Parental Monitoring as a Moderator of the Effect of Parent-adolescent Sexual Communication on Unprotected Anal Intercourse Among Young Men Who Have Sex With Men.

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**Purpose:** Among heterosexual adolescents, sexual risk behavior is moderated by caregiver parenting styles and practices including permissiveness, monitoring, and parent-adolescent communication regarding adolescent sexual behavior. The protective nature of these parenting factors may be especially complex in young men who have sex with men (YMSM) because, unlike their heterosexual counterparts, YMSM may prefer to conceal sexual behavior from their parents for fear of parental rejection or other negative psychosocial health outcomes. Given the concentrated HIV prevalence in this population, it is important to examine how monitoring, permissiveness, and parent-adolescent sexual communication interact and influence sexual risk in YMSM. This study examined the extent to which perceived parental monitoring and perceived parental permissiveness (i.e., parenting style) moderated the relationship between parent-adolescent communication about sex and sexual risk outcomes in YMSM.

**Methods:** This study was comprised of 233 cases selected from a community-based, longitudinal sample of YMSM (N=450; aged 16-20) recruited through modified respondent-driven sampling. Participants completed computer-assisted self-interviews assessing male-male sexual risk behavior, their caregivers’ parenting style, and parent-adolescent sexual communication. Parental permissiveness and parental monitoring scale items were modified for YMSM and their scale scores were dichotomized based on median values (e.g., high vs. low). Parent-adolescent sexual communication was also dichotomized (e.g., communication vs. no communication), as were sexual risk outcomes (e.g., risk vs. no risk). Bivariate analyses were conducted between the measures of parenting style, and parent-adolescent sexual communication. Significant bivariate outcomes informed subsequent multivariable logistic regression models predicting the likelihood of sexual risk behavior by parenting style, and parent-adolescent sexual communication.

**Results:** Results indicated that parenting style and parent-adolescent sexual communication influence sexual risk behavior in YMSM. Neither level of parental permissiveness was directly associated with sexual risk behavior; however, high parental permissiveness was associated with a lack of parent-adolescent sexual communication (p < 0.05). In contrast, YMSM who reported high parental monitoring also tended to report parent-adolescent sexual communication (p = 0.09). A higher proportion of YMSM with low parental monitoring reported unprotected anal sex with casual male partners (p = 0.07), although this association did not reach statistical significance. Adjusted for age and race/ethnicity, YMSM with high parental monitoring were less likely to engage in unprotected anal sex with casual male partners (OR = 0.46; 95% CI = 0.22, 0.97); however, this effect was only observed in those who also
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reported parent-adolescent sexual communication (OR = 0.36; 95% CI = 0.12, 1.04). Among participants reporting no parent-adolescent sexual communication, high parental monitoring alone was not associated with unprotected anal sex with casual male partners (OR = 1.03; 95% CI = 0.31, 3.44).

Conclusions: Consistent with literature in heterosexual adolescents, for parents to merely have “the talk” about sex is not enough as adolescent sexual behavior is most effectively influenced by parents who both monitor and talk openly to adolescents about their sexual behavior. These findings imply that HIV prevention programming could benefit from YMSM-specific, family-based interventions aimed at improving both parenting skills and practices pertaining to YMSM.

Sources of Support: This study was supported by the National Institute of Drug Abuse (Mustanski-R01DA025548).

109.

Interactive Voice Response System (IVRS): Data Quality Considerations and Lessons Learned During a Microbicide Placebo Adherence Trial With Young Men Who Have Sex With Men
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Purpose: Young men who have sex with men (YMSM) account for most new HIV infections in the United States. Forthcoming biomedical prevention approaches (e.g., microbicides) may aid in reducing HIV incidence among YMSM; however, the demonstration of rectal microbicide efficacy and effectiveness is contingent on correct and consistent product use and accurate measurement of adherence. Delays in self-report, in particular, may affect the accuracy of behavioral data. Capitalizing on YMSM’s mobile phone use, we examined the acceptability and use of IVRS for measuring adherence to product use with receptive anal intercourse (RAI) in a microbicide safety and acceptability trial with YMSM (ages 18-30) and documented the challenges experienced by trial participants with the system.

Methods: We enrolled 124 YMSM across three sites (Boston, Pittsburgh, San Juan). We provided them with up to 40 applicators prefilled with 4mL of hydroxyethylcellulose placebo gel for use prior to RAI and counseled them repeatedly that the study focused on product adherence and that the gel would not protect against HIV. We asked YMSM to self-report product use through an IVRS, available in Spanish and English, during a 12-week trial. Twenty-nine participants discontinued due to early termination (N=13) or loss to follow-up (N=16). Using IVRS data and end-of-trial interviews, we documented YMSM’s IVRS experiences and their implications for data collection.

Results: We observed 1,728 calls to the IVRS over 3 months. After developing an IVRS data quality system, we found that 427 (24.7%) entries required inspection. Of these, we excluded 324 entries due to data entry errors (18.8%). Most participants (n=71; 75.5%) did not report problems using IVRS. Of those
who reported a problem (N=24), most experienced one (N=14; 14.9%) or two (N=7; 7.4%) problems. Problems included phone-specific problems (e.g., dropped calls due to limited cell signal when calling into the system), and/or system-specific issues (e.g., having to answer the same question repeatedly or having incorrect answers registered if IVRS didn’t recognize their voice). One participant indicated that he stopped using IVRS because it reminded him that he hadn’t had any recent sexual activity. In a multivariate logistic regression model, YMSM who reported an IVRS problem were more likely to indicate greater educational attainment (OR=2.08, 95% CI: 1.21, 3.57; p < .05) than those who did not. We found no differences in IVRS problems by study site, age, or race/ethnicity.

**Conclusions:** IVRS in an acceptable and useful data collection technology for microbicide trials with English or Spanish speaking YMSM; yet, careful attention to phone signal reliability, data cleaning, questionnaire design, and participant fatigue are needed. We discuss strategies to optimize future development of IVRS data quality protocols based on lessons learned.

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110.

**Demographic and Behavioral Risk Factors Among Adolescents Testing for HIV at Community Based Venues in Brooklyn, New York**

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**Purpose:** Adolescents make up a disproportionate number of new HIV infections in the U.S. In 2010, adolescents aged 13-24 years made up 25.7% of new HIV infections, despite representing only 21% of the population. HIV/AIDS remains a leading cause of morbidity and mortality in New York City, and the borough of Brooklyn is particularly affected. Health & Education Alternatives for Teens (HEAT) is a clinical care and community outreach program for HIV infected and high-risk adolescents in Brooklyn, New York. We aim to evaluate the demographic and risk profiles of adolescents tested for HIV through HEAT's venue-based testing in Brooklyn in 2011. We compare this profile with adolescents tested in Brooklyn through New York City Department of Health and Mental Hygiene (DOHMH)-funded programs. An in-depth risk profile of youth tested by the HEAT Program in 2011 is described, based on a random sample of risk-assessment intake forms.

**Methods:** Demographic and exposure data from HEAT Program HIV testing was obtained from an administrative database. Demographic and exposure data for NYC DOHMH-funded HIV testing programs in Brooklyn in 2011 were obtained from the DOHMH. Comparisons of HEAT Program and NYC DOHMH testing data were conducted using t-tests. HIV exposure risks between groups were compared with chi square tests. Statistical significance was set at 0.05. Analysis was conducted using Stata 10.
Results: In 2011, the HEAT Program tested 575 adolescents through the venue-based testing program, with a 0.84% positive test rate. Among adolescents tested at Brooklyn NYC DOHMH-funded sites, 0.34% tested positive. The median age of HEAT testing participants was 18; 71% self-identified as African-American, 18% Hispanic, 4% biracial and 4% as other race/ethnicity. At the neighborhood level, 64% of HEAT testing participants resided in areas where >20% of families live below the poverty line, and 6 (1%) were homeless. Self-reported risk factors were MSM sex (20%), heterosexual sex (70.1%), WSW sex (6%) and unknown/other (1.5%). The proportion of MSM tested at HEAT Program venues was greater than DOHMH-funded sites (P<0.001). All participants with positive test results from HEAT HIV testing venues listed MSM sex as their potential exposure; these individuals were linked to medical care. Among the random sample of HEAT Program intake forms reviewed, 82% of participants reported any sexual experience; 73% reported recent sexual activity. Adolescents reported a median of 1 recent partner, and 17.5% reported over 3 recent partners. Among sexually active youth, 40% reported condom use all of the time, 21% most of the time, and 28% sometimes, rarely, or never.

Conclusions: The HEAT venue-based HIV testing program in Brooklyn, New York successfully targeted a population of adolescents at risk for HIV in 2011. Demographic characteristics were similar to those tested at New York City DOHMH-funded sites. However, HEAT included a greater proportion of adolescents reporting MSM sex. In the HEAT subgroup analysis, over 80% reported sexual activity and only 40% reported consistent condom use. All positive tests were among males with MSM exposure; additional strategies may be needed to reach the most high-risk heterosexual adolescents, particularly young women of color.

Sources of Support: none

111.

How Are You Feeling? Assessing the Agreement between HIV+ Adolescents’ Reports of Quality of Life with Their Families’
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Purpose: To examine the effect of an intervention on QOL improvement and agreement between adolescents and family ratings.

Methods: Data were collected from the FAmily C Entered (FACE) Advance Care Planning randomized clinical trial between July 2011 and August 2013. Eligibility criteria were HIV positive, knew diagnosis, and a consenting family member. Participants were recruited from hospital-based outpatient adolescent clinics at three urban sites. Adolescent/family dyads were randomized into either the FACE intervention or the Healthy Living Control (HLC). We analyzed adolescent self-report (n = 72) and family (n = 72) self-report of perception of child’s QOL, using the Peds Quality of Life Inventory™4.0 (PedsQoL)
at Baseline and 3-month post intervention. Four domains – Physical, Emotional, Social, and School, as well as Total Score were assessed. Higher scores equal higher QOL

**Results:** 144 participants (n = 72 adolescent/family dyads) were enrolled. Adolescents’ mean age was 18 years; 43% female; 94.4% Black/African American; 70.8% perinatally infected. Family participant’s mean age was 44 years (range 20 – 77). Randomization was successful. The intervention did not statistically significantly increase QOL among Control vs. FACE adolescents in a 3-month observation period (Total Score—Control = 82.1 vs. FACE = 77.9; Physical—84.6 vs.84.1; Emotional—78.0 vs.69.8; Social—94.3 vs. 86.9; School—69.8 vs. 66.1). However, agreement between adolescents’ and family’s ratings increased from Baseline to 3-month follow-up in two domains for FACE adolescents: 1. Emotional QOL Congruence increased from 0.21 to 0.61 (ICC Difference= 0.41) for FACE dyads vs. decrease in congruence for HLC dyads from 0.49 to 0.41 [Interclass Correlation Coefficients (ICC) difference -0.09]. 2. Social QOL Congruence increased from 0.41 to 0.62 (ICC Difference=0.21) for FACE dyads with a comparable increase for HLC dyads from -0.02 to 0.2 (ICC Difference=0.22). Physical QOL Congruence increased slightly for both FACE dyads from 0.4 to 0.43 (ICC Difference=0.03) and HLC dyads from 0.5 to 0.59 (ICC Difference=0.09). School QOL Congruence decreased for FACE dyads from 0.51 to 0.08 (-0.43 ICC Difference) and increased from 0.66 to 0.82 for HLC dyads (0.16 ICC Difference). At baseline perinatally infected adolescents vs. behaviorally infected adolescents reported significantly higher QOL in two domains: Emotional ( =84.4 vs. =73.3; p=0.041) and Physical ( =91.0 vs. =84.5, p=0.058), otherwise there were no significant differences between them.

**Conclusions:** Understanding adolescents’ QOL may influence family decision-making with respect to future healthcare utilization and end-of-life care. The FACE intervention increased communication in all domains, but School QOL, where adolescents denied problems and families reported problems. Higher Physical and Emotional QOL among perinatally infected adolescents was unexpected. This might represent a measure of their access to medical and mental health care from birth in comprehensive “one-stop” hospital-based clinics.

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Incident and Prevalent Sexually Transmitted Infections After Diagnosis and Engagement in Care in HIV Positive Youth in an Urban Care Setting; Ebony R Copeland, MD MPH; Lisa M Henry-Reid, MD; Anna Hotton, PhD; Mutimbwa Anaene, MD; Jaime Martinez, MD

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**Purpose:** Youth between the ages of 13-24 accounted for nearly 20% of newly diagnosed HIV infections in 2009, and annually represent approximately half of all sexually transmitted infections (STIs) in the US. Few clinic-based observational studies have examined STI incidence among youth following HIV diagnosis. We examined STI incidence in HIV positive youth within an urban Adolescent and Young Adult Clinic.

**Methods:** This is a retrospective cohort study of youth presenting for entry into HIV care in an inner city adolescent and young adult HIV clinic between 2009 and 2011. Behavioral, clinical, and demographic information was collected by medical chart review at initial presentation to the clinic, and was merged with STI testing results to examine incidence and prevalence of gonorrhea, chlamydia, and syphilis. STI incidence was calculated as the total number of new infections divided by the total person-time at risk among patients who had a baseline test and at least 1 subsequent test. Person-time was calculated as the time from the initial visit to first infection, or the last visit at which the patient tested negative; follow-up extended through December 2012. New syphilis infections were defined based on RPR seroconversion or a 2-fold or greater increase in RPR titer and were confirmed by chart review. Baseline factors associated with incident syphilis infection were assessed using Cox Proportional Hazards regression.

**Results:** During the study period, 177 patients presented for an initial HIV care visit. Patients were predominately African-American (84.8%), male (87%) and MSM (84%). The median age was 21 (IQR 19-22) years. Slightly less than two-thirds (64%) were diagnosed with HIV within 3 months of initial presentation. Of those screened for syphilis within 30 days of the baseline visit (N=170), 17.7% had an RPR titer ≥ 1:8; of 73 patients screened for gonorrhea and chlamydia at baseline, the prevalence was 15.1% for gonorrhea and 9.6% for chlamydia. Genital warts on exam were identified in 17%. Among 151 patients for whom baseline and follow-up syphilis tests were available, the incidence of syphilis was 15.04 (95% CI 10.90-20.76) per 100 person-years among all patients and 11.57 (95% CI 7.62-17.57) per 100 person-years among those with a negative RPR at baseline. The incidences of gonorrhea and chlamydia were 10.65 (95% CI 5.33-21.30) and 8.90 (95% CI 4.24-18.67) per 100 person-years respectively among 58 patients with baseline and follow-up tests. Re-infection with syphilis was common in patients with RPR ≥ 1:16 (hazard ratio (HR) = 3.74, 95% CI 1.87 -7.47).

**Conclusions:** We found high rates of incident and prevalent STIs among youth recently diagnosed with HIV, highlighting the importance of frequent screening for STIs among HIV infected youth. Early
diagnosis and treatment of STIs among HIV positive youth may help prevent HIV transmission and provides an additional opportunity to promote primary and secondary prevention strategies. Further studies to understand behavioral correlates of ongoing STI transmission after HIV diagnosis is warranted, as are interventions for those at high risk for re-infection.

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113.

**Does Spirituality or Religion Hinder or Help Adherence to Highly Active Antiretroviral Therapy Among Adolescents Living with HIV?**
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**Purpose:** To examine the relationship between HAART adherence and religiousness/spirituality among HIV positive youth. We hypothesized that higher levels of medication adherence is correlated with higher levels of religious coping; higher daily spiritual experiences; and higher frequencies of attendance at religious services.

**Methods:** Cross sectional baseline data were analyzed from adolescents participating in the FAmily Centered (FACE) Advanced Care Planning study. Patients were enrolled in this 3-site randomized clinical trial from July 2011 to October 2012. Measures were: Medication Adherence Self-Report Inventory (MASRI) using the visual analogue scale for percent adherence in the past month; Brief RCOPE measured religious coping; Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS) measured daily spiritual experiences and attendance at religious services; and Beck Depression Inventory measured depressed mood.

**Results:** This study examined adolescents (n= 53) aged 14 to 21. Mean age was 17.9 years; 56.6% male; 94.3% African American; 22.6 % homosexual; 73.5% perinatally infected. Religious preferences were: None 13%; Islamic 4%; Christian 75%; and Other 8%. Six patients reported that they were not prescribed medication, so were not included in this analysis. Of the 47 who were on HAART 48.9% reported =90% adherence in the past month. Mean adherence for these 47 was 74.7% (SD=30.7). Four reported zero adherence. Mean adherence in the past month for behaviorally vs. perinatally acquired was 88% vs. 73.4%. Only perinatally infected adolescents, 14%, reported ever having stopped HAART medications because of a belief their HIV would be healed spiritually. Total mean Religious Coping on the RCOPE was 26.6 (SD=6.3); mean Negative Religious Coping was 2.7 (SD=3.5); mean Positive Religious Coping was 8.8 (SD=2.5). Religious coping was not significantly correlated with adherence (Spearman r = -0.006, p = 0.97). The effect of Total Religious Coping on adherence was not significant (Spearman r=-0.07, p=0.64), controlling for depression score (Mean=8.7, SD=8.1) and source of transmission. Daily spiritual experiences were not significantly associated with adherence. The majority of adolescents reported feeling God’s presence some days to many times a day with almost half (41%) reporting feeling God’s
presence every day. However, this was not significantly correlated with adherence (r=-0.03, p=0.86). This was the only item significantly different by transmission category on the BMMRS: 85.71% of behaviorally vs. 43.59% of perinatally infected adolescents reported feeling God’s presence (p=0.01), Adolescents with higher levels of organized religious practices did not have higher levels of HAART adherence (attendance at religious services: Spearman r=-0.11, p=0.44; take part in other religious activities: Spearman r=0.07, p=0.63).

Conclusions: Contrary to our hypothesis no statistically significant associations were found between medication adherence and spirituality/religiosity. Small sample size is a limitation, although an item such as “ever stopped their medications because of belief in miracles” is clinically meaningful.

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114.

Who is Caring for Our HIV-Infected Youth? Disparities on Adolescent-Oriented Clinical Training of Providers Caring for HIV-Infected Youth
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Purpose: Youth aged 15-24 years living with HIV have a diversity of clinical care options available for HIV care in pediatric, adolescent, and adult-oriented clinic settings. HIV providers from multiple disciplines and specialties care for youth, however the adolescent training characteristics and availability of HIV providers by discipline and specialty training are not well-described. Using data from the HIV Research Network (HIVRN), a U.S. consortium of primary and subspecialty pediatric and adult HIV clinics, we examine the availability of adolescent-trained HIV providers to assess current needs for building an effective youth-friendly HIV workforce.

Methods: We reviewed the training and specialty profiles for 114 providers at 12 clinic sites of the HIVRN using clinic-level data solicited from a site survey. Providers’ training/specialties were defined by their primary professional license and specialty certification, where applicable: Adult (adult nurse practitioner (ANP), internal medicine (IM) physician); Pediatric (pediatric nurse practitioner (PNP), pediatrician); Combined Specialty (family nurse practitioner (FNP) physician assistant (PA), internal medicine-pediatrics (MP) or family medicine (FM) physicians); and other (not specified). Adolescent training was defined as having completed a subspecialty fellowship in Adolescent Medicine; Pediatric-oriented training assumed any training in pediatrics and included all pediatric and combined specialty providers. Since paired provider-patient information was unavailable, we used the total numbers of youth enrolled at the 12 clinic sites between 2008 and 2011 to calculate the youth-to-provider ratios by specialty type to ascertain the density of providers available to youth by specialty categorization.
**Results:** Among 114 providers, 87 (76.3%) and 27 (23.7%) were caring for youth at 7 adult and 5 pediatric HIVRN clinics, respectively. No adolescent medicine subspecialty clinics are represented in the HIVRN. For the 946 HIV-infected 15 to 24-year-old youth receiving care between 2008 and 2011 (67% male; 69% Black; 46% with MSM HIV acquisition risk, 55% in adult clinics), there were 58 (50.9%) adult (7 ANPs, 51 IM physicians), 20 (17.5%) pediatric (6 PNPs, 14 pediatricians), 21 (18.4%) combined specialty (9 FNPs, 4 PAs, 8 MP physicians); and 15 (13.6%) other providers. Youth-to-provider ratios were 16:1 for adult, 47:1 for pediatric; 45:1 for combined specialty; and 6:1 for other providers. While 41 (40.0%) providers had pediatric-oriented training, only 3 (2.6%) providers had adolescent medicine fellowship training.

**Conclusions:** Providers from myriad professional specialties care for HIV-infected youth, however less than 3% of providers in this geographically diverse sample of primary and subspecialty HIV clinics have adolescent medicine subspecialty training. The lower youth-to-provider ratio for adult providers also suggests adult providers may have fewer opportunities to develop youth-oriented approaches to care. Subspecialists in adolescent medicine may play an important role in developing provider-targeted interventions that increase awareness of the unique needs of developing youth in order to build clinical capacity on youth-friendly approaches to HIV care.

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**The Impact of Availability of Youth-friendly Services on Engagement in Care for HIV-infected Youth: A Study of the HIV Research Network**

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**Purpose:** Youth (15 -24 years old) living with HIV are at high risk of poor engagement in care compared to adults. At these transitional ages, youth are seen in either adult or pediatric care settings and may require youth-friendly approaches defined by the World Health Organization (WHO) as acceptable, accessible, appropriate, equitable, and effective to remain in care. In this cross-sectional study, we explored the availability of youth-friendly services that may exist in either adult or pediatric HIV Research Network (HIVRN) clinics and evaluated the relationship of these services with engagement in HIV care.

**Methods:** Seven adult and 5 pediatric clinics in the HIVRN, a national consortium of primary and subspecialty HIV clinics, contributed data to this analysis. Eligible participants were 15 to 24-year-old youth receiving care at HIVRN clinics at any time between 2008 and 2011. Individuals who died or who transferred their care to sites outside of the HIVRN were excluded (n=62), as were transgendered youth due to small numbers (n=5). Demographic and clinical data collected included gender; self-reported race/ethnicity; HIV acquisition risk; CD4 count; and antiretroviral treatment (ART) status. Sites were
surveyed to assess the availability of youth programs, services, and clinic environments conforming to
the WHO youth-friendly framework. The primary outcome was engagement in care, defined as having
at least one primary HIV visit and one CD4 count in the year 2011. Multivariable logistic regression using
theory driven models assessed the clinic-level characteristics and youth services associated with
engagement in HIV care.

**Results:** Between 2008 and 2011, 941 HIV-infected 15 to 24-year-old youth received care at HIVRN
clinics (68% male; 69% Black; 69% with non-perinatal HIV infection; median CD4 483 cells/mm3 [range
4-7231]; 67% on ART). Of these, 770 (82%) were engaged in care in 2011. Clinic characteristics
associated with engagement in care in univariate analyses included availability of pediatric or
adolescent-trained providers (odds ratio (OR) 2.64; 95% confidence interval (CI)1.87-3.71); youth-
friendly waiting areas (e.g. youth-oriented pamphlets, media access) (OR 3.09; 95% CI 2.11-4.53); family
planning/Title X services (OR 2.48; 95% CI 1.70-3.62), peer support groups (OR 2.50; 95% CI 1.73-3.60);
youth-tailored services (e.g. youth social worker) (OR 2.64; 95% CI 1.85-3.77); and text/email (OR 3.24;
95% CI 2.20-4.77) for patient communication. In multivariable analyses, engagement in care remained
associated with having pediatric or adolescent medicine-trained providers in the clinic (adjusted OR
(AOR) 1.89; 95% CI 1.19-2.98) and youth-friendly waiting areas (AOR 2.59; 1.59-4.23); conversely,
decreased engagement was associated with onsite peer support groups which were not age-specific
(AOR 0.16; 95% CI 0.05-0.55) after adjusting for demographic and clinical variables.

**Conclusions:** For HIV-infected youth, youth-friendly waiting areas and the availability of providers with
pediatric or adolescent training may increase engagement in care. Peer support groups that are not age-
specific may negatively impact engagement. Further investigations evaluating the effectiveness of
youth-friendly approaches on engagement in care for HIV-infected youth are needed to improve care
delivery and clinical outcomes for youth.

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