clinical guidelines recommend testing youth for HIV and other STDs<sup>3,4</sup>
- Adolescents and young adults exhibit relatively low rates of testing
  - In 2013, 22% of sexually experienced U.S. high school students reported having ever been tested for HIV<sup>5</sup>
  - A recent national survey of adolescents ages 15-19 found that only 6.7% of female and 2.4% of male respondents had been tested for STDs in the last year<sup>6</sup>

### Background: Connecting Youth to HIV/STD Testing

- Schools can help increase youth access to sexual health services such as HIV/STD testing
  - Direct provision of services
  - Referral to services
- Project Connect<sup>7</sup> served as a model program in which school staff referred youth for sexual health services
  - Findings showed increased reports of doctor/nurse visits for STD testing or treatment and increased HIV testing among females<sup>7</sup>

### Study Purpose

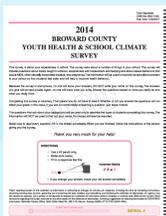
- **Purpose:** To explore predictors of receiving HIV/STD testing and referral for HIV/STD testing, with a focus on referral follow-up

### Method: Study Background

- **Data collected as baseline (pre-intervention) evaluation data for a school-centered HIV/STD prevention program**
  - 7 high schools in Broward County Public Schools (BCPS)
- **Outcomes of interest**
  - Improved school climate and use of sexual health services
- **Program strategies**
  - Multi-component approaches including supporting school staff to connect students to HIV and STD-related services

### Method: Procedure

- **46-item paper-and-pencil questionnaire**
  - Student characteristics
  - Sexual risk behaviors
  - School climate
  - School experiences related to HIV and STD (e.g., having been referred by staff for HIV or STD testing or treatment)
- **Census of students in 7 high schools**
- **Passive parental consent**
- **Teachers proctored the self-administered survey**



### Method: Measures

- **Age**
  - Categorical; responses for each year ranging from "12 years old or younger" to "18 years old or older"
- **Race and ethnicity**
  - Created 4-category variable: (1) Black, non-Hispanic; (2) White, non-Hispanic (used as referent group); (3) Hispanic (of any race); (4) other or multi-racial
- **Ever had sex**
  - Yes/no answer to "Have you ever had sex?"
  - Sex was defined as "vaginal, oral, or anal sex"

### Method: Measures

- **Ever tested for HIV/STD**
  - "Have you ever been tested for HIV, the virus that causes AIDS? (Do not count tests done if you donated blood)?"
  - "Have you ever been tested for other STDs such as genital herpes, chlamydia, syphilis, or genital warts?"
  - Response options: yes, no, and I don't know
  - "Yes" to either item was coded as "yes" for having ever been tested for HIV/STD

### Method: Measures

- **Receipt of referral from school staff for HIV or STD testing or treatment**
  - "During this school year, did a staff member at your school (such as a teacher, counselor, nurse, coach, or other school staff) provide you with a referral to HIV testing services or treatment?"
  - "During this school year, did a staff member at your school (such as a teacher, counselor, nurse, coach, or other school staff) provide you with a referral to STD testing services or treatment?"
  - Response options: yes and no
  - "Yes" to either item was coded as "yes" for having received a referral from school staff for HIV or STD testing or treatment

### Method: Measures

- Among students who received referrals:
  - Receipt of testing due to referral
    - “Did you receive HIV testing because of the referral?”
    - “Did you receive STD testing because of the referral?”
  - Receipt of follow-up on the referral
    - “Did that person check to see that you receive HIV testing?”
    - “Did that person check to see that you receive STD testing?”
- Response options: yes, no, and I don't want to say
- “Yes” to either item was coded as “yes” for having received HIV or STD testing because of a referral

### Method: Participants

- Full sample
  - Surveys completed by 11,681 students
  - Response rate = 79.5%
- Analytic sample
  - 319 students with  $\geq 25\%$  of items missing were excluded
  - An additional 59 students reporting being 12 years of age were excluded
    - CDC's recommendations for HIV testing begin at age 13
    - Respondents reporting being age 12 and under exhibited aberrant response patterns
  - Final analytic sample = 11,303

### Method: Participants

<b>Full sample</b>	<b>Analytic sample n=11,303</b>	
Surveys completed by 11,681 students Response rate = 79.5%	319 students with $\geq 25\%$ of items missing were excluded	An additional 59 students reporting being 12 years of age or younger were excluded

### Methods: Analysis

- Descriptive statistics
- $\chi^2$  tests
- Firth's penalized maximum likelihood regression
  - This specialized technique helps account for bias potential introduced from rare events, given that referrals were provided to few students in the full sample

### Findings: Sample Characteristics

<b>50.7%</b>	Female
<b>40.7%</b>	Hispanic/Latino
<b>34.7%</b>	Black/African American, non-Hispanic
<b>15.86</b>	Mean age (SD=1.22)
<b>12.9%</b>	Sexual minority youth (based on reported attraction, identity, and/or behavior)
<b>40.7%</b>	Reported having ever had sex
<b>17.0%</b>	Reported having ever been tested for HIV or other STDs (30.2% of sexually experienced students)

### Findings: Receipt of Referral

- 1.3% of students (n=144) reported having been referred by a school staff member for either HIV or STD testing services or treatment during the school year
  - 2.2% of sexually experienced students received a referral

### Findings: Receipt of Referral

Penalized maximum likelihood logistic regression to predict having received a referral for HIV or STD testing or treatment (n=10,650)

Predictor variable	Odds Ratio	95% CI	p-value
Sex (male)	2.492	1.699-3.654	<.001
Age	1.074	0.927-1.244	.340
Race/ethnicity			
Black/African American, Non-Hispanic	1.652	0.916-2.979	.095
Hispanic	1.443	0.803-2.590	.220
Other or multiracial	2.717	1.351-5.462	.005
Sexual minority	3.799	2.567-5.621	<.001
Ever had sex	2.579	1.755-3.788	<.001

Table notes. Missing data are not included. CI = confidence interval. Model Wald  $\chi^2(7) = 103.20, p < .001$ .

### Findings: Receipt of HIV or STD Testing

- Among students who reported referrals:
  - 47.6% had been tested for HIV or other STDs
  - 25.8% reported receiving HIV/STD testing *specifically because of* the referral

### Findings: Receipt of HIV or STD Testing

Penalized maximum likelihood logistic regression to predict reporting have been tested for HIV or other STDs (n=9,998)

Predictor variable	Odds Ratio	95% CI	p-value
Sex (male)	0.908	0.809-1.018	.099
Age	1.180	1.125-1.238	<.001
Race/ethnicity			
Black/African American, Non-Hispanic	1.391	1.176-1.644	<.001
Hispanic	1.050	0.889-1.241	.565
Other or multiracial	1.230	0.960-1.575	.102
Sexual minority	1.230	1.055-1.434	.008
Ever had sex	4.451	3.936-5.033	<.001
Received school staff referral for HIV/STD testing	3.173	2.144-4.696	<.001

Table notes. Missing data are not included. CI = confidence interval. Model Wald  $\chi^2(7) = 103.20, p < .001$ .

### Findings: Referral Follow-up

- Among students who reported referrals:
  - 30.2% reported follow up on the referral
  - Students who received follow-up were more likely to report having received HIV or STD testing than those who did not ( $\chi^2 = 10.86, p = .001$ )
    - 71.9% of students with follow up reported being tested
    - 37.0% of students without follow up reported being tested

### Findings: Referral Follow-up

Penalized maximum likelihood logistic regression to predict having been tested for HIV or other STDs among students who report they were referred for HIV/STD testing/treatment (n=99)

Predictor variable	Odds Ratio	95% CI	p-value
Sex (male)	1.402	0.551-3.571	.478
Age	1.341	0.956-1.881	.089
Race/ethnicity			
Black/African American, Non-Hispanic	2.399	0.513-11.218	.266
Hispanic	2.618	0.560-12.241	.221
Other or multiracial	1.906	0.305-11.897	.490
Sexual minority	1.201	0.476-3.029	.698
Ever had sex	1.537	0.571-4.133	.395
School staff checked to see if student received testing	3.288	1.313-8.231	.011

Table notes. Missing data are not included. CI = confidence interval. Model Wald  $\chi^2(7) = 103.20, p < .001$ .

### Discussion

- Only a small percentage of students are being referred by school staff for HIV/STD testing or treatment
  - 1.3% of all students; 2.2% of sexually experienced students
- Students more likely to report receiving a referral include those who were:
  - Sexually active
  - Sexual minority
  - Male

### Discussion

- **The odds of having been tested for HIV/STD were more than 3 times as high for students who received staff referrals**
  - Consistent with other research that finds provider recommendations for testing are associated with getting tested<sup>8,9,10</sup>
  - Among youth who received referrals:
    - More than a quarter said they were tested *specifically because of the referral*.

### Discussion

- **Among students who received referrals, the odds of having been tested were more than 3 times as high for students who received follow-up on their referrals**
  - Among students who received follow-up on their referrals, almost three-quarters had been tested
  - However, a relatively low percentage of youth reporting getting follow-up

### Limitations

- **Data were self-reported & cross-sectional**
- **Data do not represent all students in the district or high school students more broadly**
- **Data provide no information on who initiated referrals (staff or students)**
  - Data were collected prior to referral-related intervention efforts
- **Analyses on referral follow-up were conducted with a small subset of students**

### Implications for Schools

- **Referrals matter**
- **Overall referral rates are low—school staff can increase referrals as a way to increase student access to services**
  - Referral processes can be clearly articulated
  - Professional development is likely to be important for referral to sensitive services
- **School staff may be well-positioned to reach certain subgroups of students**
  - Males
  - Sexual minority youth
- **Referral processes can include follow-up to maximize impact**



### Questions



Rasberry, C. N., Liddon, N., Hocevar Adkins, S., Lesesne, C., Hebert, A., Kroupa, E., Rose, I., & Morris, E. (2016). The importance of school staff referrals in connecting high school students to HIV and STD testing. *Journal of School Nursing*. Advance online publication. doi: 10.1177/1059840516658695

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