

Results. Of 448 participants, 168 (37.5%) reported rectal STI screening. One hundred twenty-seven (35.8%) of 355 HIV-negative men, 41 (58.6%) of 70 HIV-positive men, and none of 23 men who did not know their HIV status reported screening. Among HIV-negative men, having a healthcare provider who offered HIV testing (adjusted prevalence ratio [aPR]=2.09; 95% confidence interval [CI]: 1.43, 3.04), a syphilis diagnosis (aPR=1.32; 95% CI: 1.03, 1.69), use of pre-exposure prophylaxis (aPR=1.57; 95% CI 1.21, 2.04), and condomless anal sex with casual partners in the prior 12 months (aPR=1.74; 95% CI: 1.36, 2.22) independently predicted screening for rectal STI in multivariable analysis. HIV-positive men who reported having a provider who always or often initiates conversations about sex were significantly more likely to report screening compared with men who did not have such a provider (aPR=1.48; 95% CI: 1.06, 2.06).

Conclusion. Rectal STI screening is not universal in a venue-based sample of sexually-active MSM. Implementing innovative, acceptable, and accessible screening practices and improving provider comfort with talking about sex are paramount to increasing rectal STI screening.

Multivariable analyses of screening for rectal gonorrhea and Chlamydia among men who have sex with men, by HIV status, National HIV Behavioral Surveillance, Portland, OR, 2017.

	aPR	95% CI	P-value
HIV-negative			
Gay (v. bisexual or heterosexual)	1.22	0.73, 2.03	0.456
College education or greater	1.09	0.87, 1.37	0.435
Insurance			
Uninsured	REF		
Private insurance	1.30	0.83, 2.02	0.253
Public, private and public, other insurance	1.06	0.64, 1.77	0.810
Out to healthcare provider	1.60	0.63, 4.05	0.322
Healthcare provider always/often initiates conversations about sex	0.97	0.72, 1.30	0.848
Very comfortable/comfortable talking to healthcare provider about sex	0.99	0.73, 1.33	0.934
Healthcare provider offered HIV testing, last 12 months	2.09	1.43, 3.04	<0.001
PrEP use, last 12 months	1.57	1.21, 2.04	0.001
Syphilis diagnosis, last 12 months	1.32	1.03, 1.69	0.030
Condomless anal sex with casual partners, last 12 months	1.74	1.36, 2.22	<0.001
HIV-positive			
College education or greater	1.49	0.96, 2.31	0.075
Insurance			
Uninsured	REF		
Private insurance	1.52	0.33, 7.05	0.593
Public, private and public, other insurance	1.19	0.26, 5.53	0.820
Healthcare provider always/often initiates conversations about sex	1.48	1.06, 2.06	0.021
Most recent viral load undetectable	3.54	0.64, 19.7	0.149

aPR, adjusted prevalence ratio; CI, confidence interval

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424. Use of the ResistancePlus[®] MG Multiplex PCR Assay to Determine the Prevalence of *Mycoplasma genitalium* and Macrolide Resistance in a High-Risk US Population

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Background. *Mycoplasma genitalium* is a significant agent of sexually transmitted infection (STI). Cure rates have declined as rates of macrolide resistance has become increasingly prevalent. Diagnosis of *M. genitalium* infection and macrolide resistance detection is possible using nucleic-acid amplification tests (NAAT); use of such assays could improve patient management and antimicrobial stewardship. In this study we used one such assay, ResistancePlus MG (RPMG) to determine the prevalence of *M. genitalium* infection and macrolide resistance in a cohort of patients attending 3 public sexual health clinics in mid-Atlantic US states.

Methods. De-identified urogenital samples submitted to the LabCorp facility in Burlington, NC for routine *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) NAAT testing from 3 public sexual health clinics were analyzed in the study. All samples had been collected in the Aptima Specimen Collection system and tested with the Aptima Combo 2 CT/NG NAAT. A total of 1,261 samples (770 male, 491 female) from this cohort were successfully tested for *M. genitalium* and macrolide-resistance mediating mutations (MRMM) using the RPMG multiplexed PCR assay.

Results. The prevalence of *M. genitalium* in this patient cohort was 10.4% (131/1,261), not significantly different to the prevalence of *C. trachomatis* (12.0%; $P = 0.202$) but significantly higher than the prevalence of *Neisseria gonorrhoeae* (6.7%; $P = 0.0009$). Sixty of the 131 *M. genitalium* positives were also positive for MRMM and thus azithromycin resistant.

Conclusion. *M. genitalium* infections were common amongst unselected individuals evaluated for treatable STI in the eastern United States and the rate of macrolide resistance in this population was significant. In addition, the RPMG assay was shown to be a simple and accurate method for simultaneously diagnosing *M. genitalium* infections and detecting MRMM and could be used to inform therapeutic decisions.

Cohort (n)	Prevalence (No. Positive)			
	<i>M. genitalium</i>	MRMM	<i>C. trachomatis</i>	<i>N. gonorrhoeae</i>
Male (770)	10.1% (78)	47.4% (37)	13.1% (101)	7.7% (59)
Female (491)	10.8% (53)	43.4% (23)	10.2% (50)	5.1% (25)
Combined (1261)	10.4% (131)	45.8% (60)	12.0% (151)	6.7% (84)

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425. Longitudinal Trends in Risk Behaviors and Sexually Transmitted Diseases among Adolescents and Young Adults at a Sexually Transmitted Diseases Clinic, 2013–2017

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Background. Sexually transmitted disease (STD) rates continue to rise in the United States (US). Over half of all new STDs occur in adolescents and young adults (AYA). Few studies have evaluated how sexual behaviors such as number of partners or condom use may contribute to this increase. We aimed to determine the association of sexual behaviors and condom use with STD incidence over time among AYA.

Methods. We reviewed all AYA ages 13–26 years attending a public STD clinic in Rhode Island from 2013–2017. We reviewed demographic and behavioral data including age, gender identity, risk group, race, ethnicity, insurance status, sexual behaviors, substance use, self-reported STD/HIV diagnosis (lifetime, past year), condom use, and HIV/STD testing results. We report proportions in 2013 and 2017, and performed trend analyses (Cochran-Armitage test for categorical variables and Kruskal-Wallis trend test for continuous variables) to determine trends over time.

Results. A total of 3,822 AYA visited the clinic during the study time period. An increasing trend was observed for: multiple (≥5) partners (29% of AYA in 2013 vs. 38% in 2017, $P < 0.001$), self-reported past year and lifetime STD diagnosis (12 vs. 21%, $P < 0.001$ and 19 vs. 33%, $P < 0.001$, respectively), and lab-documented diagnosis of any STD (15 vs. 25%, $P < 0.001$), syphilis (2 vs. 5%, $P = 0.006$), any chlamydia (11 vs. 20%, $P = 0.001$), and any gonorrhea (3 vs. 8%, $P = 0.008$). A decreasing trend was observed for: white race (66% in 2013 vs. 43% in 2017, $P < 0.001$), uninsured (73 vs. 53%, $P < 0.001$), condomless sex during oral as well as vaginal/anal sex (22 vs. 10%, $P = 0.001$ and 16 vs. 8%, $P = 0.001$, respectively), and self-reported HIV diagnosis (2.5% to 0.9%, $P = 0.016$).

Conclusion. Among AYA, risk behaviors such as condomless sex and multiple partners increased significantly from 2013–2017, which may be contributing to an increase in STDs. Increased public health efforts are needed to promote education and other interventions to address behaviors associated with STD transmission.

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426. Prevalence of Human Papilloma Virus, Anal, and Cervical Dysplasia in Transgender Persons: A Systematic Review of the Literature

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Background. Human papilloma virus (HPV) is the most common sexually transmitted infection (STI) in the United States (US) and is associated with the development of cervical and anal dysplasia; however, little is known about the epidemiology of HPV in transgender persons. The objective of this study was to conduct a systematic review of the literature to evaluate the existing epidemiologic data on HPV infection prevalence as well as anal and cervical dysplasia in transgender persons.

Methods. The PubMed and Scopus databases were queried using the keyword “transgender” in combination with one of the following: PAP, cervical cancer, anogenital warts. The search generated 86 articles, when accounting for duplicates across searches. We included original research articles published from January 1969 to March 2019. Excluded were non-English articles, studies that did not have HPV or cytology testing data, and studies that did not have disaggregated transgender data.

Results. In total, 13 articles were included in the review, of which 9 focused on transgender women (TW), 3 on transgender men (TM), and 1 on both TW and TM. HPV DNA testing was performed in 10 studies, with 7 of those offering prevalence data for specific HPV genotypes. Overall, HPV prevalence in TW ranged from 15%–97.4%, with High Risk-HPV (HR-HPV) prevalence ranging from 13%–82.5%. Anal cytology data for TW was presented in 2 studies, both of which cited a 42% prevalence of abnormal cytology. Cervical or vaginal cytology was evaluated in 4 articles, 3 of which involved TM and 1 of which involved TW with neovaginas. Among TM, the prevalence of abnormal cervical cytology ranged from 6%–42%.

Conclusion. Our review highlights the lack of HPV research and the high variability of the existing data about the transgender population. Further study is needed to better understand not only the epidemiology of HPV and resultant dysplastic sequelae, but also to inform the development of transgender sensitive diagnostic methods for this infection. The diverse genital anatomy represented in the transgender community as well as the gender dysphoria these patient’s experience during testing pose myriad diagnostic challenges that will need to be considered in the development of screening and diagnostic practices.

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