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Intersecting Epidemics, Integrated Solutions

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Centers for Disease Control and Prevention, GA, USA

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Brigham and Women's Hospital, MA, USA

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Gail Dines, PhD
Wheelock College, Culture Reframed, MA, USA

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University of Texas at Austin, TX, USA

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Introduction: CDC recommends a test-of-cure at 2 weeks for patients receiving alternative treatment of oropharyngeal gonorrhea (OP-GC). We describe a case of possible failed OP-GC treatment with gentamicin and azithromycin in a male patient.

Case Description: A 45-year-old HIV-negative man who has sex with men presented with “anal tightening” that had resolved by the day of presentation. He last had insertive and receptive oral and anal sex 10 days prior. The physical exam was unremarkable, and he screened positive by OP-GC RNA nucleic acid amplification test (NAAT, Apta). His allergy history was notable for a penicillin rash as an adult. Four days later, he received gentami cin 240mg IM and azithromycin 2g PO. The OP-GC culture from this visit showed reduced susceptibility to azithromycin, with an elevated minimum inhibitory concentration of 12ug/mL. The specimen was ceftriaxone susceptible, gentamicin susceptibility was not done. Thirteen days post-treatment, the OP-GC NAAT was positive with no reported interim sex. At the test-of-cure visit 16 days post-treatment, the clinician assessed that the reported allergy was not an IgE-mediated beta-lactam allergy. The patient received ceftriaxone 250mg IM and doxycycline (100mg PO BID for 1 week) without complications. At this visit, the OP-GC NAAT was again positive, and the OP-GC culture was negative. Fifteen days later, both his OP-GC culture and NAAT tests-of-cure were negative.

Discussion: This is a case of oropharyngeal gonorrhea exhibiting possible failure to gentamicin and azithromycin treatment. When interpreting tests-of-cure, false positives and possible reinfection need to be considered. As gonorrhea's susceptibility to ceftriaxone and azithromycin declines, study of gentamicin’s monotherapy efficacy, particularly at the oropharynx, is warranted. It is especially important to identify true IgE-mediated beta-lactam allergy and perform a test-of-cure for patients being considered for OP-GC treatment with an alternative regimen.

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CC1B A CLINICAL CASE OF LATE OCULAR SYPHILIS
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Introduction: As syphilis rates continue to increase in the United States, clinicians are facing the challenges of dealing with some of the less common clinical manifestations of this infection.

Case Description: A 63 year-old man with a history of hypertension, hypercholesterolemia, and chronic obstructive lung disease presented with a one week history of pain and redness in his right eye associated with photophobia and blurry vision. He denied any sexual contacts in the previous five years. His past medical history was significant for a gonococcal infection diagnosed twelve years earlier. His physical examination was unremarkable except for the right eye: the pupil was constricted and leukocytes were noted in the anterior chamber on slit lamp examination. There was no evidence of concomitant chorioretinal inflammation. Pertinent laboratory findings included a nonreactive HIV EIA, a reactive serum Rapid Plasma Reagin test (titer 1:64) with a reactive treponemal chemoimmunolinescent assay. The patient underwent a cerebrospinal fluid examination which revealed 22 mononuclear cells/mm3, normal protein, and a reactive cerebrospinal fluid Herpes Viruses Research Laboratory assay with a titer of 1:2. The patient was treated with 14 days of intravenous penicillin G followed by an intramuscular dose of 2.4MU of long-acting benzathine penicillin G and the concomitant use of topical steroid eye drops. One month later, he had experienced complete clinical resolution. The patient’s final diagnosis was anterior uveitis as a late clinical manifestation of untreated syphilis.

Discussion: Syphilitic eye manifestations can occur during any stage of syphilis and can involve any eye structure. Fifty percent of cases involve both eyes. Most diagnoses of ocular syphilis tend to be presumptive. Up to 60% of patients with ocular syphilis will have abnormalities on CSF examination. The optimal treatment approach of ocular syphilis is not well defined.

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CC1A POSSIBLE OROPHARYNGEAL GONORRHEA TREATMENT FAILURE WITH GENTAMICIN: A CASE REPORT
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Introduction: With the nationwide increases seen in rectal gonorrhea and chlamydia, concern for other non-traditional STIs like those caused by enteric organisms has increased. Sexually transmitted gastrointestinal (GI) syndromes like proctitis, proctocolitis, and enteritis are common among men who have sex with men (MSM). We describe two cases to highlight the importance of expanded testing for non-traditional STIs.

Case Description: 23-year-old MSM with a history of well-controlled HIV and multiple STIs presented to clinic with one month of abdominal pain, non-bilious vomiting and non-bloody diarrhea. Despite several provider and ED visits over the past month, his diffuse tenderness persisted which prompted an abdominal CT and testing and empiric treatment for STIs with ceftriaxone and azithromycin. Extranodal nucleic acid amplification (NAAT) STI testing was negative for rectal and pharyngeal gonorrhea and chlamydia. Symptoms continued and a multiplex PCR gastrointestinal panel returned positive for Enteroinvasive E. Coli/Shigella and Campylobacter. He was successfully treated with azithromycin. 26-year-old MSM on PrEP with a history of ulcerative colitis and multiple STIs presented with rectal pain for 2 days. He reports that the pain was consistent with prior rectal gonorrhea infections. Empiric treatment for STIs with ceftriaxone and azithromycin was given and extragenital NAAT testing was positive for rectal and pharyngeal chlamydia. Continued symptoms prompted an evaluation with a multiplex PCR gastrointestinal panel which was positive for multi-drug resistant Shigella and Campylobacter. He was successfully treated with doxycycline.

Discussion: CDC STD treatment guidelines for symptomatic MSM emphasize testing and empiric treatment for rectal gonorrhea and chlamydia. However, given well described outbreaks of multi-drug resistant Shigella and Campylobacter among MSM, STI clinics should develop management guidelines for sexually transmitted enteric infections including use of PCR based diagnostics to allow for earlier identification of outbreaks and prompt proper counseling as these infections may be associated with increased risk of HIV acquisition.

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CC2A THE FUTURE OF RECTAL STI SCREENING, MORE THAN JUST GONORRHEA AND CHLAMYDIA
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Introduction: With the nationwide increases seen in rectal gonorrhea and chlamydia, concern for other non-traditional STIs like those caused by enteric organisms has increased. Sexually transmitted gastrointestinal (GI) syndromes like proctitis, proctocolitis, and enteritis are common among men who have sex with men (MSM). We describe two cases to highlight the importance of expanded testing for non-traditional STIs.

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CC2B DISSEMINATED GONOCOCCAL INFECTION IN PREGNANCY: DIAGNOSTIC AND TREATMENT CONSIDERATIONS
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Introduction: Neisseria gonorrhoeae represents a significant cause of morbidity in sexually active populations. Untreated mucosal disease may lead to disseminated gonococcal infection (DGI), raising important concerns with regard to timeliness and adequacy of diagnosis and treatment. We present a case of disseminated gonococcal infection in a pregnant woman in which diagnosis was delayed due to the nonspecific nature of the presenting symptoms and physical findings.

Case Description: A 25 year-old pregnant woman (G2 P1, 34 weeks) presented to the emergency department with a 4-day history of sore throat, subjective fevers, chills, and malaise. She noted possible amniotic fluid leak but denied abdominal pain, vaginal discharge, or other genital tract symptoms. After admission to the hospital, she developed worsening fever (T 39.1 C), tachycardia (HR 112 bpm), left wrist pain, and scattered purpuric lesions on the neck, back, and legs. Physical exam revealed tenderness and swelling of left wrist with normal range of motion. Laboratory tests demonstrated leukocytosis with left shift (WBC 17,000/µL, 88% neutrophils). The patient experienced progressive rupture of membranes leading to labor and normal spontaneous vaginal delivery. Empiric antibiotic coverage may lead to disseminated gonococcal infection (DGI), raising important concerns with regard to timeliness and adequacy of diagnosis and treatment. We present a case of disseminated gonococcal infection in a pregnant woman in which diagnosis was delayed due to the nonspecific nature of the presenting symptoms and physical findings.

Discussion: Gonococcal infection in pregnancy represents an important threat to maternal and fetal health, and timely diagnosis and treatment are
paramount. Delayed recognition may relate to falling rates of DGI as a proportion of all gonococcal infections, rendering disseminated infection an unusual clinical condition. A high index of suspicion is required for sexually active adolescents and young adults with fever, joint pain, and skin lesions, regardless of genital tract symptoms.

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1A – FROM BIRTH CONTROL TO BIRTH: BRIDGING FAMILY PLANNING AND STD SCIENCE

1A1 TRENDS IN SEXUALLY TRANSMITTED DISEASE TESTING AMONG TITLE X FAMILY PLANNING PROGRAM CLIENTS, 2005 – 2016
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Background: To address record high STD rates in the U.S., CDC recommends that providers make STD testing and timely treatment a standard part of care. We sought to evaluate trends in STD testing among clients attending clinics within the federal Title X Family Planning Program, which provides family planning and related preventive health services to primarily low-income individuals nationwide.

Methods: Administrative data from the Title X Family Planning Annual Report (FPAR) data system were used to describe STD testing trends for family planning clients seen annually from 2005–2016. Chlamydia testing was calculated as the percentage of clients tested annually; females were stratified by age group, to assess adherence to annual screening recommendations among sexually active females aged ≤24. Gonorrhea and syphilis measures were calculated as the number of tests performed per 10 clients. Approximately 4,000 Title X clinics from every state and U.S. Territory contributed FPAR data on 4–5 million clients annually.

Results: From 2005–2016, the percentage of females aged ≤24 tested annually for chlamydia increased from 50% to 61%, while the percentage for females aged >25 showed a modest increase from 40% to 43%. The number of gonorrhea tests per 10 female clients increased from 4.6 to 5.6; the corresponding syphilis testing rate remained stable (1.5 to 1.4 tests per 10 clients). For males, the percentage tested annually for chlamydia increased from 50% to 72%, while the number of gonorrhea and syphilis tests per 10 male clients increased from 2.7 to 3.3, and from 4.9 to 6.6, respectively.

Conclusion: Generally, STD testing rates among clients attending clinics within the Title X program increased during 2005–2016. These findings suggest that Title X may play an important role in STD testing for low-income women and men of reproductive age in the U.S.

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1A2 UNINTENDED PREGNANCY AND CONTRACEPTIVE USE AMONG WOMEN RECEIVING PUBLIC HEALTH OUTREACH SERVICES FOR SEXUALLY TRANSMITTED INFECTIONS
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Background: Women diagnosed with sexually transmitted diseases (STDs) are at high risk for unintended pregnancy. Because gonorrhea, chlamydia and syphilis are reportable to health departments, outreach to women with these STDs is feasible and could be an effective population-level intervention to reduce unintended pregnancy. We evaluated pregnancy intentions, unplanned pregnancies, and contraceptive use among this population.

Methods: The study population included women in King County, Washington with bacterial STDs contacted by Public Health staff for purposes of partner notification. Women aged 45 and under and not currently pregnant were eligible to complete a survey regarding pregnancy history and contraceptive use. Women were also provided standardized counseling regarding the intrauterine device and contraceptive implant, and then queried regarding their interest in switching methods.

Results: From January through December 2017, Public Health staff attempted to contact 5896 women among whom 1464 were eligible and were offered study participation, and 398 (median age 25, range 13-45) were interviewed by phone. Among the 176 women who had been pregnant at least once, 80% reported a previous unplanned pregnancy, and 45% had an abortion. Only 4% of women were currently trying to conceive, though 19% reported using no method of contraception. Over a quarter were using a long-acting reversible method of contraception (18% using the intrauterine device, and 9% using the implant). Among women using less effective methods or no method, 34% were interested in switching to an intrauterine device or implant.

Conclusion: Use of long-acting reversible contraception is common in women with bacterial STDs in King County. Despite this, a substantial portion of women who are not trying to become pregnant are not using an effective method of contraception. Given the high risk of unintended pregnancy in this population, strategies are needed to integrate family planning services into population-based STD outreach programs.

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1A3 CHLAMYDIA AND GONORRHEA SCREENING AMONG WOMEN UNDERGOING INTRAUTERINE DEVICE INSERTION
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Background: Annual chlamydia and gonorrhea screening is recommended for women ≤24 years and can be performed at the time of intrauterine device (IUD) insertion for women who are not seen in the preceding year. We evaluated receipt of chlamydia and gonorrhea screening among women aged 15-24 years according to these recommendations.

Methods: We used 2014–2015 MarketScan commercial claims data to identify women aged 15–24 years who received an IUD in 2015 to assess chlamydia and gonorrhea screening in the preceding year that included the date of IUD insertion. Women with >11 months of coverage prior to the date of IUD insertion were identified with ICD-9/10, HCPCS, and CPT codes (69.7, Z30.430, V25.11, J3700, J3701, J3702, J2977, J2798, S4981, S4989, Q0090 and 58300). Among those identified, we estimated the proportions who received chlamydia and gonorrhea tests in the preceding year and on the date of IUD insertion, and by several demographic factors.

Results: We identified 23,297 commercially-insured women aged 15-24 years with >11 months of coverage prior to the date of IUD insertion in 2015. Among those women, 14.4% were tested for chlamydia and 14.1% for gonorrhea on the day of IUD insertion; 67.1% had chlamydia screening and 70.7% had gonorrhea screening in the preceding year. Screening in the preceding year for chlamydia and gonorrhea, respectively, was more common among women aged 20-24 years than those aged 15-19 years (68.2%, 71.7% vs. 63.4%, 67.3%), who resided in urban than rural areas (67.9%, 71.3% vs. 61.6%, 66.3%) and in the Northeast than the West region (77.3%, 79.7% vs. 64.5%, 67.3%).

Conclusion: Chlamydia and gonorrhea screening among women with IUD insertion was suboptimal and is comparable to other sexually active women aged 15-24 years. IUD insertion may be an opportunity to perform recommended screenings if they have not been screened in the preceding year.

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1A4 EVALUATING GONORRHEA TREATMENT OF PREGNANT WOMEN TO INFORM INFANT PROPHYLAXIS RECOMMENDATIONS: FINDINGS FROM THE U.S. STD SURVEILLANCE NETWORK (SSUN), 2015-2017
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Background: Several countries have discontinued infant prophylaxis for gonococcal ophthalmia neonatorum (GON) prevention, instead recommending gonorrhea screening and treatment of pregnant women to prevent GON. This approach requires appropriate treatment for pregnant women with gonorrhea. The U.S. currently recommends routine infant prophylaxis; any consideration of discontinuing prophylaxis should be informed by understanding U.S. maternal gonorrhea treatment practices. We describe the proportion of reported female gonorrhea cases self-identified as pregnant and the proportion receiving CDC-recommended treatment.

Methods: Ten local and state health departments participating in the STD Surveillance Network contributed data on all gonorrhea cases reported within their jurisdiction during July 2015–June 2016. A random sample of reported female cases were interviewed to ascertain demographic data, including preg-
nancy status at time of diagnosis; treatment data were obtained by provider investigation. Cases were excluded from analysis if pregnancy status was not ascertained. Cases were weighted to adjust for site-specific sample fractions and differential non-response by age, sex, and year.

**Results:** During July 2015–June 2017, 80,491 cases of female gonorrhea were reported by participating jurisdictions, 8,755 (10.9%) of which were sampled for interview. Of these, 3,321 (37.9%) were interviewed and 3,005 were asked about pregnancy. Within the final, weighted analytic sample, 9.5% were pregnant (range by jurisdiction: 2.5%–14.8%). Treatment status was documented for pregnant women in 76.8% of cases. Of women with known treatment status, 79.7% were treated with the CDC-recommended regimen of ceftriaxone plus azithromycin (range by jurisdiction: 63.3%–100.0%), 8.7% were not treated by diagnosing provider, 7.8% were treated but did not receive ceftriaxone, and 0.8% were administered doxycycline, which is contraindicated during pregnancy.

**Conclusion:** Antimicrobial treatment of pregnant women diagnosed with gonorrhea may be less than ideal in the U.S. Although treatment is only one component of a screen-and-treat approach to prevent GON, suboptimal treatment may limit the effectiveness of this approach.

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**1A5**

**MATERNAL-FETAL OUTCOMES IN YOUNG URBAN WOMEN WITH MYCOPLASMA GENITALIUM INFECTION**

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**Background:** The purpose of this study is to explore the prevalence of Mycoplasma genitalium (MG) and longitudinal maternal-fetal outcomes among women testing positive for MG testing during pregnancy.

**Methods:** 193 pregnant women aged 13-29 years of age were recruited during obstetrical visits during which biological specimens for Neisseria gonorrhoeae (GC) and Chlamydia trachomatis (CT) were obtained to provide vaginal specimens for MG testing. MG testing was performed using the Hologic/Gen-Probe transcription-mediated amplification-MG analyte specific reagent assay. Enrolled participants consented to longitudinal electronic medical record review from which maternal (preterm delivery, spontaneous abortion, endometritis, PID, cervicitis, interstitial hospitalization, chorioamnionitis, fever, length of stay, and gestational age) and fetal (Appar, weight, sepsis, intensive care unit stay) were abstracted for comparative analysis of preliminary data based on STI status. 151 women with complete delivery data who did not have elective abortions were included in the analysis.

**Results:** The majority of women (78.8%) were STI negative, 12.5% were MG positive, and 8.6% GC or CT positive. Mean gestational age at birth was 38.8 weeks (3.6) and length of hospitalization was 2.6 days (1.0), and 31% of participants experienced an interim hospitalization prior to delivery. There were no significant differences observed when comparing outcomes based on MG infection alone, CT or GC infection with/without MG, and no STI. However, women with MG infection alone showed a trend of infants with higher rate of ICU stays (Overall 7%, MG 17%, GC/CT 8%, and No STI 6%).

**Conclusion:** This preliminary analysis indicates that MG infection is common in pregnancy and affected women have similar outcomes to GC/CT and non-STI affected women. However, there is an unexplained trend towards increased ICU stays among infants born to mothers who experienced MG infection during pregnancy that merits further exploration to determine the role of treatment of asymptomatic MG infection during pregnancy.

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**1B2**

**RETESTING RATES AFTER A POSITIVE CHLAMYDIA TRACHOMATIS TEST RESULT: EXPERIENCE FROM A LARGE CLINICAL LABORATORY**

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**Background:** Treatment for Chlamydia trachomatis (CT) is highly effective. However, reinfecion is common and increases risk for severe complications in women. CDC recommends retesting to rule out reinfection approximately 3 months after treatment; test of cure at 3-4 weeks is not recommended. We investigated the rate of retesting after a positive CT result at a large clinical laboratory.

**Methods:** We analyzed CT nucleic acid amplification test results from 1,596,857 unique patients tested at Quest Diagnostics tests. For patients with positive results, we identified retested ≤6 months later; only the first test for each patient was counted. To minimize loss of follow-up data due to insurance changes, we limited the analysis to patients who had their first test in the first 5 months of the calendar year. This Quest Diagnostics Health Trends™ study was deemed exempt by the Western Institutional Review Board.

**Results:** Initial CT results were positive in 72,993 (4.6%) patients, including 49,805/1,220,977 (4.1%) women, 22,843/369,877 (6.2%) men, and 345/6,003 (5.8%) individuals with unspecified sex. Overall, 28,681/72,993 (39%) patients were retested. However, only 19,680 (27%) were retested in a timeframe consistent with testing for reinfection (defined as 8 weeks-6 months after the initial positive result for this study). Retesting rates were higher for women (45%) than men. Retest results were positive in 17% of individuals overall (females, 16%; males, 19%). Positive retest results were somewhat less frequent among individuals retested at ≤8 weeks (12.9%) than those retested later (16.8%).

**Conclusion:** Less than half of individuals with positive CT test results in this study were retested ≤6 months after presumed treatment. The apparent gap in care, highlighted by the low retest rate and high positive rate for retests, represents a call to action to improve mechanisms used to bring patients back for testing after treatment.

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**1B1**

**EXTRA-GENITAL GONORRHEA (GC) AND CHLAMYDIA (CT) SCREENING - A SUCCESS STORY FROM LOUISIANA**

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**Background:** Louisiana ranks at or near the top in the nation for GC and CT case rates with 25-28% of cases identified at parish health units (PHU). Most of the cases are identified through testing specimen from urogenital sites. It is now well known that a potentially large proportion of GC and CT cases may be missed by not testing at sexually exposed non-genital anatomical sites.

**Methods:** The Louisiana Department of Health (LDH) -STD/HHV Program (SHP), Laboratory, Bureau of Family Health, and Denver Prevention Training Center (DPTC) collaborated to implement an extra-genital testing pilot at four PHUs in Feb 2016 and eight additional PHUs in 2017. Steps taken to accomplish this included: laboratory validation of rectal and pharyngeal GC/CT NAAT testing; extra-genital testing protocol development; multi-language instruction sheets for nurses and patients; and training on the importance of extra-genital testing, specimen collection and project implementation by the SHP STD Medical Director and Nurse Consultant with DPTC assistance.

**Results:** 5,565 extra-genital samples were tested during Feb 2016 – Sep 2017 including 553 rectal (female=282, male=271) and 5,012 pharyngeal (female=2645, male=2367) swabs. At the rectal site, GC positivity was 72/271 (27%) among men and 14/282 (5%) among women, while CT positivity was 46/271 (17%) among men and 31/282 (11%) among women. At the pharyngeal site, GC positivity was 143/3,267 (6%) among men and 106/2,645 (4%) among women, while CT positivity was 39/2,367 (1.6%) among men and 59/2,645 (2%) among women. Extra-genital testing identified an additional 11/1,916 (12%) GC and 67/1,151 (6%) CT cases among men, and 70/474 (15%) GC and 47/1,191 (4%) CT cases among women.

**Conclusion:** The project was implemented with internal collaboration of the LDH Programs and partnership with DPTC. There is strong evidence that extra-genital testing will identify a significant number of asymptomatic cases that would have been missed testing urogenital sites alone.

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1B3 PREDICTORS OF REPEAT GONORRHEA AND/OR CHLAMYDIA INFECTION IN A POPULATION OF MEN-WHO-HAVE-SEX-WITH-MEN (MSM) IN LOS ANGELES COUNTY
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Background: Repeat infection with gonorrhea and/or chlamydia may signifi-
cantly contribute to onward transmission of HIV and other sexually transmit-
ted infections. Our objective was to identify the rate and socio-demographic
predictors of repeat gonorrhea and/or chlamydia infection in a clinic-based
population of predominantly men-who-have-sex-with-men (MSM) in Los An-
geles County.
Methods: We constructed a retrospective cohort of men attending a free STI
clinic in Los Angeles, CA. Subjects were available for study inclusion if they
were: male; 16 years of age or older; and presented to the clinic with an ini-
tial case of gonorrhea or chlamydia at any site between October 2011 and Sep-
tember 2015. Kaplan-Meier survival curves and Cox regression models were
used to identify socio-demographic predictors of repeat infection defined as any
gonorrhea or chlamydia at any site detected within up to four years of prior
infection and 30 days after verified treatment.
Results: Of the 2,293 male patients entered in the cohort, 14% (n=296) pre-
sent with a repeat gonorrhea and/or chlamydia infection within four years. HIV
positivity at baseline was 13.5% with the majority of men identifying as either
bisexual or homosexual (82.2%). The reinfection rate was estimated at 11.5% (95% CI, 10.1%-12.9%) within one year and 32.6% within four
years. In a multivariable model, repeat infection was independently associated
with: being aged 30-39 (compared with 16-19 years; adjusted hazard ratio
(AHR) = 4.81; 95% CI, 1.14-20.32); being black (compared with white;
AHR = 1.85; 95% CI, 1.17-2.93); and self-identifying as bisexual (compared
with heterosexual: AHR = 3.08; 95% CI, 1.65-5.75) or homosexual (AHR =
2.46; 95% CI, 1.47, 4.12).
Conclusion: Our study revealed that racial and sexual minorities are more
likely to experience repeat gonorrhea and/or chlamydia infection. STI pre-
vention and elimination efforts focused on individuals repeatedly infected
may help reduce STI disease burden, including HIV.
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1B4 LOW-BARRIER STD SCREENING AND TREATMENT FOR ADOLESCENTS IN NON-CLINICAL SETTINGS: THE WASHINGTON, DC, YOUTH STD SCREENING PROGRAM (YSSP) 2015-2017
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Background: In Washington, DC, youth ages 15 to 24 are disproportion-
ately impacted by STDs. The number of reported cases of chlamydia (CT)
infections grew by 4.8% from 2011 to 2015. Among these cases, 65.6% were
between ages 15 and 24. Although the number of reported gonorrhea (GC)
cases decreased by 1.7%, more than half (54.2%) were between ages 15 and
24. Integrating STD screenings at youth-serving organizations increases up-
take of STD screening and treatment among hard-to-reach youth.
Methods: The DC Department of Health's YSSP designated 5 community-
based organizations as YSSP sites. Sites provide free, youth-friendly STD
screening for uninsured, sexually-active people under the age of 26. All sites
offer urine-based CT/GC, three sites provide treatment or are affiliated with
a clinic, and two also offer pharyngeal and rectal screening. Sites contact
positive youth within 24 hours of results and refer to treatment. Any cases
lost to follow-up after 48 hours were referred to the DC DOH for assign-
ment to a disease intervention specialist (DIS) who provides support with
treatment, follow-up testing, partner notification, and expedited partner
therapy.
Results: In 2016, 2,493 youth were screened, yielding a 11% positivity rate.
Of the 282 positives, 184 were treated, 76.6% received treatment
within 14 days. The site with on-site treatment available had the highest
treatment rate (81%), followed by the one that is affiliated with a clinic. Most
community-based clinical sites in DC experience a far lower treat-
m ent rate (50%); YSSP sites yield a 65% treatment rate.
Conclusion: Low-barrier STD screening services in youth-friendly, non-
clinical settings results in higher screening and treatment rates when services
locations are convenient and treatment is supported by warm referrals.
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1B5 SHORT MESSAGE SYSTEM (SMS) REMINDERS FOR RE-TESTING AMONG FEMALE STD CLINIC PATIENTS WITH GONORRHEA OR CHLAMYDIA
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Background: United States guidelines recommend re-testing for chlamydia
(CT) or gonorrhea (GC) approximately 3 months after treatment, but adhere-
tence to these guidelines is poor.
Methods: Beginning in May 2016, the municipal STD Clinic in Seattle, WA
integrated opt-in SMS (text message) re-testing reminders into our clinic's
routine electronic intake. Patients were asked if they wanted to receive an
SMS re-testing reminder in 3 months if they tested positive for GC/CT
that day. Among women who did and did not opt-in to reminders, we used
Fisher's exact tests to compare the proportion who returned to the clinic
and the proportion who tested positive for GC/CT 3-6 months after their initial
diagnosis. We linked clinic and STD surveillance data to ascertain repeat GC/
CT diagnoses outside of the STD clinic.
Results: Female patients opted-in to receive re-testing reminders at 464 (37%)
of 1,269 clinic visits, May 2016-December 2017. Overall, 80 women tested positive for GC (n=31) or CT (n=50), including 34 who opted-in
to SMS reminders and 46 who did not. Of 34 women sent reminders at 3
months, 9 (26%) had inactive phone numbers. Women who received re-
testing reminders (n=25) were more likely to return to the clinic 3-6 months
after their initial GC/CT diagnoses compared to women who did not opt-in
(n=46) (20% vs 4%; P=0.09), and compared to women (n=413) who opted-
in to receive reminders but did not have GC/CT at the time they opted-in
(20% vs 9%; P=0.09). None of the 80 women who initially tested positive
for CT/GC had a repeat positive GC/CT test within 3-6 months per STD
surveillance.
Conclusion: Uptake of automated SMS reminders among women was low,
and most women who received reminders did not re-test. Despite this, our
data suggest SMS reminders integrated into an existing clinic infrastructure
may promote re-testing within 3 months among women with GC/CT.
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types of cancer, including oropharyngeal cancer (64%) was less prevalent. Knowledge around vaccination recommendations was limited with only 44 and 49% of participants correctly identifying the recommended age for vaccina-
tion for males and females respectively. Few participants (4%) currently discuss HPV and oral cancer with all their patients but most expressed in-
terest in increasing the role of oral health professionals in HPV education.
Of the respondents who do not currently discuss HPV, the most common reasons cited were lack of information (67%) and lack of privacy at the clini-
cal setting (46%).

Conclusion: Findings indicate that oral health professionals are largely recep-
tive to increasing their role in HPV prevention. Potential areas for interven-
tion include education for oral health professionals and informational materi-
als for patients and their parents. Furthermore, understanding the cultural factors involved with the American Indian/Alaska Native community would facilitate creating culturally competent resources.

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1C2 COMMUNITY APPROACHES TO ADDRESSING SOCIAL DETER-
MINANTS OF HEALTH TO REDUCE SEXUALLY TRANSMITTED DISEASES IN CALIFORNIA
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Background: Social determinants of health (SDH) explain underlying fac-
tors of STD disparities. Participatory approaches to identifying and addressing
key determinants can maximize intervention effectiveness and sustain-
ability in reducing disparities in STDs. From 2011-2017, the Centers for Disease Control and Prevention (CDC) awarded 8 sites for the Community Approaches to Reducing STDs (CARS) project to utilize community engage-
ment to empower community members to prioritize key determinants and design interventions to address those determinants. To add to the evidence base for participatory approaches, we describe methods and outcomes from engagement processes applied to communities with high STD rates.

Methods: CARS program staff used strategies such as gallery walks, root
cause analysis, brainstorming, force-field analysis and bucket clustering to facilitate identification of SDH and potential interventions during Commu-

nity Advisory Board (CAB) meetings. Quantitative analysis of 212 CAB and partner surveys and STD outcome data from the 8 CARS awardees were analyzed with interviews and discussion groups with 16 program and CAB participants.

Results: Key determinants of health identified by CAB members included:
education, employment and access to health services. CAB members de-
gigned several interventions to address the determinants of health, including establishing wellness centers in public housing developments, implementing cultural competence and humility training for healthcare providers, promot-
ing lower minimum hiring-age policies at partner organizations, and creating internship programs for youth community members. CAB-designed inter-
ventions improved access to health services and STD testing and treatment by scaling up existing services and implementing services in new settings, resulting in an average STD positivity rate of 15% and an HIV positivity rate of 2%.

Conclusion: Ensuring the communities’ participation in policy changes and intervention development are crucial to intervention uptake and sustainabil-
ity. As the CARS project, community-designed structural changes led to the successful reach of populations at high risk for STDs and HIV infections.

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1C3 LEVERAGING DISEASE INVESTIGATION SPECIALISTS TO
IMPROVE CHLAMYDIA AND GONORRHEA TREATMENT AMONG
YOUTH RELEASED FROM JUVENILE DETENTION CENTERS IN
NEW YORK CITY, 2016
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Background: Youth in New York City (NYC) juvenile detention (JD) centers have consistently high rates of chlamydia (Ch) and gonorrhea (GC). Treating
Ch/GC cases in the JD setting is complicated by unpredictable release dates.

While NYC’s Department of Health and Mental Hygiene’s (DOHMH) Dis-
ease Investigation Specialists (DIS) do not routinely investigate Ch/GC cases
citywide, NYC DOHMH partnered with JD centers to develop a process for referring their untreated Ch/GC cases to DOHMH DIS.

Methods: For each untreated Ch/GC case, JD centers submitted a form to
NYC DOHMH specifying clinical and patient contact information. DIS in-
vestigative outcomes—whether cases were previously treated, brought to
treatment, or untreated (could not be located or refused treatment)—were
recorded by DIS in DOHMH’s surveillance system, Maven. For year 2016, we used JD Ch/GC testing data to measure Ch/GC positivity; we calculated
treatment rates and the proportion of cases referred to DIS vs. treated by JD
centers.

Results: Of 1,890 Ch/GC tests performed among youth aged 9-18, there were 155 Ch, 12 GC, and 25 dual Ch/GC cases. For both Ch and GC, test
positivity was higher among females (Ch positivity: 19.2% (88/459); GC
positivity, 3.9% (18/459)) than males (Ch positivity, 6.4% (92/1431); GC
positivity, 1.3% (19/1431). Among 192 Ch/GC cases, 39.6% (76) were re-
ferred to DOHMH DIS. Among DIS-referred cases: 7.9% (6) were previ-
ously treated by the time of field investigation, 48.7% (37) were brought to
treatment, and 43.4% (33) were untreated. Overall, 153/192 (79.7%) Ch/
GC cases were treated.

Conclusion: Approximately 40% of JD youth were released prior to being
treated for Ch/GC. Leveraging DIS improved overall Ch/GC treatment rates among this high-risk population by 32%.

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1C4 IMPLEMENTING AN ONLINE ORDERING PLATFORM AND
ESTABLISHING CROSS-JURISDICATIONAL PARTNERSHIPS TO
INCREASE THE USE OF PATIENT-DELIVERED PARTNER THERAPY
(PDPT) IN CALIFORNIA
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Background: Essential Access Health and the California STD Control Branch have partnered to implement a free chlamydia/gonorrhea PDPT medication program offered to Title X and local health jurisdiction (LHJ) sites in the California Project Area (CPA) since 2005. However, despite this free access and strong national recommendations, PDPT in California re-
mains underutilized according to surveillance data. From 2015-2017, we in-
vested additional resources to expand the reach of the program and evaluated increases in use.

Methods: Essential Access launched an online PDPT ordering platform in 2015, conducted promotional activities in 2016 targeted to eligible non-par-
ticipating clinics outside Title X and LHJs, and partnered with Los Angeles County (LAC) to launch the program there in 2017. We interviewed staff from participating and non-participating clinics in 2017 on PDPT imple-
mentation barriers and provider training needs to inform expansion efforts. We compared the number of participating clinics and PDPT doses ordered in 2016/2017 to 2014, before expansion efforts. We extracted 2014 data from
paper medication order forms and 2016/2017 data from the online platform.

Results: Compared to 2014, the number of CPA clinics ordering medica-
tion in 2016 increased 9% (136 to 148) across 38 LHJs, and the number of
PDPT doses ordered increased 124% (7,707 to 17,248). Following the 2017 expansion to LAC, the number of clinics increased an additional 27% (148 to 188), and doses ordered increased 37% (17,248 to 23,695). We interviewed 36 staff (29 CPA; 7 LAC) from 9 participating and 24 non-participating clinics. Reported barriers included provider concerns about legality and li-
ability; clinic difficulty meeting program requirements; and gaps in training and operational resources.

Conclusion: California successfully increased PDPT uptake through pro-
gram expansion and promotional activities. However, barriers reported by clinics around provider comfort and practice implementation highlight the need for more training and technical assistance to maximize use of this pro-
gram.

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1C5 A DANGEROUS TRIFECTA: DRUGS, GANGS, AND SYPHILIS IN OKLAHOMA

Sexually Transmitted Diseases • Volume 45, Supplement 2, September 2018
S7
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We matched a cohort of 117 newly diagnosed SHC patients HIV antiretroviral therapy (ART) initiated soon after HIV diagnosis, Ivonna Mims, BSN, Amber Rose, MPH, Terrainia Outbreak response efforts included a state-wide outbreak alert, Sarah Braunstein, PhD, MPH

According to CDC guidelines, estimates of the population-level impact of screening women for chlamydia session will also include a discussion focused on working with family planning to reach women at increased risk, George Walton, MPH, MLS(ASCP)SM Iowa Department of Public Health, IA, USA

1D – WOMEN’S HEALTH (SYMPOSIUM)

THE IMPACT OF MEDICAID EXPANSION ON PRENATAL CARE ACCESS
Aaron Lopata, MD, MPP
Health Resources and Services Administration, MD, USA

PROGRAMMATIC RESPONSES TO CS AND THE CRITICAL ROLE OF PRENATAL CARE
Chaquetta Johnson, DNP, MPH, APRN, WHNP-BC
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WORKING WITH FAMILY PLANNING TO REACH WOMEN AT INCREASED RISK

2A1 – YES, WE DO THAT HERE

2A1 JUMPSTART IS A HEAD START: INITIATING ANTIRETROVIRAL TREATMENT ON DAY OF HIV DIAGNOSIS IN NEW YORK CITY

HEALTH DEPARTMENT SEXUAL HEALTH CLINICS, 2016-2017
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Background: HIV antiretroviral therapy (ART) initiated soon after HIV diagnosis leads to better prognosis and reduced transmission. The ‘JumpstART’ program, in New York City (NYC) public Sexual Health Clinics (SHC) since November 2016, provides newly diagnosed HIV-positive patients with ART (one-month supply) on day of diagnosis and active linkage to HIV care (LTC). We examined viral suppression (VS) among JumpstART (immediate ART) initiates and non-JumpstART patients.

Methods: We matched a cohort of 117 newly diagnosed SHC patients (11/23/16-7/31/17) to the NYC HIV surveillance registry to obtain HIV laboratory test results through 10/31/17. We compared JumpstART and non-JumpstART patients regarding: 1) timely LTC (<30 days); 2) probability of VS (viral load<200 copies/mL) by three months post-diagnosis, using Kaplan-Meier analysis; and 3) time from HIV diagnosis to VS among the virally suppressed. Using Cox regression, we identified factors associated with VS by 10/31/17.

Results: Of 117 patients, 21 (18%) had acute HIV infections; 65% (76/117) were JumpstART and the remaining were non-JumpstART patients. LTC<30 days was observed for 85% (65/76) of JumpstART and 71% (29/41) of non-JumpstART patients. By 3 months post-diagnosis, 83% of JumpstART versus 52% of non-JumpstART patients achieved VS (log-rank, p<.0001). Median times to VS among virally suppressed JumpstART and non-JumpstART patients were 4.1 weeks (interquartile range: 3.4-6.7) and 13.4 weeks (IQR: 7.1-17.3), respectively. There was no difference in VS status between JumpstART and non-JumpstART patients after adjusting for gender, age, race/ethnicity, partner gender, and LTC status. Linked were more likely than non-linked patients to achieve VS (aHR: 2.2, 95%CI: 1.2-4.1).
Conclusion: Prompt ART initiation among SHC patients, many of whom had acute HIV infections, resulted in markedly shortened times to VS. These findings suggest that immediate ART provision and active LTC can be key contributors to improved HIV treatment outcomes and the treatment-as-prevention paradigm, with potential for downstream, population-level benefit.

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2A2 PREDICTORS OF LINKAGE AMONG PATIENTS WHO INITIATED HIV PRE-EXPOSURE PROPHYLAXIS (PrEP) AT SEXUAL HEALTH CLINICS (SHC) IN NEW YORK CITY (NYC), 2017
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Background: As a safety net provider, NYC public sexual health clinics (SHC) serve patients who benefit from PrEP but may be less likely to access it in other settings. Our clinics offer same-day PrEP initiation to priority patients, with linkage to ongoing care with community providers. We sought to identify factors associated with linkage after initiating a PrEP regimen at a NYC SHC.

Methods: We analyzed medical record data on men-who-have-sex-with-men (MSM) and transgender women who received PrEP at NYC SHC from January-July 2017. Patients received immediate linkage to ongoing PrEP services but could not return to the SHC for medication (for a maximum of 90 days) before linkage elsewhere. Linkage was defined as confirmed appointment attendance with a community provider within 4 months of receiving PrEP. Patients received on-site STI/HIV screening, PrEP counseling and education, and 30 days of medication. We contacted providers to confirm linkage and identified correlates of PrEP linkage using logistic regression.

Results: Over 7 months, 326 patients initiated PrEP. Most initiates were Black or Hispanic (60%) and ≥ 25 years of age (80%). Less than half (45%) linked to a provider within 4 months. Linkage differed by age (32% for patients < 25 versus 49% for patients ≥ 25; p=0.014), and health insurance status (41% among uninsured versus 55% among insured; p=0.019). Linkage was lower for Hispanic patients (39%) compared to white patients (54%) (p=0.034) but was not significantly associated with STI diagnosis on day of visit, number of refills obtained at SHC, or presenting to the clinic specifically requesting PrEP.

Conclusion: We observed relatively low linkage rates among patients initiating PrEP at our clinics, both overall and among all subgroups examined. These findings demonstrate the need to improve navigation services for all patients initiating PrEP and to explore the individual and systemic barriers to PrEP linkage through further research.

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2A3 RETENTION IN PrEP CARE AT A MUNICIPAL STD CLINIC, SAN FRANCISCO, 2014-17
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Background: We assessed retention in PrEP care and factors associated with being lost to follow-up (LTFU) from a STD clinic PrEP program.

Methods: San Francisco City Clinic (SFC) offers PrEP as part of routine sexual health services. Clients who initiate PrEP receive counseling, undergo intake tests, and receive a prescription for Truvada®. Uninsured clients are enrolled in a patient assistance program and advised on how to access health insurance. Insured clients are encouraged to transition to primary care. Clients who have not been seen in ≥ 6 months are deemed LTFU if they do not respond to outreach. We compared characteristics of clients LTFU with those who remained on PrEP, and assessed time to LTFU.

Results: From February 2014 – June 2017, 1019 individuals initiated PrEP at SFC. Most (96%) were male, 2% were female, and 2% were transgender. Mean age was 32.7 years; 43% were White, 10% Black, 28% Latino and 18% Asian. Overall, the majority were retained in PrEP care at SFC (50%) or through primary care (14%), 8% stopped PrEP, 4% moved, and 25% were LTFU. Median follow-up for those LTFU was 4 weeks (IQR = 17 weeks); 41.4% of those LTFU did not return after the enrollment visit. Compared to clients retained in care at SFCC or transferred to primary care, those who were LTFU did not differ by age, gender, race, mean number of sex partners in the prior 3 months, or STD history (p=0.05).

Conclusion: Initiation of PrEP and longitudinal follow-up is feasible in an STD clinic; 64% of clients remained on PrEP for at least six months and retention did not vary by race or age. Most LTFU clients were unengaged soon after initiation. Additional investigation is needed to understand factors that might be associated with LTFU, including insurance status, risk perception, substance use and mental health.

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2A4 CURING HEPATITIS C WITH CHARM: AN INNOVATIVE MODEL EMBEDDED IN THE BALTIMORE CITY HEALTH DEPARTMENT’S (BCHD) SEXUALLY TRANSMITTED DISEASES (STD) CLINICS
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Background: In June 2013, the BCHD STD Clinics began offering hepatitis C (HCV) screening and referral to outside HCV specialists for those diagnosed with chronic infection. Starting in July 2015, BCHD began offering HCV treatment onsite to the Maryland Department of Health and Johns Hopkins Division of Infectious Diseases. The objective of this study was to compare rates of attendance to initial HCV treatment appointments before and after offering onsite treatment within the STD clinics.

Methods: Since July 2015 the BCHD HCV treatment program, called CHARM (Curing Hepatitis And Realizing eMpowerment), has offered treatment to patients with chronic HCV diagnosed at the STD clinics or referred to BCHD for treatment. We conducted a retrospective study of patients confirmed to have chronic infection at the BCHD STD Clinics from July 2015-December 2016 to evaluate the proportion who successfully attended their initial HCV treatment appointment. We used chi-square analysis to compare CHARM appointment attendance to attendance for those referred to outside clinics for treatment using previously published data from June 2013-April 2014.

Results: 155 patients were diagnosed with chronic HCV from June 2013-April 2014 and 399 patients were either diagnosed at the STD clinics or referred for treatment from July 2015-December 2016. During the entire study period, 432 (78%) patients with chronic HCV accepted an outside referral or CHARM appointment for treatment evaluation. Among this group, patients seen after July 2015 and offered treatment onsite were more likely to attend their HCV treatment appointment than patients who were referred out for treatment – 76% versus 61% respectively (p = 0.002).

Conclusion: Offering onsite HCV treatment in public STD Clinics improves the likelihood that patients will attend appointments to be evaluated for HCV treatment.

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2A5 PATIENT UPTAKE OF BEHAVIORAL HEALTH INTERVENTIONS IN NEW YORK CITY SEXUAL HEALTH CLINICS, 2012-2015
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Background: New York City Sexual Health Clinics (NYC SHC) offer Screening, Brief Intervention and Referral to Treatment services (SBIRT) to patients screening positive on a clinic based drug and/or alcohol (DOA) screening tool (AUDIT/DAST). If clinic-based DOA screening scores indicate a need, patients are offered 12 free follow-up in-clinic sessions (extended brief intervention/EBI) beyond an initial meeting with a substance abuse counselor, and referrals to treatment facilities.

Methods: Clinical medical record data (10/01/2012-12/31/2015) were used to quantify numbers of patients who were eligible for, accepted, and returned to clinic for EBI. We used multivariable logistic regression to assess whether the following factors were associated with return for EBI among eligible patients: patient age, gender, race/ethnicity, HIV status, STI diagnosis (syphilis, chlamydia, gonorrhea) on day of clinic visit.
Results: Of 31,501 visits that included DOA screening, 6,924 (22%) patient-visitswere EBI-eligible; this represented 6,566 unique patients. Nineteen percent (1,274/6,566) accepted EBI and of those, 24% (306/1,274) returned for ≥1 EBI session. Median number of EBI sessions was 2 (range: 1–13). Compared to female patients men-who-have-sex-with-men were equally likely to return; men with female partners were less likely to return (aOR 0.44, 95%CI: 0.35-0.58). Patients aged <30 were less likely to return than patients ≥30 (aOR 0.57, 95%CI: 0.44-0.71). Compared to non-Hispanic (NH) white patients, NH black patients and NH patients of other races were less likely to return (NH-black aOR: 0.74, 95%CI: 0.64-1.0; NH other race aOR: 0.46, 95%CI: 0.24-0.82). Patients with STI were less likely to return than patients without STI (aOR: 0.51, 95%CI: 0.34-0.74).

Conclusion: A substantial number of patients attending NYC SHC would benefit from EBI, but most do not receive the intervention. It may be especially important to engage EBI-eligible patients with STI. Understanding why patients do not accept/return for EBI could lead to changes in clinic protocol to improve engagement.

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2B – HEY, WATCH THIS: SURVEILLANCE MATTERS

2B1 OLD SURVEILLANCE, NEW TRICKS: USING A LOGIC-BASED MODEL TO PROCESS REACTIVE NON-TREPONEMAL SYPHILIS SEROLOGIC TESTS

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Background: From 2006 (n=34,808) to 2015 (n=55,0001) reported reactive non-treponemal tests (RNTs) increased 58% in Florida. For decades, many sexually transmitted disease (STD) programs use syphilis reactor grids to process RNTs based on patient age, sex, and test titer to prioritize disease investigation. We propose an alternative logic-based model for processing RNTs that considers previous syphilis serology and treponemal test results.

Methods: De-duplicated RNTs from Florida’s surveillance system (2006–2015) were extracted and stratified on morbidity. A logic-based model was developed to triage RNTs and sensitivity, specificity, and positive predictive value (PPV) of the model and current reactor grid were estimated. A random sample of missed cases, stratified by stage of disease, from the logic model were reviewed to verify case classification.

Results: During the study period 372,902 RNTs and 44,688 reported syphilis cases were extracted. The current reactor grid removes 91,518 (24.5%) RNTs and misses 1,149 potential cases. The reactor grid would result in a sensitivity of 97.4% (43,539/44,688), a specificity of 27.5% (90,369/328,213), and a PPV of 15.5% (43,539/281,384). The proposed logic-based model increases the specificity, 72.9% (239,310/328,214). In addition, the positive predictive value of 93.8% (41,920/44,688), but nearly triples the specificity, 97.4% (43,539/44,688), a specificity of 27.5% (90,369/328,213), and a PPV of 15.5% (43,539/281,384). The proposed logic-based model would remove 242,078 (64.9%) RNTs and miss 2,768 potential cases. Results in a slightly lower sensitivity of 93.8% (41,920/44,688), but nearly triples the specificity, 72.9% (239,310/328,214). In addition, the positive predictive value more than doubles, 32.0% (41,920/130,824). A review of the 2,768 cases showed that 72.7% would not have met the case definition resulting in an adjusted sensitivity of 98.4% (44,001/44,688).

Conclusion: In Florida, using a logic-based model predicated on previous syphilis serology for the processing of RNTs provides improved sensitivity and vastly improved specificity compared to the reactor grid. Implementing an automated logic-based record search could replace the reactor grid and improve efficiency of case investigations.

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2B2 ESTIMATES OF CHLAMYDIA INCIDENCE AMONG US MEN AND WOMEN IN 2016 BASED ON A BAYESIAN HIERARCHICAL MODEL

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Background: Previous estimates of national chlamydia incidence for 2008 were based on prevalence data and assumptions about infection duration. We developed a new approach for estimating incidence using a more comprehensive set of data and accounting for sources of uncertainty.

Methods: Using lab-based, nationally-representative prevalence estimates from the National Health and Nutrition Examination Surveys, 1999-2014, and national number of reported cases, 1999-2016, we fit a hierarchical Bayesian model to estimate annual prevalence and incidence of chlamydia for men and women aged 15-24, 20-24 and 25-39 during 1999-2016. We allowed for uncertainty around probabilities of symptomatic infection and durations of infection for treated and untreated cases, and for time trends in screening coverage and completeness of reporting of diagnosed cases. The model included prior distributions around key quantities based on previously published evidence syntheses and expert knowledge on screening and reporting trends.

Results: Estimated annual incidence rates of chlamydia in 2016 for females aged 15-19, 20-24 and 25-39 were 5.5% (95% CI: 5.1%-6.0%), 6.4% (5.8%-7.4%), and 2.1% (1.9%-2.3%), respectively. Estimated incidence for males aged 15-19, 20-24 and 25-39 were 1.9% (1.7%-2.2%), 3.3% (2.9%-3.8%), and 1.9% (1.7%-2.2%), respectively. Total numbers of estimated incident infections in 2016 for the population aged 15-39 were 1.86 million among women and 1.14 million among men. Compared to prior published estimates, our incidence point estimates for 2008 were higher (+31%) for women aged 15-24 years, but comparable for women in other age groups and for men in all age groups (i.e. all within the published 95% confidence intervals).

Conclusion: Chlamydial infections remain common, mostly concentrated among female adolescents and young adults. Leveraging data from different sources enables estimation of patterns and trends in incidence of infection which account for multiple time-varying biases and patterns.

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2B3 CAN PARTIAL-YEAR CASE REPORT SURVEILLANCE DATA BE ADJUSTED TO ANTICIPATE CHANGES IN STD COUNTS PRIOR TO THE END OF DATA COLLECTION?

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Background: Jurisdictions report STD surveillance data to the CDC weekly; however, due to reporting delays, CDC may not receive case information until months after case diagnosis. Consequently, annual case counts are unknown until data closeout, which occurs months after the calendar year. Adjusting partial-year case counts according to historical reporting trends may help epidemiologists anticipate changes in morbidity prior to data closeout.

Methods: We used prior years of surveillance data to determine an adjustment value for partial-year reported chlamydia, gonorrhea, primary syphilis (PS), and secondary syphilis (SS) cases in order to estimate the expected number of cases for 2017 by sex. We validated this approach using data from 2012–2016, for which final observed case counts are known.

Results: Adjusting cases reported by the end of 2017 according to historical reporting trends, we estimated that jurisdictions will report an additional 25.9% to 31.2% of 2017 cases of chlamydia, gonorrhea, primary syphilis, and secondary syphilis cases in order to estimate the expected number of cases for 2017 by sex. We validated this approach using data from 2012–2016, for which final observed case counts are known.

Conclusion: Adjusting partial-year case counts according to historical reporting trends may help epidemiologists anticipate changes in morbidity prior to data closeout.

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2B4 PERIODIC CYCLE OBSERVED IN SAN FRANCISCO EARLY SYPHILIS CASE COUNTS

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Background: Jurisdictions report STD surveillance data to the CDC weekly; however, due to reporting delays, CDC may not receive case information until months after case diagnosis. Consequently, annual case counts are unknown until data closeout, which occurs months after the calendar year. Adjusting partial-year case counts according to historical reporting trends may help epidemiologists anticipate changes in morbidity prior to data closeout.

Methods: We used prior years of surveillance data to determine an adjustment value for partial-year reported chlamydia, gonorrhea, primary syphilis (PS), and secondary syphilis (SS) cases in order to estimate the expected number of cases for 2017 by sex. We validated this approach using data from 2012–2016, for which final observed case counts are known.

Results: Adjusting cases reported by the end of 2017 according to historical reporting trends, we estimated that jurisdictions will report an additional 25.9% to 31.2% of 2017 cases of chlamydia, gonorrhea, primary syphilis, and secondary syphilis cases in order to estimate the expected number of cases for 2017 by sex. We validated this approach using data from 2012–2016, for which final observed case counts are known.

Conclusion: Adjusting partial-year case counts according to historical reporting trends may help epidemiologists anticipate changes in morbidity prior to data closeout.

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Background: Early syphilis cases in San Francisco have increased from 44 in 1999 to 1445 in 2017. Quarterly totals show non-linear trends not apparent in annual totals: cases decreased from 551 in 2004 to 354 in 2007 and then have peaked at increasingly higher levels approximately every two years afterward. We attempted to quantify these non-linear trends in order to better interpret future increases and decreases.

Methods: Based on inspection of quarterly trends, we proposed three overlaying processes: a linear increase over time, an outbreak curve that peaked in 2003, and a periodic cycle approximately two years in length. PROC NLIN in SAS was used to find the best estimates of the parameters for each of these trends. Starting parameter estimates were found by manually fitting curves and assessing fit visually. Partial F tests were conducted to assess the statistical significance of each process in explaining the overall trend.

Results: Each of the three proposed processes were statistically significant in predicting quarterly totals. Adding the epidemic curve significantly improved the model of the linear increase alone (p < 0.0001), and adding a periodic cycle to both significantly improved the model further (p < 0.002). The final model showed a cycle of 8.5 quarters with a difference of 33.1 cases between the maximum and minimum on top of a linear increase of 25.2 cases per year since the local peak in cases in 2003. This regular cycle closely matched the observed peaks in cases.

Conclusion: Observed decreases in cases during 2016 and increases in 2017 were most likely due to an underlying periodicity in cases revealed by this model instead of any true change in risk of disease or testing in the population. Possible explanations for this cycle, including the role of immunity in the syphilis epidemic, should be explored.

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2B5

AN APPROACH TO ESTIMATING THE EXPECTED NUMBER OF RECTAL CHLAMYDIA AND GONORRHEA INFECTIONS AMONG MEN WHO HAVE SEX WITH MEN — NEW YORK CITY, 2016

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Background: To educate New York City (NYC) providers about extra-genital Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (GC) screening, we developed a methodology to estimate the expected number of rectal infections among men-who-have-sex-with-men (MSM) if providers adhered to rectal CT/GC screening recommendations, to compare with the number actually reported.

Methods: MSM attending NYC public sexual health clinics (SHC) have syphilis serologic testing; those reporting rectal sexual exposure are screened for rectal CT/GC. Assuming complete ascertainment of these infections, we calculated the ratio of rectal CT/GC to primary, secondary, and early latent syphilis (early syphilis) cases among MSM diagnosed in SHCs in 2016 (“multiplier”). Next, we measured numbers of early syphilis cases among MSM reported to the citywide surveillance registry in 2016. We estimated the expected number of rectal infections, citywide and by patient neighborhood of residence, by applying the multiplier to the number of early syphilis cases reported among MSM. We compared expected to observed numbers of reported rectal CT/GC cases.

Results: The multiplier was 2.28 (1,588 rectal CT/GC infections/697 early syphilis cases among MSM diagnosed in SHCs). When applied to the 4,067 MSM early syphilis cases citywide, we estimated that 9,273 rectal CT/GC infections should have been reported in 2016. This expected number (n=9,273) exceeded the reported number of rectal infections (n=7,347) by 26.2%. Most neighborhoods (364/42, 85.7%) had a higher number of expected infections when compared with observed; for 10/42 neighborhoods (23.8%), less than half the number of expected infections was observed.

Conclusion: Our method suggests that many rectal CT/GC infections are missed among MSM, and provides a means of quantification at the neighborhood level. These data emphasize the need to educate clinicians about screening MSM for rectal CT/GC, and can be used to create maps displaying gaps in screening, which may be helpful for provider training.

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2C1

THE ESTIMATED IMPACT OF FEDERAL STD PREVENTION FUNDING ON REPORTED STD RATES: AN ANALYSIS OF STATE-LEVEL DATA FROM 1981 TO 2016

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Background: In recent years, sexually transmitted disease (STD) rates have been increasing in the United States. At the same time, federal public health funding, a major component of STD prevention efforts in the United States, has been declining. The Division of STD Prevention (DSTDPr) at the Centers for Disease Control and Prevention (CDC) allocates annual funds to states and other project areas in order to achieve various division goals, which include reducing the incidence of STDs. The objective of this study was to assess the effectiveness of federal STD prevention funding for reducing STD incidence in the United States.

Methods: We obtained data on reported STD rates and federal STD prevention allocations (from unpublished DSTDPr records) for all 50 states and the District of Columbia from 1981 to 2016. We evaluated the impact of STD prevention funding (in 2016 dollars per capita) on male gonorrhea rates from 1981 to 2016 and male chlamydia rates from 1996 to 2016 using finite distributed lag regression models. Including lagged funding measures allowed for assessing the cumulative impact of funding over time. Additional socioeconomic variables, including poverty, crime rate, and age, were included as controls in each regression.

Results: Funding was found to be inversely associated with male chlamydia and gonorrhea rates over a variety of model specifications. Results from our main model imply that a one percent increase in annual funding would cumulatively decrease gonorrhea rates by 0.35% (P=0.016) and decrease chlamydia rates by 0.36% (P<0.01). The results were generally consistent across alternative model specifications and other robustness tests.

Conclusion: Federal STD prevention funding allocated by CDC was significantly correlated with reductions in gonorrhea and chlamydia rates. Some of the recent increases in STD incidence may be related to recent decreases in funding levels.

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2C2

EPIDEMIC CHARACTERISTICS DRIVE COSTS OF STD PARTNER SERVICES IN WASHINGTON STATE

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Background: STD partner services (PS) prevent disease and transmission, and can be used to promote HIV prevention, but their costs are not well understood. We assessed STD PS costs and identified areas to improve efficiency.

Methods: In Washington State (WA) STD PS programs, disease intervention specialists (DIS) conduct telephone-based interviews, offer expedited partner therapy (EPT) to heterosexuals with gonorrhea (GC) or chlamydia (CT), promote HIV testing, and identify/refers clients for pre-exposure prophylaxis and re-linkage to HIV care. At three health jurisdictions (King, Pierce, and Spokane counties), we conducted activity-based micro-costing of PS including: Interviews, observational time-and-motion studies with DIS and program staff, and tracking time spent working individual cases. We analyzed program expenditures, surveillance and service delivery data to determine costs per program objectives.

Results: In King, Pierce, and Spokane, respectively, DIS spent 6.5, 6.4, and 28.8 hours per syphilis case and 1.5, 1.6, and 2.9 hours per GC/CT case. Difficult-to-reach heterosexuals, (including many reported methamphetamine users) comprised 68% of Spokane syphilis cases; most cases in King (88%) and Pierce (82.2%) were among men who have sex with men, who were easier to locate. In all jurisdictions, time-consuming DIS activities included partner contact (9%), data entry (20%), record searches to locate cases/partners (19%), and contacting cases/partners (32%). Time spent on EPT and HIV-objects was minimal (30 seconds to 5 minutes per interview). In 2016, DIS interviewed 363, 97, and 104 syphilis and 1,929, 1,948, and 280 GC/CT cases in King, Pierce, and Spokane, respectively. Cost-per-interview
ORAL SESSIONS, SYMPOSIA

 ranged from $516-$2,155 for syphilis, $215-$472 for GC, and $161-$533 for CT.

Conclusion: Resources required for STD PS depend on epidemic characteristics and program models. Electronic reporting and access to medical records could improve efficiency. Integrating HIV prevention objectives minimally impacted STD PS specific program costs. These data are necessary for PS program planning, budget impact analysis, and cost-effectiveness analyses.

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2C4
A COMPARISON OF IN-PERSON VS. TELEPHONE INTERVIEWS FOR SYPHILIS IN TEXAS
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Background: CDC recommends that partner services interviews for syphilis be conducted in person; however, this approach is resource-intensive for programs covering large geographic areas with high syphilis morbidity. We compared partner services outcomes between in-person and telephone interviews following a change in protocol allowing programs to prioritize telephone interviews.

Methods: Beginning June 1, 2016, five of Texas’ 15 STD programs, representing a mix of urban and rural settings, were instructed to conduct telephone interviews with syphilis cases identified through surveillance or lab reporting as a first-line protocol. Comparison of telephone and field interviews in partners notified, epi treated, infected, and infected/treated.

Results: There were no significant differences between telephone and field interviews in partners notified, epi treated, infected, and infected/treated.

Conclusion: Allowing STD programs to conduct telephone interviews for syphilis cases identified via surveillance or lab reporting as a first-line protocol will likely have no effect on partner services outcomes while conserving program resources.

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2C5
NO EXPANSION, NO PROBLEM: IMPLEMENTING THIRD PARTY BILLING IN LOCAL HEALTH DEPARTMENT STD CLINICS IN A NON-MEDICAID-EXPANSION STATE; VIRGINIA, 2017
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Background: In 2017, the Virginia Department of Health (VDH) implemented third-party billing in local health department (LHD) sexually transmitted disease (STD) clinics. Unlike other states, who have implemented billing, Virginia has not expanded Medicaid. We analyzed the impact of the transition to third party billing on local STD clinics in Virginia.

Methods: Leveraging existing staff at the state and local level, STD clinics adopted VDH’s standard income-based eligibility process, and used special referral codes to exempt clients from billing who were referred by Disease Intervention Specialists and other providers for probable or diagnosed STD. VDH collected data related to encounters, revenue, and client demographics and income levels from STD clinics statewide, and monitored trends using a Tableau dashboard.

Results: Between July 1, 2017 and February 10, 2018, VDH documented 16,208 office visits and 26,144 encounters resulting in 85,410 STD tests. STD clinics reported an average of 18.7% billable encounters, higher than the average 12% reported in previous analyses. LHD clinics collected an average of 57.9% of the amount billed to insurance, resulting in $197,006 in new funds. Clients who reported inability to pay were provided services at no charge.

Conclusion: Implementing third-party billing created a new revenue stream, which will be used to supplement existing public health work in Virginia. The transition highlighted the need to standardize clinic procedures to ensure adherence to billing requirements, as well as the need for ongoing technical assistance at both the state and local level. We plan to pilot interventions to improve the billed/collections rate to meet or exceed the amount collected in Family Planning clinics (90%).

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Managing sexual partners of persons infected with STDs are a vital part of STD control. The historical focus of has often been to identify and locate the sexual contacts of infected persons for presumptive treatment. Partner management has evolved along with societal, legal, and technological changes. It has now been expanded to expedited partner treatment, linking partners to other services (such as PrEP) and it serves as a useful tool for prevention. Experts will discuss the evolution of partner services and describe some model programs as well as opportunities for the future.

2E – STD PROGRAM PARTNERSHIPS FOR BETTER STD PREVENTION AND CONTROL: INTEGRATING FAMILY PLANNING, HIV PREVENTION, AND STD PREVENTION (SYMPOSIUM)

FAMILY PLANNING INTEGRATION
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STOP UP THE FIGHT AGAINST STDs: SCREENING, TREATMENT, PREVENTION: HOW COMMUNITY HEALTH CENTERS CAN HELP STEM THE TIDE
Marwan Haddad, MD, MPH
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TRANSITIONING FROM FAMILY PLANNING AND STD SERVICES TO A COMPREHENSIVE REPRODUCTIVE HEALTH MODEL: THE LOUISIANA EXPERIENCE
DeAnn Gruber, PhD, LCSW
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PROMOTING SEXUAL HEALTH BY INTEGRATING STD, HIV, AND CONTRACEPTION SERVICES
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Most STDs are diagnosed outside of the STD clinic. Engaging in meaningful partnerships with clinical providers who see patients at high risk for STDs is an important component of a robust response to STD increases. Family planning, HIV care, and community health centers are ideal partners for clinical integration with STD services. There have been some challenges and opportunities with this integration. Experts will discuss these issues and propose solutions.

3A – SteD TALKS: NINE AWESOME ABSTRACTS DELIVERED IN A NEW FORMAT

3A1 SELF-REPORTED USE OF COCAINE, CRACK, HEROIN, METHAMPHETAMINES, AND INJECTION DRUGS AMONG PRIMARY AND SECONDARY SYPHILIS CASES IN THE UNITED STATES, BY SEX AND SEXUAL BEHAVIOR — NATIONAL NOTIFIABLE DISEASE SURVEILLANCE SYSTEM, 2012–2016
Jeremy Grey, PhD1, Sarah Kidd, MD1, Shivika Trivedi, MD2, Elizabeth Torrone, PhD, MSPH1, Hillard Weinstock, MD, MPH1
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Background: Reducing morbidity related to substance use is a public health priority. We report recent trends in substance use among persons with primary and secondary (P&S) syphilis.

Methods: We reviewed national P&S syphilis case report data from 2012-2016 and described the number and percentage of cases that self-reported substance use in the past 12 months. We further described use of cocaine, crack, heroin, methamphetamine, and injection drugs specifically and stratified our analysis by sex, sex of sex partners, and region.

Results: During 2012-2016, the percentage of P&S cases reporting any substance use was stable (22%-23%); however, as the overall burden of syphilis increased during that period, the absolute number of cases reporting substance use increased 72% from 3,493 (2012) to 5,993 (2016). Similar trends (stable percent reporting use: 8%-9%) and an increase in cases: 1,218 to 2,509) were seen for reported use of five specific substances: cocaine, crack, heroin, methamphetamine, and/or injection drugs. Among men who have sex with men (MSM), the percent reporting use of any of the five substances was stable (9%) while the absolute number increased (894 to 1,473); however, reported use among men who have sex with women only (MSW) increased from 8% to 13% (increase in cases: 156 to 498). Among women, the reported use increased annually from 9% to 16% (increase in cases: 127 to 490). Analyses indicated regional heterogeneity, with the West consistently reporting the highest percentages of use among MSW and women.

Conclusion: Although MSM P&S syphilis cases more frequently report substance use compared to MSW and women, the proportion of MSW and women reporting cocaine, crack, heroin, methamphetamine, or injection drug use rose rapidly over the past five years. This may suggest changes in substance use behavior, sexual networks, or reporting among heterosexual P&S syphilis cases, particularly in the West.

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3A2 HEALTHCARE CHARACTERISTICS OF PERSONS DIAGNOSED WITH GONORRHEA: FINDINGS FROM THE STD SURVEILLANCE NETWORK (SSUN), 2015 - 2017
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Background: It is important to better understand the role of different provider types in diagnosing STDs, and patients' motives for using those providers, to help target STD clinical support and inform discussions of STD health care seeking behavior.

Methods: Health departments in ten jurisdictions across the US interviewed a random sample of all people diagnosed and reported with gonorrhea (GC). Using data from July 2015-June 2017, we characterize sources of care and reasons patients sought care from those sources. We highlight comparisons by patient demographics, symptoms, and insurance status.

Results: Of 9,562 GC patients interviewed, 78% percent (95% C.I.: 77-79%) reported being insured at the time of diagnosis. Sixty-one percent reported STD symptoms prior to seeking care; and of those, 30% waited a week or longer to seek care. Most common diagnosis provider types were private providers (34%), STD clinics (22%) and family planning clinics (12%). Forty-three percent of patients without insurance were diagnosed in categorical STD clinics, compared to 17% with insurance. Top reasons for seeking care at the provider seen were the ability to be seen right away (reported by 55%); followed by privacy offered, being close by, and being a regular source of care (each 40-41%). Half of patients without insurance reported choosing their provider because it was free, compared to a quarter of those with insurance. More patients with insurance reported out-of-pocket costs for their visit, compared to patients without (31% vs. 19%).

Conclusion: In these jurisdictions, specialty care health centers-like STD and family planning clinics played an equally important role in diagnosing GC as private providers. Marked differences in healthcare characteristics were observed by insurance status. Changes to the health care system may have large implications for GC diagnosis, care, and treatment.

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3A3 EVALUATION OF INSTRUCTOR-LED PARTNER SERVICES TRAININGS PROVIDED BY THE NEW YORK STATE (NYS) STD/HIV PREVENTION TRAINING CENTER (PTC) (APRIL 2014-MARCH 2017)
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Background: Passport to Partner Services (PS) is an evidence-based CDC intervention providing training to Disease Intervention Specialists (DIS) and other PS providers. Staff provide free, voluntary, and confidential partner services to patients diagnosed with STDs, including HIV. Passport to PS is a blended training (consisting of instructor-led and online content). This study is the first to provide a systematic evaluation of the instructor-led PS trainings.
Methods: This evaluation focused on Track D offerings delivered by the NYS PTC, one of three training centers providing PS trainings. Track D provides the most comprehensive training, incorporating all aspects of PS. We analyzed six-month post-course evaluation data (N=397) from 38 trainings in 25 cities. The standardized CDC survey questions participants’ self-rated gained confidence, effectiveness of training, and open-ended recommendations. Our mixed method approach consists of R-assisted descriptive and bivariate analysis as well as inductive coding of open-ended content.

Results: Eighty-two percent of participants had less than four years of work experience. Ninety percent of respondents indicated the course was effective. The most frequently used skill was “referral/linkage to care” (75%). Participants’ self-assessed confidence (rated as confident or very confident) ranged between 42% and 93% for the 24 listed skills (mean=78%, median=81%). The highest-rated skills were obtaining necessary medical information, resolving patient concerns, and interviewing patients. The lowest-rated skills were utilizing Major Analytical Points (MAP) Sheet and Visual Case Analysis (VCA). Among the 184 respondents (58%) who provided recommendations for the program, recurring themes included more VCA training (16%), more challenging interview cases (15%), and additional medical training (7%).

Conclusion: Overall, PS trainings were rated to be effective, significantly improved confidence, and developed crucial skills for DIS and other PS providers across the country. Some participants indicated that PS trainings can be enhanced by including more challenging interview cases as well as additional syphilis and medical training.

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3A4 MISSED OPPORTUNITIES FOR STD SCREENING AND PrEP PRESCRIBING IN HEALTHCARE SETTINGS
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Background: In October 2016, The San Francisco Department of Public Health (SFDPH) launched a public health detailing demonstration project to understand and improve HIV pre-exposure prophylaxis (PrEP) prescribing practices among healthcare providers. We sought to evaluate how primary care providers (PCPs) assess sexual behaviors, HIV and STD-related risk factors, and PrEP eligibility.

Methods: A trained nurse practitioner visited clinician practices to provide tailored training on the benefits and use of PrEP to potential PrEP prescribers serving MSM and trans women. We administered a paper-based, self-report survey at the first detailing session with the provider. We calculated descriptive statistics and chi-squared hypothesis testing with SAS v9.4.

Results: There were 252 surveys collected from 47 practices receiving PrEP detailing from October 2016 to October 2017. Eighty-two percent were primary care providers, 23% were HIV care providers, and less than half (48%) had ever prescribed PrEP. The majority of respondents (66%) did not routinely conduct annual sexual histories with their patients. Among providers with MSM/trans women in their practices, 38% (78/204) did not routinely ask patients whether they had receptive anal intercourse, and 33% (70/212) did not screen patients for rectal gonorrhea or chlamydia. Factors associated with prescribing PrEP were routine sexual history taking (59% vs. 41%, p<0.05), assessing receptive anal intercourse (67% vs. 33%, p<0.05), and screening patients for rectal STDs (69% vs. 31%, p<0.05).

Conclusion: Among providers detailed, annual sexual health history taking is not routine practice in patients at risk for HIV. Over a third of providers do not routinely assess MSM and trans women for rectal intercourse or perform rectal STD testing. This may contribute to missed opportunities for extra-genital STD screening and PrEP prescribing. In response, SFDPH is launching a follow-up sexual health detailing campaign to increase provider ability to routinely discuss sexual health and test for STDs in their clinical practice.

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3A5 SCHOOL DISTRICT POLICIES RELATED TO SEXUALLY TRANSMITTED DISEASE (STD) PREVENTION AND TREATMENT—UNITED STATES, 2000-2016
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Background: By providing health education and health services to students, schools can play a critical role in the prevention and treatment of STDs among youth. School district policies can influence the extent to which such education and services are available to students. To understand how school district policies related to STD prevention and treatment have changed over time, this study assessed the prevalence of such policies in the United States between 2000 and 2016.

Methods: We analyzed data from four cycles (2000, 2006, 2012, and 2016) of the School Health Policies and Practices Study (SHPPS), a national survey periodically conducted to assess school health policies and practices. SHPPS collected data related to STD prevention and treatment among nationally representative samples of school districts using online or mailed questionnaires. Secular trend analyses took into account all years of available data and were performed using logistic regression to determine whether changes over time were statistically significant.

Results: Nationally, 81.6% of districts required high schools and 69.0% of districts required middle schools to teach about STD prevention. The percentage of districts that required elementary schools to teach about STD prevention decreased from 39.4% in 2000 to 22.9% in 2016 ( p<.01). Less than 1% of districts required schools to provide STD testing or treatment. Districts were more likely to require schools to provide referrals for these services (15.8% for STD testing and 14.8% for STD treatments). The percentage of districts that required schools to provide STD prevention services in one-on-one or small-group settings decreased from 45.0% in 2000 to 32.2% in 2016 ( p<.01).

Conclusion: Decreases in the percentage of districts requiring STD prevention education and services is concerning. Room for improvement also clearly exists in district policies that can help students obtain STD testing and treatment.

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3A6 ARE WE PREPARED?: WHAT CAN ONLINE COMMUNITIES TELL US ABOUT MSM’S PERCEPTIONS OF PrEP?
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Background: Pre-exposure prophylaxis (PrEP) has revolutionized HIV prevention among men who have sex with men (MSM). When taken correctly and consistently, PrEP can reduce the risk of sexually transmitted HIV infection by more than 90%. However, uptake has been slow. Considering MSM’s use of the Internet as a site for community building and sexual health information seeking, online discussion board content can provide insight into the population’s perceptions of, uncertainties about, and experiences with PrEP.

Methods: Public discussion board posts submitted to two MSM-focused Reddit communities (AskGayBros and PrEPared), between January 1, 2015-December 31, 2015, were collected. Using Nvivo 11, we performed a text search query to find all mentions of “PrEP” and “Truvada” among the online posts. A qualitative content analysis was conducted using the resulting posts to identify themes that emerged from the data regarding PrEP.

Results: We collected 921 discussion posts from both Reddit communities. Our text query yielded 125 discussion posts that specifically mentioned “PrEP” or “Truvada” between January 1, 2015 and December 31, 2015. Due to the anonymous nature of the Reddit platform, community members’ demographic information was not available. The content analysis revealed that community members expressed concerns about (1) the safety of condomless sexual acts between casual and/or serodiscordant partners while using PrEP (2) the cost and accessibility of PrEP; (3) potential side effects; (4) the impact of PrEP on condom use and STD risk, and (5) navigating patient-provider interactions when inquiring about PrEP.

Conclusion: This study takes a novel approach to understanding MSM’s perceptions and uncertainties regarding PrEP. Reddit is an untapped data source that can be leveraged to gain insight on MSM’s sexual attitudes and possible misconceptions and uncertainties regarding PrEP. Interaction on the anonymous nature of the Reddit platform, community members’ demographic information was not available. The content analysis revealed that community members expressed concerns about (1) the safety of condomless sexual acts between casual and/or serodiscordant partners while using PrEP (2) the cost and accessibility of PrEP; (3) potential side effects; (4) the impact of PrEP on condom use and STD risk, and (5) navigating patient-provider interactions when inquiring about PrEP.

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3A7 TRENDS IN THE PREVALENCE OF CHLAMYDIA IN WOMEN IN THE UNITED STATES, 2001–2016

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Background: Interpreting trends in reported Chlamydia trachomatis (CT) cases is difficult, as trends are influenced by screening coverage changes. Population-based surveys, such as the National Health and Nutrition Examination Survey (NHANES), provide nationally representative CT prevalence estimates and an opportunity to monitor trends in women in the U.S.

Methods: We examined NHANES CT laboratory data among women aged 14-39 years, combining data from eight NHANES cycles (collected in 2-year increments) into four time periods (2001-2004, 2005-2008, 2009-2012, 2013-2016). We estimated weighted CT prevalence with 95% confidence intervals (CI), overall and by sociodemographics, for each time period, and estimated the average percent change (APC) across time periods using JoinPoint software, fitting trend data to a log-linear model.

Results: During 2001–2016, CT prevalence was stable among all females aged 14-39 years: 2.3% (95% CI: 1.6%, 3.0%) during 2001-2004 and 1.7% (95% CI: 1.2%, 2.2%) during 2013-2016 (APC: -2.2%; 95% CI: -5.9%, 1.7%; p=0.14). Among all females aged 14–24 years, prevalence was 3.6% (95% CI: 2.4%, 4.8%) during 2001-2004 and 2.8% (95% CI: 1.8%, 3.9%) during 2013-2016 (APC: -1.9%; 95% CI: -4.6%, 0.8%; p=0.10). Prevalence among non-Hispanic black females aged 14-24 years decreased from 10.9% in 2001-2004 to 5.7% in 2013-2016 (APC: -4.4%; 95% CI: -9.8%, 1.2%; p=0.08), although this was not statistically significant. Among all females aged 14-19 years, prevalence decreased from 3.9% in 2001-2004 to 2.3% in 2013-2016 (APC: -3.9%; 95% CI: -7.0%, -0.8%; p=0.03). Prevalence in non-Hispanic black females aged 14-19 years fluctuated, from 10.9% in 2001-2004 to 12.0% in 2009-2012 to 4.4% in 2013-2016 (APC: -3.2%; 95% CI: -18.7%, 15.4%; p=0.51).

Conclusion: National estimates suggest that CT prevalence among females aged 14-24 years, the population targeted for screening, remained consistently high during 2001-2016. We provide the first evidence of decreasing CT prevalence among adolescent females in the U.S.

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3A8 TRENDS IN PATIENT CHARACTERISTICS IN SELECTED STD CLINICS, STD SURVEILLANCE NETWORK (SSUN) 2010 – 2016

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Background: STD clinics provide critical prevention and care services, serving as safety net providers for persons at high risk for STDs. We describe trends in demographics among patients seeking services in 25 STD clinics over a seven-year period.

Methods: Using data from six jurisdictions (Baltimore, Los Angeles, New York City, Philadelphia, San Francisco, Seattle) in the STD surveillance network (SSUN) from 2010-2016, we describe patients by sex, sexual behavior, age, and race/ethnicity. We adjusted for heterogeneity across jurisdictions using an inverse variance weighted random effects model. Joinpoint models were used to identify trends and estimate average annual percent change (APC).

Results: A total of 875,347 unique patients, comprising 1,346,198 visits, presented to SSUN STD clinics from 2010-2016. The number of patients steadily declined from 157,112 in 2010 to 96,236 in 2016. Visits declined from 236,584 in 2010 to 166,422 in 2016. Minimal changes in the proportions of patients by race/ethnicity were observed. The adjusted proportion of female clinic patients decreased significantly from 34.4% in 2010 to 27.9% in 2016 (APC = -3.3%; 95% CI: -4.3, -2.3), with the greatest decreases seen among females <25 years (APC= -4.0%; 95% CI: -4.5, -3.4). Concurrently, the adjusted proportion of patients who were men-who-have-sex-with-men (MSM) increased from 12.6% to 19.6% (APC = 8.1%; 95% CI: 6.5, 9.7), with the greatest increases seen for 25-34 year old MSM (APC= 5.0%; 95% CI: 4.1, 5.8). Over the number of unique MSM increased by 30% from 2010-2016 while the number of unique women decreased by 47%.

Conclusion: The demographic composition of patients attending SSUN STD clinics has changed in recent years, with higher levels of utilization by MSM, and less utilization by young women. Additional data, including impacts of fiscal cuts and changes in the US healthcare system, are needed to understand STD clinic utilization on a national scale.

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3A9 MSM AND TRANS MEN AND WOMEN WHO ARE NOT ON PrEP SEEKING SERVICES AT AN STD CLINIC: REASONS, RISK PERCEPTION AND RISK BEHAVIORS; SAN FRANCISCO

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Background: Understanding reasons why those at risk for HIV choose not to take PrEP is important for guiding PrEP messaging and outreach. We assessed reasons why STD clinic clients were not on PrEP.

Methods: All MSM and trans clients seeking services at SF City Clinic (SFCC) are assessed for PrEP. We compared sexual behaviors among clients reporting low perceived risk for HIV as a reason for not taking PrEP with those reporting current PrEP use.

Results: From April 2016 to December 2017, there were 11,303 visits by MSM and trans clients not known to be HIV positive at SFCC. PrEP questions were completed at 87% of these visits. Clients reported having heard of PrEP at 96% of visits, and currently taking PrEP at 44% of visits. Clients reported “not at high risk” as reason for not taking PrEP at 56% of 3,273 visits where a reason was recorded.

Conclusion: PrEP knowledge and use are high among MSM and trans clients at SFCC. Many clients not taking PrEP due to low perceived risk for HIV are indicated for PrEP per CDC guidelines. PrEP decision making involves personal, nuanced definitions of HIV risk, and risk-based messaging may exclude individuals who might benefit from PrEP. Outreach programs should be informed by varying definitions of risk and focus on de-stigmatizing, client-centered PrEP messaging.

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3B – FROM BENCH TO BEDSIDE: ADVANCES IN LABORATORY DIAGNOSTICS

3B1 OPTIMAL UROGENITAL SPECIMEN TYPES FOR THE DETECTION OF MYCOPLASMA GENITALIUM FROM FEMALE AND MALE SPECIMENS USING COBAS® TV/MG FOR USE ON THE COBAS® 6800/8800 SYSTEMS

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Background: Mycoplasma genitalium (MG) is a common cause of male urethritis, and has been associated with cervicitis, pelvic inflammatory disease, and tubal infertility. Although NAATs are the recommended diagnostic method for MG infections, there is no evidence-based consensus for which urogenital specimen types are optimal for detection. Using cobas® TV/MG (cobas), the primary objective of this study is to ascertain the suitability of male and female urogenital specimen types for MG detection.

Methods: A total of 2,496 matched urogenital specimens from 836 subjects (50.7% male) were collected in Germany, Ukraine, and the US. The following specimen types were collected from each female participant at a single clinic visit: endocervical swab (ES), vaginal swab (VS), cervical specimen in PreservCyt® solution (PC), and urine (FU). For men, a meatal swab (MS) and urine (MU) were collected. ES, VS, FU, MU, MS and MU specimens were stabilized with cobas® PCR Media. cobas MG results for each specimen type were analyzed to identify whether statistical differences in MG detection exist among specimen types.

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Results: Among female specimens, MG was detected in 6.3, 6.1, 5.1, and 3.9% of FU, VS, PC, and ES, respectively; no statistical difference was observed in the proportion of MG-positive specimens among the female specimen types [Difference in Proportions (FU-ES): 2.4%; 95% CI: (-0.6, 5.4)]. Among the male specimens, MG was detected in 9.2 and 5.0% of MU and MS specimens, respectively [Difference in Proportions (MU-MS): 4.3%; 95% CI: (0.81%, 7.69%)].

Conclusion: Using a standardized NAAT, although no statistical differences in MG detection were observed among female sample types, results from male specimens suggest MU may be superior to MS for MG detection. As commercially available tests become widely available, and screening of select populations increases, additional investigation of optimal specimen types may be warranted to guide the best medical practices.

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3B2 RESISTANCE-GUIDED THERAPY: A NEW PARADIGM IN STD MANAGEMENT

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Background: The misuse and overuse of antibiotics has led to concerning levels of global resistance rates, resulting in a world-wide call to action. In diseases such as TB, the implementation of resistance-guided therapy is now common practice. It is well recognized that disease causing bacteria such as Mycoplasma genitalium (MG) are on the path to becoming “super-bugs”. There is an urgent need for new strategies and treatments to manage STDs rather than relying on a traditional syndromic approach. Availability of molecular resistance testing introduces resistance-guided therapy to STD management.

Methods: A prospective study was performed in Australia, using the ResistancePlus MG test* (SpeeDx) (detects MG and 23S rRNA gene markers for azithromycin resistance) for symptomatic patients for urethritis, cervicitis and proctitis. Patients were empirically treated with doxycycline, and if MG was detected patients were re-called and given azithromycin (no resistance markers detected) or sitafloxacin (resistance detected). MG load was determined pre- and post-treatment. (*Not available for sale in the US.)

Results: Of the 429 MG diagnosed cases, 244 were evaluable for the study, of these 32% were treated with azithromycin which saw 94.8% (95%CI:87.2-95.8%) were cured. Treatment with doxycycline was shown to decrease overall bacterial load by a mean 2.60 log10. Of the 32% were treated with azithromycin which saw 94.8% (95%CI:87.2-95.8%) were cured. Treatment with doxycycline was shown to decrease overall bacterial load by a mean 2.60 log10

Conclusion: The use of the ResistancePlus MG test to guide treatment saw cure rates increase by over 30% to what has been reported previously. This will mean that STD clinicians can be empowered to offer the correct treatment at first presentation, improving cure rates and reducing the spread of antimicrobial-resistant bacteria by utilizing resistance-guided therapy.

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3B3 SELF-OBTAINED VAGINAL SWABS DETECTED MORE CHLAMYDIA TRACHOMATIS, NEISSERIA GONORRHOEAE AND MYCOPLASMA GENITALIUM INFECTIONS THAN FIRST CATCH URINE COLLECTED AT HOME COMPARED TO A CLINIC

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Background: Because many C. trachomatis (CT), N. gonorrhoeae (NG) and M. genitalium (MG) infections are asymptomatic, screening may require self-obtained samples. The aim was to compare diagnostic test accuracy of self-obtained vaginal swabs (SOVS) to first catch urine (FCU) collected in both home and clinic settings.

Methods: Women signed consent to collect an SOVS and FCU in each setting the same day or within a week. First time collectors were assigned to home collection first with a set of diagrammatic instructions and clinic collection also provided verbal instructions. Sampling order was randomized. A five point Likert scale questionnaire was used to score each step for collecting the SOVS samples. All samples were tested with Aptima reagents in a Panther instrument (Hologic).

Results: Among 198 women aged 16-32 (mean 21.7 years), completed the study in Toronto, Canada. 12.6% had genital symptoms. 49% had never collected an SOVS. Percent prevalences at home were SOVS 15.2 and FCU 11.1 for CT; SOVS 6.6 and FCU 5.3 for NG and SOVS 26.8 compared to FCU 25.2 for MG. SOVS samples detected more infections than FCU in both settings. Between clinic and home the positive concordance rates were 96.5-96.7% for CT, 92.3-100% for NG and 93-94.3% for MG. The 8 steps of self-collection were scored as easy in 97-99.5% of the questionnaires.

Conclusion: SOVS samples identified more CT, NG and MG infections than FCU and rates were similar between home and clinic. Self-collection of SOVS was easy and preferred.

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3B4 POOLING FOR SIMULTANEOUS DETECTION OF CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE IS COST EFFECTIVE AND ACCURATE

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Background: Pooling laboratory specimens is a common strategy to reduce diagnostic testing costs while still identifying infected individuals. However, the operating characteristics of pooling have been investigated in screening applications involving a single infection only. We used enhanced computer simulation models to assess the impact of pooling for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) simultaneously in a laboratory environment.

Methods: We used simulation to assess the characteristics of a two-stage pooling algorithm for CT/NG employed at the State Hygienic Laboratory (SHL) at the University of Iowa. Specifically, we measured the cost savings through the expected number of tests from pooling when compared to testing specimens individually. We also measured the accuracy, specificity, and predictive values. Finally, we generalized our investigation to include other pooling algorithms that use (a) a larger number of stages and (b) overlapping pools through matrix pooling.

Results: Our simulations showed that pooling specimens for simultaneous CT/NG detection provided substantial reductions in testing costs while not sacrificing accuracy. Using endocervical swab data from the SHL collected on n=20332 individuals in the 2013 calendar year, we demonstrated that two-stage pooling can reduce the number of tests on average by 46%. Similarly, three-stage pooling and matrix pooling can reduce the number of tests by 52%. At an estimated cost of $37 dollars per test, the SHL can expect to save approximately $350,000 per year from using two-stage pooling for simultaneous CT/NG detection. Three-stage and matrix pooling procedures are more efficient and could provide an additional savings of approximately $400,000 per year.

Conclusion: With the current climate of tight budgets for infectious disease screening at public laboratories, pooling specimens is an excellent option for statewide testing centers to reduce the cost of testing for CT/NG simultaneously.

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3B5 COMPARISON OF THE AUTOMATED GOLD STANDARD AIX1000® RPR TEST SYSTEM WITH CONVENTIONAL VDRL AND RPR

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Background: According to the CDC, the rate of primary and secondary syphilis has risen 17.6% since 2015; while congenital syphilis experienced a 27.6% increase; this data supports the demand for rapid and reliable diagnostics for syphilis. Traditional methods for syphilis screening, Rapid Plasma Reagin (RPR) assay and Venereal Disease Research Laboratory (VDRL) tests, are labor-intensive and require experienced technicians to perform them. Automated diagnostic assays for syphilis may provide alternative screening methods which are rapid, reliable, less subjective, and cost-effective. Our objective was to evaluate agreement between the fully automated, AIX1000® RPR test system (Gold Standard Data System, CA, USA) and conventional VDRL and manual RPR for syphilis screening.

Methods: For comparison of the automated RPR to VDRL, we used 908 specimens positive for syphilis by conventional VDRL (BD, Sparks, MD,
USA) and 1320 negative. Percent agreement and kappa coefficient (κ) were calculated, in addition to sensitivity and specificity, using the *Treponema pallidum* particle agglutination kit (Fujirebio Diagnostics, INC, Tokyo, Japan) for confirmation. Specimens designated as VDRL “Weakly Reactive” were excluded in a separate analysis to observe effects of potential measurement bias. 116 specimens were tested on the automated RPR assay for comparison to manual RPR (Macro-Vue™, BD, Sparks, MD, USA).

**Results:** Observed agreement for AIX1000 with VDRL, VDRL without “Weak Reactives”, and manual RPR, was 94.4% (κ=0.8829), 97.5% (κ=0.9423), and 95.9% (κ=0.9173) respectively, showing “almost perfect agreement”. Sensitivity and specificity of AIX1000 with VDRL were 94.0% and 97.8%. After removing VDRL “Weakly Reactive” specimens from analysis, sensitivity rose to 95.3% and specificity remained unaffected at 97.7%. Sensitivity and specificity of AIX1000 with manual RPR was 100% and 98.4%, respectively.

**Conclusion:** The automated AIX1000 RPR assay is a suitable alternative for nontreponemal syphilis screening. Additionally, it has the potential to provide faster, reliable test results that support improved treatment times and monitoring of patient response.

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**3C – BY THE NUMBERS: SURVEILLANCE IS SEXY**

**3C1 HIGH PREVALENCE OF LYMBOGRANULOMA VENEREUM DETECTED BY NUCLEIC ACID AMPLIFICATION TESTING ON CHLAMYDIA TRACHOMATIS-POSITIVE ANORECTAL SWABS RECEIVED BY A COMMERCIAL LABORATORY, NEW YORK CITY, 2017**

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**Background:** Lymphogranuloma venereum (LGV) is caused by *Chlamydia trachomatis* (Ct) L-serovars; anogenital infection can be asymptomatic, as well as invasive, and can cause proctitis. Centers for Disease Control (CDC) recommend treating LGV with a longer antibiotic course (3 weeks) than non-LGV Ct infections (1 week). LGV can be detected by Ct nucleic acid amplification tests (NAAT), however, LGV-specific diagnostic tests are not widely available so little is known about LGV prevalence.

**Methods:** We used a CDC laboratory-developed DNA-based NAAT for LGV-specific strains to detect LGV in de-identified male anorectal specimens from New York City (NYC) residents that tested positive for Ct by a RNA-based Ct NAAT at a commercial laboratory serving NYC community providers. Specimen accession numbers matched to the NYC STI surveillance registry enabled linkage to patient demographics, HIV-status, reported STI (past 5 years), and submitting provider. We examined LGV prevalence, and conducted bivariate analyses to examine associations between LGV and patient characteristics.

**Results:** Overall, LGV was detected in 19% (68/358) of Ct-positive anal swabs submitted to the commercial laboratory during February-May, 2017. LGV prevalence differed significantly by HIV status ((60.3% (41/68) among HIV-positive versus 31.4% (91/290) HIV-negative/unknown, p<0.0001)).

**Conclusion:** One in five men with anorectal Ct in this population had LGV.

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**3C2 COMPLETENESS OF KEY VARIABLES IN NATIONAL SYPHILIS CASE REPORT DATA: STILL ROOM FOR IMPROVEMENT**

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**Background:** In 2014, CDC provided a data quality report to jurisdictions quantifying the proportion of reported STD cases with complete demographic and clinical information nationally and by jurisdiction. We examined data reported in 2016 to investigate if there had been improvements in completeness of selected, required variables since the release of the 2014 report.

**Methods:** We reviewed primary and secondary (P&S) syphilis cases reported to CDC by 58 state and local jurisdictions to determine the proportion of cases with complete information on HIV status and sex of sex partners and the proportion of female cases with complete information on pregnancy status. For each variable, we calculated the number of jurisdictions with ≥70% completeness (criteria for inclusion in national trend analyses) as well as the change in percent completeness from 2014 to 2016.

**Results:** During 2014–2016, the proportion of P&S syphilis cases with known HIV status increased from 73.3% to 76.5%; the number of jurisdictions with ≥70% completeness continued increasing from 31 to 39. In 18 jurisdictions, completeness increased by over 25%; however, in five jurisdictions, completeness decreased by over 25% and three jurisdictions had 0% completeness in both 2014 and 2016. The proportion of cases with complete information on sex of sex partners was stable at 82% in 2014 and 2016; however, the number of jurisdictions with ≥70% completeness increased from 43 to 46. The percent of female cases with known pregnancy status increased from 73.9% to 81.8%; 15 jurisdictions had 100% completeness in 2016.

**Conclusion:** Although many jurisdictions increased completeness of key variables for reported P&S syphilis cases during 2014-2016, some jurisdictions continue to have a significant amount of missing data, excluding them from national trend analyses. Increasing the proportion of cases with complete information could help improve the validity of reported national trends.

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**3C3 INCIDENCE OF AN HIV DIAGNOSIS FOLLOWING AN STI DIAGNOSIS AMONG MALES INCLUDING MSM**

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**Background:** The release of the first drug for HIV pre-exposure prophylaxis (PrEP) in 2012 marked the beginning of a new era of HIV prevention. Although PrEP has been shown to be highly efficacious, identifying and ultimately increasing uptake among the highest risk male subgroups remains a challenge.

**Methods:** We created a retrospective cohort of HIV-uninfected males with an early syphilis or gonorrhea infection using public health surveillance data from 2009 to 2015 in Baltimore City. Incidence rate ratios and cumulative incidence estimates were used to assess the relationship between each bacterial STI and HIV seroconversion stratified by sexual transmission risk category, i.e. men who have sex with men (MSM) vs. non-MSM.

**Results:** Among MSM, one in ten syphilis or gonorrhea diagnoses were followed by an HIV diagnosis within two years of the STI diagnosis. Identifying as MSM (vs. non-MSM) was also significantly associated with a more than 4.08 (95% CI: 2.25-7.91) or 5.82 (95% CI: 3.42-10.34) fold increase in HIV incidence after a syphilis or gonorrhea infection, respectively. Among non-MSM with gonorrhea, another STI infection was associated with a 3.47 (95% CI: 1.26-9.64) fold increase in HIV incidence as compared to non-MSM with only one gonorrhea infection.

**Conclusion:** The findings suggest that local providers should offer PrEP to any MSM diagnosed with an early syphilis or gonorrhea infection and non-MSM with another STI diagnosis after a gonorrhea infection. The short time to an HIV diagnosis among MSM after a syphilis or gonorrhea infection suggests immediate PrEP initiation. On-demand PrEP may also warrant consideration among MSM.

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Background: Gonorrhea case reports are increasing in the United States. CDC relies on the National Electronic Telecommunications System for Surveillance (NETSS) to monitor cases reported by states and territories, assess the burden of diagnosed cases, and discern differences between important demographic groups. NETSS case data are often missing race and Hispanic ethnicity (R/E), which are critical for identifying and responding to inequalities.

Methods: Ten geographically diverse jurisdictions participating in the STD surveillance Network (SSuN) submitted case reports for gonorrhea cases to NETSS in 2016 for enhanced investigations. Demographic data were obtained from patient interviews and attempted to represent all gonorrhea cases in participating sites. R/E-specific reported case rates were calculated. Rates were also calculated using case data reported to CDC through NETSS for corresponding jurisdictions. Distribution, magnitude, and ranking of R/E-specific rates were compared across these two sources.

Results: Of 130,549 cases reported through NETSS in SSuN jurisdictions, 29.6% (27,643) were missing R/E. Among patients interviewed in SSuN (N=5,259), 96.7% provided R/E data. Overall, reported case rates between SSuN and NETSS (159 vs 160 per 100,000, respectively) showed close agreement. Race-specific rates, calculated using NETSS data alone, significantly underestimated case rates for all R/E groups. Rates were most divergent for multi-race and non-Hispanic Whites; cases identified as multi-race ranked third highest using SSuN estimates versus the fifth highest using NETSS (184 vs 86 per 100,000, respectively).

Conclusion: Missing R/E data in NETSS leads to underestimates of all R/E-specific gonorrhea rates in SSuN jurisdictions and it affects the relative ranking of R/E, which may have important programmatic implications. SSuN methods improve ascertainment of R/E to better reflect differences between groups. Sentinel surveillance projects such as SSuN provide more complete case data than national reporting through NETSS, critical for estimating the relationship between population characteristics and diagnosed STDs.

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3C5 RISK AND PREVALENCE OF TRICHOMONAS VAGINALIS USING OSOM RAPID TRICHOMONAS TEST AMONG WOMEN ATTENDING NEW YORK CITY SEXUAL HEALTH CLINICS, MAY-JULY, 2016

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Background: Trichomonas vaginalis (TV), a curable STI with a national prevalence of 3.1%, is associated with adverse reproductive health outcomes and increased risk of HIV transmission and acquisition. TV testing using rapid point-of-care tests is optimal for the STD clinic setting. The objective of this analysis was to utilize rapid tests to characterize TV prevalence and risk factors to inform targeted testing, which helps to maximize resources.

Methods: We analyzed electronic medical record data for all females evaluated by a clinician from May through July 2016 at two NYC Sexual Health clinics (SHC). Data on patient demographics, reported sexual history, presenting symptoms, and physical exam findings were collected; TV testing was done using the OSOM Rapid Trichomonas Test⁶⁶. Patients were considered symptomatic if they reported vaginal symptoms or had abnormal vaginal discharge on exam.

Results: Among 1,103 women tested, the overall prevalence of TV was 9.3% (103/1103); 5.2% (10/193) among asymptomatic women and 10.2% (93/910) among symptomatic women (P=0.03). Non-Hispanic black women were nearly four times more likely than those of other races to be diagnosed with TV (AOR 3.7; 95% CI 1.9-7.1). Most patients had vaginal pH ≥4.5 (69%, 718/1047) and positive whiff test (49%, 532/1082). TV positivity was significantly associated with positive whiff test (AOR 1.6; 95% CI 1.0-2.5) and vaginal pH ≥4.5 (AOR 1.9, 95% CI 1.2-3.3). TV positivity did not vary by symptomatic classification, patient age, number of partners in the three months prior to clinic visit, or country of birth.

Conclusion: Compared to national estimates, TV prevalence is three times higher among females tested at NYC SHC. Prioritizing screening of women at elevated risk of infection, including those with basic pH or positive whiff test, would maximize yield and lead to improved same day treatment, and could help to reduce racial disparities observed with TV infection.

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3D – IMPROVING PROVIDER PRACTICE: OVERCOMING BARRIERS (SYMPOSIUM)

I CarE: A VIRTUAL LEARNING COLLABORATIVE TO IMPROVE ADOLESCENT SEXUAL HEALTH IN PEDIATRIC PRIMARY CARE

Eric County Department of Health, Jacobs School of Medicine, NY, USA

TRANSFORMING PRIMARY CARE FOR LGBT PEOPLE

Brian Emerson, MPH

Centers for Disease Control and Prevention, GA, USA

SOCIO-ECOLOGICAL INFLUENCES OF YOUNG MEN'S USE OF SEXUAL & REPRODUCTIVE HEALTHCARE: IMPLICATIONS FOR THE PRACTITIONER

Arik Marcell, MD, MPH

Johns Hopkins Medicine, MD, USA

A PRACTICAL ROADMAP FOR THE PUBLIC: FIVE ACTION STEPS TO GOOD SEXUAL HEALTH

Susan Gilbert, MPA

National Coalition for Sexual Health, VA, USA

Given shrinking public health resources, innovative strategies are needed. This symposium will present successful strategies for public health to collaborate with community providers to improve sexual health care. The first example is an American Academy of Pediatrics quality improvement (QI) project with 13 pediatric primary care practices across the county that used QI methods to assist pediatric practices to increase confidential adolescent sexual health histories documented in the EHR at both well and acute care visits and increase chlamydia screening for sexually active adolescents. The next presentation will describe a didactic and QI approach to increase community health center (CHC) capacity to provide culturally responsible, comprehensive, primary care for LGBT populations using biweekly LGBT Echo sessions (videoconferencing technology to connect multidisciplinary LGBT clinical experts with CHC providers) and a Practice Improvement Collaborative. Informed by CDC’s Project Connect and Baltimore’s Y2CONNECT, the next presentation will discuss socio-ecological influences on young men’s sexual and reproductive healthcare use and identify the practitioner’s role in addressing young men’s sexual and reproductive healthcare. Finally, the Five Action Steps to Good Sexual Health, a practical, comprehensive roadmap to protect and improve sexual health, and three new tools to help providers integrate sexual health conversations and recommended preventive services into routine patient visits will be described.
PARTICIPATORY APPROACH TO INCREASING CHLAMYDIA SCREENING RATES IN TITLE X FAMILY PLANNING CLINICS: A DOUBLE DIGIT IMPROVEMENT
Amy Peterson, MPH
Michigan Department of Health and Human Services, MI, USA

RIDING THE QUALITY IMPROVEMENT WAVE: BUILDING PUBLIC HEALTH-PRIMARY CARE PARTNERSHIPS TO IMPROVE CHLAMYDIA SCREENING IN A HIGH MORBIDITY COUNTY
Laura Kovalesski, MPH
California Department of Public Health, CA, USA

Speakers will describe interventions undertaken in various settings to try to increase STD screening rates. Settings include in the home as well as in sexual health clinics, family planning clinics, and primary care settings, for purposes of increasing STD screening in general, extra-genital screening, and CT/GC screening across various populations at risk of STD. Speakers will describe their intervention approaches and the evidence used to evaluate the extent to which those approaches were successful as well as challenging. With a focus on the practical aspects of program implementation, the speakers will relay useful lessons learned for other programs that may consider adopting their approaches, or aspects of them. Session attendees should come away with new ideas and practical resources for promoting recommended STD screening practices.

4A – WHAT’S THE BUZZ: APPROACHES FOR IMPROVING ADOLESCENT SERVICES

4A1 YES MEANS TEST: IMPACT OF AN ONLINE SOCIAL MARKETING CAMPAIGN TO PROMOTE CHLAMYDIA SCREENING AMONG YOUNG WOMEN 18-24
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Background: Rates of nationally-reported STDs reached record highs in 2016. Despite recommendations for annual chlamydia screening for sexually active young women aged 15-24, screening rates among young women remain low. We conducted three focus group sessions with 39 sexually active females between 18-24 years old in three cities (Miami, Nashville and Phoenix) to identify barriers to testing and test concept strategies to increase awareness of STD rates and the need for testing. The resulting campaign capitalized on a message of empowerment (Yes means Yes) to emphasize STD testing and sexual responsibility (Yes Means Test).

Methods: We developed a multi-platform social marketing campaign designed to move people from awareness to engagement to action. Performance was measured by our ability to reach our target audience, inspire them to learn more and motivate action by directing them to a clinic through the campaign website, yesmeantest.org. Social media engagement, a campaign “hero video” and partner outreach provided avenues to promote the campaign.

Results: Earned coverage included media placements in 18 outlets, with an audience reach of more than 100 million. Sixteen partner organizations, including CDC and Planned Parenthood, shared more than 48 pieces of social media content. The hero video garnered 4,835,575 views with a completion rate of 1%. The team tested 33 online tools and websites to find a clinic to get tested, resulting in a traffic increase to the CDC clinic locator page of roughly 30% YOY during peak campaign months of April/May.

Conclusion: These results suggest that a targeted social media campaign can impact STD testing among a specific population.

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4A2 PRACTICE-BASED QUALITY IMPROVEMENT (QI) INITIATIVE TO INCREASE CONFOIDENTIAL SEXUAL HEALTH SERVICES FOR ADOLESCENTS
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Background: Erie County 15-24 year old female chlamydia rates are the highest in New York State. In 2016, chlamydia rates were 3,956/100,000 in 15-19 year old and 4,025/100,000 in 20-24 year old females. 2016 NYS claims data indicate low chlamydia screening coverage among female enrollees of Medicaid (70%) and commercial managed care plans (<60%). A chlamydia screening QI project was implemented in several community pediatric primary care practices to increase confidential sexual activity documentation and chlamydia screening.

Methods: The QI project was implemented in two cohorts in May 2015 – March 2016 (three clinics) and August 2016 – June 2017 (four clinics). Each clinic’s QI team received a one-day QI training to establish a process map and identify chlamydia screening strategies. Strategies were tested during four Plan-Do-Study-Act (PDSA) cycles. Monthly QI nurse visits to each office and two peer Learning Collaboratives provided technical assistance and data feedback. Following each PDSA, 20 randomly-selected electronic medical records (EMRs) were reviewed per provider to assess: Sexual Activity Documentation (percentage of 13-24 year old patients with sexual activity status documented) and Chlamydia Screening Conducted (percentage of sexually-active patients screened) with an 80% goal for each. EMR data were collected six to twelve months after the last PDSA cycle (Post-QI) to assess sustainability.

Results: Comparing baseline to PDSA cycle 4, aggregate results demonstrated marked increases in sexual activity documentation (49% to 91%) and chlamydia screening (72% to 95%) with Post-QI declines (80% sexual activity documentation, 85% chlamydia screening). Successful strategies included EMR changes, universal urine collection at registration, informing parents of confidentiality policies, sexual history at all visit types, confidential teen screening rooms, and alone-time with teens.

Conclusion: Although QI projects are effective in promoting practice changes to improve adolescent sexual health services, they are labor and time intensive, and system changes may be difficult to maintain.

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4A3 ONLINE INFORMATION ABOUT CONFIDENTIAL SEXUAL HEALTH SERVICES FOR ADOLESCENTS: A CONTENT ANALYSIS OF HEALTH PROMOTION WEBSITES
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Background: Although state laws and professional medical organizations support adolescent access to confidential STI/HIV-related services, young people are often not aware of their rights to confidential care. Because many young people seek health information online, we examined if and how online sexual health information for young people addresses confidentiality.

Methods: In Spring 2017, we conducted a keyword Google search to identify eligible websites. Websites were included if they were operated by a public health and/or medical organization in the United States, included original content about sexual health, and targeted adolescents or young adults. We uploaded content to qualitative analysis software for thematic analysis.

Results: Of 32 websites reviewed, 29 addressed confidentiality. Many websites promoted STI testing, but not STI treatment, as a confidential service. Clear and comprehensive definitions of confidentiality were lacking; websites typically described confidentiality in relation to legal rights to receive care without parental consent or notification. Few mentioned the importance of time alone with a medical provider. Potential breaches of confidentiality associated with billing were noted frequently, yet strategies to address this issue were not routinely offered. Relatedly, many websites recommended that adolescents verify provision of confidential services, but did not include resources for doing so, such as sample questions to ask clinic staff/providers. Information about confidentiality often encouraged adolescents to communicate with their parents or another trusted adult about sexual health concerns.

Conclusion: Online messages emphasizing adolescents’ ability to consent to services without parental notification while also promoting parent-adolescent communication align with recommendations for confidential care. However, comprehensive definitions of confidentiality that include time alone with providers could help adolescents whose parents may accompany them to medical visits. Resources for verifying provision of and minimizing breaches to confidentiality would help ensure that online information does not contribute to confidentiality concerns as a barrier to STI services.

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Background: In 2016, the Baton Rouge MSA ranked 2nd for HIV, chlamydia, and gonorrhea and 4th for early syphilis diagnoses in Louisiana. 67% of all new STD diagnoses and 24% of HIV diagnoses were among youth ages 10–24. Adolescents in this MSA are at increased risk of disease. This quality improvement (QI) intervention combined rapid-cycle QI methodology and health information technology to increase rates of adolescent sexual health risk assessments and STD/HIV screening in a clinical site.

Methods: During 4 days on-site, the FQHC mapped their current workflow process, compared it to best practice guidelines, identified seven key areas of improvement and employed a Plan, Do, Study, Act (PDSA) cycle to test and implement changes within the clinic. 90 days following the intervention (07/17/2017-10/15/2017) sexual health risk assessment and screening rates were tracked by sex.

Results: Respondents of the sexual health assessment (SHA) was 58% female (n=96) and 42% male (n=69). Rapid cycle QI training increased the rate of adolescents receiving a SHA by 29.44%. RPR screenings among male and female adolescents increased by 25.95% (n = 1/34; 90 days post intervention (PI) n = 13/45) and 24.15% (n = 2/38, 90 days PI n=20/68), respectively. GC screenings among male and female adolescents increased 25.32% (n = 1/34, 90 days PI n=13/46) and 8.90% (n = 5/38,90 days PI n=15/68), respectively. HIV rapid tests among male and female adolescents increased 22.38% (baseline n = 2/34, 90 days PI n=13/46) and 20.89% (n = 1/38, 90 days PI n=16/68), respectively.

Conclusion: The rapid cycle QI process applied resulted in increased sexual health assessments and STD/HIV screening rates among adolescent patients during the well visit, which ensures that pediatric patients are receiving comprehensive care. By increasing sexual health risk assessments and screenings, more symptomatic and asymptomatic adolescents will receive treatment thereby decreasing the population’s transmission rates.

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ORAL SESSIONS, SYMPOSIA

4A4 COMBINING RAPID-CYCLE QUALITY IMPROVEMENT METH- ODODLOGY AND HEALTH INFORMATION TECHNOLOGY TO INCREASE ADOLESCENT SEXUAL HEALTH RISK ASSESSMENTS AND STD/HIV SCREENINGS AT FEDERALLY QUALIFIED HEALTH CENTER (FQHC) IN A HIGH MORBIDITY METROPOLITAN STATIS- TICAL AREA (MSA) IN LOUISIANA

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4A5 IMPROVING SCHOOL-BASED STD PARTNER SERVICES OUT- COMES: THE INTEGRATION OF MOTIVATIONAL INTERVIEWING

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Background: Washington, DC’s School-Based Screening Program (SBSP) provides access to low-barrier chlamydia (CT) and gonorrhea (GT) screening and treatment in local public and charter high schools. As incidence re-infec- tion rates continue to rise among the target population, the SBSP focused on the need to improve partner services outcomes. Motivational Interviewing was introduced as a technique for framing client-centered partner services interviews that focused on risk reduction and increasing perceived suscepti- bility for re-infection.

Methods: Motivational interviewing techniques were integrated into the treatment and interview process during the 2015 and 2016 academic years. The program’s treatment interview structure was modified to include probing, open ended-questions intended to focus on risk-reduction and treatment of partners as a strategy for lowering the risk of re-infection. The SBSP DIS conducted interviews all locatable patients with a notable focus on partner services. Program materials and surveillance systems were modified to capture information reported on all partners elicited.

Results: Prior to the introduction of motivational interviewing techniques, 18% of adolescents screened positive through the SBSP elicited partners with locating information. The introduction of motivational interviewing tech- niques during the 2015 and 2016 academic years lead to a 10% increase in the number of interviews completed following disease notification. Of the pa-
tional HIV Behavioral Surveillance MSM Survey (NHBS, N=508) and the Seattle Pride Survey (Pride, N=491). Two surveys included only PrEP users: a survey of PrEP users at the King County municipal STI Clinic (N=246) and a survey of Washington PrEP Drug Assistance Program enrollees (PrEP-DAP, N=215).

**Results:** Among King County-area MSM who met local criteria for elevated HIV risk (“high-risk MSM”), 38% in NHBS and 34% in Pride were currently using PrEP. Since starting PrEP, MSM reported increases in: condomless sex (ranging from 26-65% in the surveys), sex with people with an unknown or discordant HIV status (12-53%), more sex partners (14-44%), anonymous sex (10-34%), more frequent anal sex (17-30%), and more frequent receptive anal sex (11-19%). PrEP users were also more likely to discuss their HIV status before having sex (17-50%). Among high-risk MSM with STI testing in the past year, more PrEP users reported a bacterial STI than non-users in NHBS (49% vs. 37%, p=0.025), but the difference was attenuated in Pride (41% vs. 37%, p=0.65). In PrEP-DAP, a self-reported STI diagnosis was more likely among current than former users (51% vs. 42%, p=0.76).

**Conclusion:** We estimate that over one-third of high-risk MSM in King County are on PrEP. Our findings suggest that many MSM increase some high-risk sexual behaviors after starting PrEP, which may be contributing to observed increases in STI. This highlights the need to regularly test PrEP users and intensify STI control measures among MSM as PrEP use becomes commonplace.

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**ORAL SESSIONS, SYMPOSIA**

**4B3 TRENDS IN GONORRHEA DIAGNOSIS BY ANATOMIC SITE OF INFECTION: ESTIMATING THE MAGNITUDE OF INCREASES AMONG MEN WHO HAVE SEX WITH MEN (MSM) AND THE IMPACT OF CHANGES IN EXTRAGENITAL TESTING PRACTICES**

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**Background:** Gonorrhea (GC) diagnoses among MSM are increasing. Trends in GC diagnoses reflect both true changes in incidence and changes in testing practices. Alterations in testing practices disproportionately influence extragenital (rectal, pharyngeal) GC detection, since these infections – unlike urethral infections - are typically asymptomatic. In 2010, CDC recommended the use of nucleic acid amplification tests (NAAT) to detect extragenital GC in MSM, and recent increases in HIV pre-exposure prophylaxis (PrEP) use may have further increased extragenital testing. We evaluated trends in GC diagnoses among MSM by anatomic site of infection to assess how changes in extragenital testing may have affected trends in GC diagnoses.

**Methods:** Using 2007-2017 STI surveillance data for King County, Washington, we calculated overall, urethral and extragenital annual GC incidence in MSM. We estimated the proportion of MSM on PrEP using partner services data.

**Results:** From 2007-2017, the incidence of GC diagnoses in MSM rose 5.7-fold, from 797 to 4541/100,000. This increase was greater for extragenital (9.5-fold) than for urethral diagnoses (3.4-fold). The percentage of MSM GC diagnoses occurring in the urethra was stable 2007-2010 (55%-59%), then declined annually through 2013 to 35%, and was thereafter stable through 2017 (33%). This stability 2014-2017 occurred as PrEP use among MSM receiving GC partner services increased from 17% to 53%. Assuming ascertainment of urethral infections was stable and the true ratio of incident urogenital to extragenital infections remained unchanged, monitoring trends in GC diagnoses overestimated the true increase in incidence by 67%.

**Conclusion:** Trends in overall GC diagnoses in MSM likely substantially overestimate true increases GC incidence, though defining the magnitude of this overestimate is impeded by uncertainty about how trends in true incidence by anatomic site may vary over time. Monitoring urethral GC diagnoses may provide a truer estimate of trends in GC incidence in MSM than monitoring all infections.

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**4B4 PARTICIPATION IN GROUP SEX AND ASSOCIATED STD RISK AMONG MSM PRESENTING AT THE SEATTLE/KING COUNTY STD CLINIC**

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**Background:** Group sex events (GSEs), defined here as oral or anal sex encounters involving ≥3 people, are an understudied behavior with potential implications for individual risk and population-level HIV/STI transmission. We measured prevalence of GSEs and associated behaviors and STI diagnoses in cisgender men who have sex with men (MSM).

**Methods:** As part of a larger study that primarily recruited MSM from a public STD clinic in Seattle, WA, participants completed a computer-assisted self-administered survey assessing substance use, STI diagnoses, and sexual behaviors in aggregate with all partners and with partner-specific questions for the 3 most recent sex acts among all partners, with a recall period of the past 3 months. We compared MSM reporting GSEs and those with ≥3 partners who did not report GSEs using chi-square tests.

**Results:** Of 962 MSM participants, 291 (30%) reported ≥1 GSE; 210 (22%) reported ≥3 partners but no GSE. The GSE group was more likely to report condomless anal intercourse (CAI) with ≥3 partners (53% vs. 41%; p<0.05), use of methamphetamine (18% vs. 6%; p<0.001) or an erectile dysfunction drug (28% vs 14%; p<0.001), and that ≥2 of their reported anal sex partners also had sex with each other (26% vs. 6%; p<0.001). The GSE group was also more likely to report a syphilis diagnosis (6% vs. 2%; p<0.05), and to report diagnoses with multiple STDs (9% vs. 1%; p<0.001), as well as HIV PrEP use (38% vs. 22%; p<0.001).

**Conclusion:** GSE participation was common among MSM attending a Seattle STD clinic and associated with increased risk due to more CAI partners and more shared sexual partnerships. This risk was demonstrated in recent diagnosis with multiple STDs or syphilis. Despite these indicators of higher risk, those participating in GSEs also reported higher HIV PrEP use. Additional work should address the generalizability of these findings and their implications for HIV/STI prevention.

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**4B5 BUILDING HEALTHY ONLINE COMMUNITIES: ONGOING SUCCESSES AND CHALLENGES IN PARTNERING WITH DATING APP OWNERS TO SUPPORT HIV AND STD PREVENTION ONLINE**

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**Background:** Dating apps have potential to help reduce STD/HIV transmission among MSM. Ongoing work is needed to identify metrics of public health, and more diverse cast, and focus on partner notification, having an undetectable viral load, and stigma.

**Methods:** Building Healthy Online Communities (BHOC), a national consortium of HIV/STD prevention organizations working on STI prevention in MSM, is building on earlier formative research and experience to leverage apps’ assets and reduce duplication of effort among public health organizations.

**Results:** Highlights of the last year’s collaboration include: 1) More sites are integrating testing reminders into their architecture and revising their user profile options to allow users to exchange information about sexual health strategies (condoms, PrEP, maintaining an undetectable viral load). 2) A new website, Bhocpartners.org, provides resources on best practices for owners, public health, and researchers, including campaigns for adaptation by others and cut-and-paste health information for users. 3) Having identified barriers to integrating partner notification into apps, BHOC is developing a site to allow anonymous and transparent use of testing and email to notify partners of a potential exposure; apps may provide the link to their users. 4) BHOC partnered with Daddyshunt to produce a webseries and public service announcements addressing PrEP, condom use, three-site testing and comprehensive sexual health strategies. These have been viewed 3.5 million times since August, 2017. A sequel and six more PSAs have been produced with a more diverse cast, and focus on partner notification, having an undetectable viral load, and stigma.

**Conclusion:** Collaboration with app owners and public health can help integrate prevention strategies into existing structures to support the health of large numbers of gay/bi men. Ongoing work is needed to identify metrics of
success that move beyond process measures, particularly in messaging and the effect of profile options on behavioral risk at individual and network levels.

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### 4C – DON’T TREP ON ME

**4C1 ASSESSING SYphilIS CONTROL STRATEGIES DURING AN OUTBREAK ON A NATIVE AMERICAN RESERVATION, 2017**

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**Background:** During April – December 2017, an Arizona Native American Reservation experienced their first syphilis outbreak. Many control interventions (e.g., partner services, expanded screening, and clinical and public health education) were implemented. We evaluated which were most successful.

**Methods:** Using a combination of medical chart review, line-listings, and the state’s STD surveillance data management system (Patient Reporting Investigation Surveillance Manager, PRISM), we reviewed all reported syphilis cases from the reservation during the initial outbreak investigation, April 2016 – May 2017.

**Results:** Fifty-one cases of syphilis were reported — 25 (49%) were female, the mean age was 27 years (Range: 2 weeks – 78 years, SD: 10.6), 29 (57%) were staged early latent, 14 (27%) primary, 6 (12%) secondary, 1 (2%) late latent, and 1 (2%) congenital. Documented risk factors included substance use, 13 (25%), incarceration, 7 (14%), and being a man who had sex with men, 5 (10%). Twenty-three (45%) cases were identified through partner services, 15 (29%) through screening [including community (2), jail (2) and prenatal (6)], 12 (24%) through self-referral (usually symptomatic), and one (2%) case was referred by their partner. Prior to our education efforts, 9 contacts were identified, tested negative, were not treated and eventually became cases. Post education, partners were routinely treated for presumptive incubating syphilis and may have averted 16 additional cases.

**Conclusion:** Most cases were identified through partner services. Expanded screening identified cases both in the community and in the jail. Provider education improved case management, especially the presumptive treatment of partners, and decreased the number of contacts who developed syphilis. These approaches could be considered for future reservation-based syphilis outbreaks.

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### 4C2 CHARACTERISTICS OF THE MAIN NETWORK COMPONENT OF INDIVIDUALS WITH OR EXPOSED TO EARLY SYphilIS IN THE INDIANAPOLIS METROPOLITAN STATISTICAL AREA (MSA): 2016-2017

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**Background:** Public Health efforts have failed to decrease syphilis in the Indianapolis MSA since 2008. More effective methods of disease intervention might be devised by examining sexual/social networks of cases over time. We analyzed 2016-2017 early syphilis cases and their contacts linked through the Statewide Investigating and Monitoring Surveillance System (SWIMSS) using UCInet to identify characteristics of network components and to determine whether recurrent infection, demographics or behaviors were different among network components.

**Methods:** A retrospective cohort was created by selecting all early syphilis cases in 2016-2017 from an extract of District 5 cases provided through SWIMSS. Using the extract’s “Relation” table, cases with >0 predomi-
antly sexual contacts (egos) were linked to their contacts (alters) and ana-
yzed using UCInet and Netdraw. The network was defined as cases and contacts combined. Demographic and risk attributes were derived from DIS interviews. Recurrent cases were those with >1 early syphilis infection from 2011 to 2017. Members of main component were compared to the rest of the network using Chi-square tests.

**Results:** The network included 411 individuals with early syphilis and 729 contacts from 1/1/2016 to 12/31/2017 (N=1,140). When linked, these individuals formed 197 components, with the main component comprised of 473 individuals (41%). Among the 411 infected individuals, 81 had recurrent syphilis. The proportion of the main component with recurrent syphilis was 9.1% compared to 5.7% in other components (p<.03). Members in the main component were more likely to be HIV positive (47% vs. 24%) (p<.0001) and use methamphetamine (7.4% vs. 4.2%) (p=.0198). Gender, race, ethnicity, age group and cocaine use were similar among main compo-
nent members and the rest of the network.

**Conclusion:** The main component accounted for 41% of the network and had significantly more recurrent syphilis, HIV positivity, and methamphet-
amine use. It may be key in targeting DIS interventions.

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### 4C3 ESTIMATING THE EFFECT OF THE NEW CSTE CASE DEFINITION ON THE EXPECTED NUMBER OF SECONDARY SYphilIS CASES, NEW YORK CITY, 2016

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**Background:** Effective 2018, the Council for State and Territorial Epidemiologists (CSTE) implemented updates to the syphilis case definition. One change is to the definition of secondary syphilis, where the required minimum nontreponemal titer of ≥1:4 has been removed. This will allow cases with secondary symptoms and low nontreponemal titers to be reported as secondary syphilis. We sought to estimate the effect this new case definition might have on the number of secondary and early latent syphilis cases that are reported by New York City (NYC). Our findings may be helpful in interpreting subsequent surveillance data given a possible increase in the number of secondary syphilis cases reported.

**Methods:** We reviewed all syphilis cases reported to the NYC Department of Health in 2016 and identified early latent cases with nontreponemal titers <1:4 that also had reported symptoms of secondary syphilis (rash, mucous patch, alopecia, condylomata lata, lymphadenopathy, pharyngitis). We mea-
sured the difference in secondary syphilis case numbers resulting from in-
clusion of these cases as secondary syphilis cases.

**Results:** Of the 7,938 cases of syphilis reported by NYC in 2016, 3,084 (38.9%) were classified as early latent, and 1,386 (17.5%) were classified as secondary syphilis. Among the early latent cases, 3,7% (294/3,084) had non-
treponemal titers <1:4, and of these, 11/294 (0.1%) had any symptoms of secondary syphilis (rash: n = 10, and mucous patch: n = 1). Applying the 2018 case definitions to cases from 2016 increased the number of secondary syphilis cases from 1,386 to 1,397.

**Conclusion:** Applying the 2018 syphilis case definition for secondary syphilis to our 2016 cases resulted in a very small increase in the number of secondary syphilis cases. Although the case definition change has little impact in NYC, it may affect national secondary syphilis case numbers and rates.

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### 4C4 MOLECULAR DETECTION AND GENOTYPING OF TREPONEMA PALLIDUM STRAINS ASSOCIATED WITH OCULAR SYphilIS

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**Background:** There has been an increase in numbers of ocular syphilis cases reported in the United States since 2014. Ocular syphilis can occur at any stage of syphilis and can lead to temporary vision loss or permanent blind-
ness. We sought to examine *Trepomonella pallidum* molecular subtypes from cases of ocular syphilis in the U.S to better understand the molecular epide-
miology of this clinical manifestation.

**Methods:** A total of 44 clinical specimens from 29 patients with suspected or confirmed ocular syphilis were received from 13 states: Colorado, Con-
necticut, Florida, Georgia, Hawaii, Massachusetts, New York, North Caro-
line, Oregon, South Carolina, Texas, Virginisa, and Washington between February 2016 and October 2017. Specimens included whole blood in

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EDTA tubes, serum, cerebrospinal fluid (CSF), vitreous fluid, and a throat swab. Molecular detection was performed using a real-time polymerase chain reaction (PCR) assay targeting the polA gene. Genotyping was done using the CDC typing scheme, which includes a combination of endpoint PCR, restriction fragment-length polymorphism (RFLP), and sequencing analysis.

**Results:** Fifteen of the 29 (51.7%) patients included in the study identified as gay, bisexual, and other men who have sex with men and 14/29 (48.3%) were persons with HIV. Of the 44 specimens tested, *T. pallidum* DNA was detected in 14 samples (31.8%). Eight of the 14 (57.1%) were CSF; 3 (21.4%) were whole blood, and the other specimen types included serum, vitreous fluid, and a throat swab. One CSF sample was fully typeable and was designated as subtype 14d/2g while a single fully typeable blood sample was designated 14d/10g. Partial genotypes from all other samples displayed varying patterns.

**Conclusion:** Our findings show that different strain subtypes are responsible for ocular syphilis manifestations, consistent with previous studies examining strain subtypes from ocular syphilis specimens in two U.S. cities.

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**4C5**

**RAISING THE BAR ON CONGENITAL SYMPHILIS (CS) PREVENTION: USING A CASCADE TO IDENTIFY GAPS IN CARE AND OPPORTUNITIES FOR INTERVENTION IN THE CALIFORNIA PROJECT AREA (CPA), 2015-2017**

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**Background:** The CPA projects CS increases for the fifth consecutive year (2012–27 cases, 2017–200 cases). To address these increases, state and local STD programs have implemented multifaceted CS prevention strategies. We used a CS Prevention Cascade (PC) approach to monitor the impact of control efforts and estimate CS cases averted. By linking pregnant women with syphilis to birth outcomes, we were able to assess specific gaps and intervention points associated with mother/infant pairs.

**Methods:** This analysis used 2015-2017 surveillance data for women diagnosed with syphilis during pregnancy or at delivery. To populate the CS PC, pregnant cases were reviewed to assess if the following criteria were met ≥30 days prior to delivery: documented first prenatal care visit, tested for syphilis, initiated treatment, and treated correctly according to stage. Data for each bar in the cascade included women counted in the preceding bar(s). The final bar in the CS PC is the CS Prevention Ratio, the proportion of pregnant syphilis cases who did not deliver a CS baby. These data were generated for the CPA, and stratified by county.

**Results:** In 2015/2016/2017, there were 400/517/629 women diagnosed with syphilis during pregnancy or at delivery; 84%/80%/82% of these women had a prenatal care visit ≥30 days prior to delivery; 78%/74%/76% were tested, 76%/71%/73% initiated treatment, 73%/68%/72% were treated correctly, and the CS Prevention Ratio was 72%/67%/70%. There was wide variation in the CS Prevention Ratio among high-morbidity counties (>10 pregnant cases), from 38-93%.

**Conclusion:** The CS PC is a useful tool to identify gaps in antenatal care and points of intervention to reduce missed prevention opportunities, beyond what is captured via routine surveillance monitoring of disease trends and through the in-depth review of individual CS cases. This tool also provides information to high-morbidity counties that can be used to further identify and target areas for improvement.

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**4E – EMERGING/RE-EMERGING AND NEGLECTED STI (SYMPOSIUM)**

**UPDATE ON NEISSERIA MENINGITIDIS URETHRITIS IN THE U.S.: WHAT HAVE WE LEARNED SO FAR?**

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**Shigellosis AS A SEXUALLY TRANSMITTED INFECTION AMONG MEN WHO HAVE SEX WITH MEN IN MASSACHUSETTS: A SPATIAL EPIDEMIOLOGICAL APPROACH**

Thomas Stopka, PhD, MHS
Tufts University School of Medicine, MA, USA

**SEXUAL TRANSMISSION OF ZIKA VIRUS INFECTION: WHAT WE’VE LEARNED AND WHAT WE STILL DON’T KNOW**

John Brooks, MD
Centers for Disease Control and Prevention, GA, USA

**ARE WE READY TO TAKE MYCOPLASMA GENITALIUM SERIOUSLY?**

Lisa Manhart, PhD
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Sexually transmitted infections are continually changing—emerging and re-emerging. This symposium addresses four sexually transmitted infections that are less commonly discussed and appreciated. An outbreak of *Neisseria meningitidis*-associated urethritis has been described in the eastern and mid-western United States. Shigella is an important, but under-recognized pathogen, particularly in MSM. Zika, although vector-borne, may also be transmitted sexually. Mycoplasma genitalium is an increasingly recognized sexually transmitted infection that can be difficult to treat. This symposium addresses clinical, epidemiological, and microbiological aspects of these infections.

**5A – DA NA NA NA, U CAN’T TREAT THIS**

**5A1**

**WINTER ANTIBIOTIC USE EXPLAINS SEASONAL ANTIBIOTIC SUSCEPTIBILITY PATTERNS IN NEISSERIA GONORRHOEAE**

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**Background:** Use of antibiotics to treat gonorrhea is considered the principal driver of resistance in *Neisseria gonorrhoeae*, the pathogen that causes...
gonorrhea. However, the antibiotics recommended for gonorrhea treatment are also used for other indications, including seasonal respiratory conditions. Here we investigate the impact that seasonal antibiotic treatment has on N. gonorrhoeae susceptibility.

Methods: We examined seasonality of antibiotic use among a national sample of 16.4 million people aged 15-64 and seasonality of N. gonorrhoeae susceptibility using the 62,000 isolates collected as part of the Center for Disease Control and Prevention's Gonococcal Isolate Surveillance Project from 2005-2015, a period of increasing resistance to multiple antibiotics. Susceptibility seasonality was measured by linear regression predicting log minimum inhibitory concentration (MIC) from calendar month (adjusted for clinic and a secular trend) and yearly sinusoidal models predicting log MIC (adjusted for a secular trend).

Results: Macrolides and cephalosporins exhibited the strongest season use pattern, with peak use in winter and nadir in summer. Penicillins and quinolones exhibited lower amplitude seasonality of use, and tetracyclines did not exhibit seasonality. N. gonorrhoeae isolates exhibited seasonal macrolide and cephalosporin susceptibility, with weaker seasonality for penicillin susceptibility and barely detectable seasonality for quinolone and tetracycline susceptibility. MICs were highest in spring and lowest in autumn for all drugs. The 3-month lag between peak winter antibiotic use and increased MICs in the spring is consistent with theoretical models of the timeline for impact of seasonality of antibiotic use on antibiotic susceptibility, but an 8-month lag between peak summer gonorrhea treatment and increased spring MICs is inconsistent with this model.

Conclusion: These results suggest that use of antibiotics for winter diseases may have a “bystander effect” on N. gonorrhoeae susceptibility but that this seasonal effect is relatively weak compared to secular trends in susceptibility.

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5A2 DEVELOPMENT OF A NOVEL RESISTANCEPLUS GC TEST TO ENABLE CIPROFLOXACIN TREATMENT OF GONORRHOEA

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Background: Antimicrobial-resistant Neisseria gonorrhoeae is a serious public health threat and reports have been emerging of strains that are resistant to all known treatments. While new treatments are still in development, urgent action is needed to improve management strategies to control gonorrhoea, including improved diagnostics and better utilization of existing drugs. Traditional syndromic management of STDs requires >95% efficacy, however with the availability of molecular tests which can diagnose infection and detect resistance markers will enable older treatments to be "recycled" into use. Approximately 80% of N. gonorrhoeae infections in the US are susceptible to ciprofloxacin, and studies have shown that the gyrA genotype has >98% sensitivity and specificity to predict ciprofloxacin susceptibility.

Methods: The ResistancePlus GC test* (SpeeDx) is a multiplex qPCR test that detects N. gonorrhoeae and gyrA as markers associated with ciprofloxacin susceptibility. The test was evaluated on 416 retrospective clinical samples and compared to clinical results (Cobas 4800 CT/NG (Roche) and in-house qPCR) for GC detection, and in-house gyrA qPCR results for gyrA WT/mutant status. The test was also evaluated on 81 GC clinical isolates and compared to in-house gyrA qPCR results and MIC data to determine ciprofloxacin susceptibility.

Not available for sale in the US.

Results: The ResistancePlus GC test showed 96.9% sensitivity (123/127) and 99.7% specificity (288/289) for N. gonorrhoeae detection, and 100% sensitivity (20/20) and 98.6% specificity (70/71) for determining gyrA status. The ResistancePlus GC results for gyrA showed 100% correlation to reference results for the clinical isolates.

Conclusion: The ResistancePlus GC test will provide STD clinicians with diagnostic information on the infective agent as well as on the resistance profile, enabling resistance-guided therapy of gonorrhoea. The development of novel diagnostics such as this, has the potential to conserve use of last line antimicrobials and ultimately reduce the spread of antimicrobial-resistant gonorrhoea.

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5A3 CLONAL SPREAD OF AZITHROMYCIN RESISTANT NEISSERIA GONORRHOEAE IN CANADA, 2014-2016

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Background: Neisseria gonorrhoeae have acquired resistance to many antimicrobials including third generation cephalosporins and azithromycin, which are the current co-therapy recommended by the Canadian STI guidelines for gonorrhea treatment. Minimum inhibitory concentrations (MIC) to azithromycin and molecular sequence types were determined for N. gonorrhoeae circulating in Canada.

Methods: Between 2014 and 2016, N. gonorrhoeae strains isolated by Canadian provincial public health laboratories were submitted to the National Microbiology Laboratory (N=7,831) for azithromycin MIC determination (resistance MIC ≥2.0 mg/L) by agar dilution as described by the Clinical Laboratory Standards Institute and N. gonorrhoeae multi-antigen sequence typing (NG-MAST).

Results: Azithromycin resistance was identified in 3.3% (127/3,809), 4.7% (198/4,190) and 7.2% (326/4,538) of N. gonorrhoeae in 2014, 2015 and 2016, respectively, a significant increase between 2014 and 2016 (p<0.001). MIC results ranged from 2 to ≥256 mg/L. The most common sequence types in 2016 were ST10451 (n=40), ST10567 (n=38) and ST11765 (n=10). In 2015, the prevalent sequence types were ST12302 (n=110), ST10451 (n=34) and ST9047 (n=23) and in 2016, they were ST12302 (n=240), ST15750 (n=27) and ST10451 (n=10). ST12302 was newly recognized in 2015 and identified in two provinces, Quebec and Ontario but spread to Alberta (n=5), British Columbia (n=1) and Nova Scotia (n=2) in 2016. ST10451 emerged in 2014 in Quebec, Ontario and Alberta and also identified in 2015 and 2016. ST10451 is related to ST1407 (differing by 1 bp) which is an internationally-recognized epidemic strain, harboring resistance to ceftriaxone.

Conclusion: Azithromycin resistance in N. gonorrhoeae is established and spreading in Canada, increasing significantly between 2014 and 2016. This exceeds the 5% level at which the WHO states an antimicrobial should be viewed as an appropriate treatment. Continued surveillance of antimicrobial susceptibilities and sequence types of N. gonorrhoeae is necessary to identify clusters, inform treatment guidelines and mitigate the impact of resistant gonorrhoea.

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5A4 A RETROSPECTIVE ANALYSIS OF THE RESULTS OF ETEST AND AGAR DIFFUSION TESTING ON NEISSERIA GONORRHOEAE ISOLATES FROM TWO NEW YORK CITY SEXUAL HEALTH CLINICS, MARCH-SEPTEMBER 2017

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Background: Strengthening the U.S. Response to Resistant Gonorrhea (SURRG) is a national program to build local capacity to rapidly detect and contain the threat of antibiotic resistant Neisseria gonorrhoeae (NG). SURRG activities include expansion of culture and timely antibiotic susceptibility testing (AST). NG isolates collected at SURRG clinics first undergo AST by Etest, and then by agar dilution. We ascertained the level of agreement between the results of these two tests.

Methods: We examined data for 256 NG isolates obtained from patients attending two New York City (NYC) Department of Health and Mental Hygiene (DOHMH) Sexual Health clinics from March-September 2017. Minimum inhibitory concentrations (MICs) for azithromycin, ceftriaxone, cefixime, and ciprofloxacin were determined by Etest at the NYC DOHMH Public Health Laboratory and converted to the nearest doubling dilution. Each month, isolates were sent to the Antibiotic Resistance Laboratory Network (ARLN) regional laboratory for testing by agar dilution. We compared MIC results obtained by Etest to those obtained by agar dilution, by drug and
anatomic site, defining concordant MIC results as those that were the same, or within one dilution factor.

**Results:** Overall, 91% (896/986) of Etest MICs were concordant. For azithromycin and ciprofloxacin, concordance was 93% (237/256) and 95% (208/218), respectively, while concordance for ceftriaxone was 89% (226/256), and cefixime, 88% (225/256). There was no difference in concordance by anatomic site; overall concordance was 92% ([147/160] among extragenital isolates and 91% ([74/82]) among genital isolates. Among isolates with MICs that differed by one or more dilutions, Etest MICs were higher than agar dilution MICs for cefixime (96%, 218/227) and ceftriaxone (96%, 207/216), and lower for azithromycin (74%, 83/112) and ciprofloxacin (82%, 120/146).

**Conclusion:** We found high levels of concordance between Etest and agar dilution results for all four drugs, regardless of anatomic site.

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**SA5**

**COMPARISON OF URETHRAL, PHARYNGEAL, AND RECTAL NEISSERIA GONORRHOEAE AZITHROMYCIN SUSCEPTIBILITIES AMONG MEN WHO HAVE SEX WITH MEN, STRENGTHENING U.S. RESPONSE TO RESISTANT GONORRHOEA (SURRG), UNITED STATES, 2017

**Karen Schlanger, PhD, MPH1, Shacara Johnson, MSPH2, Alexander Anderson, MPH3, Jamie Black, MPH4, Tiana Garrett-Cherry, PhD5, Karen Gieseker, PhD, MS, MT6, Justin Holderman, MPH7, Kimberly Johnson, MS7, Robert Kohn, MPH8, Julia Schillinger, MD, MS9,10, Olusgeun Soge, PhD7, Christina Thiabault, MPH10, Karen Wendel, MD11, Cau Pham, PhD12, John Papp, PhD13, Robert Kirkcaldy, MD, MPH14, Centers for Disease Control and Prevention, GA, USA, California Department of Public Health, CA, USA, Indiana State Department of Health, IN, USA, Hawaii Department of Health, HI, USA, Colorado Department of Public Health and Environment, CO, USA, New York City Department of Health and Mental Hygiene, NY, USA, San Francisco Department of Public Health, CA, USA, University of Washington, WA, USA, Public Health – Seattle & King County, WA, USA,Denver Public Health, CO, USA

**Background:** In the U.S., azithromycin susceptibility in urethral Neisseria gonorrhoeae (Ng) isolates from men has been declining. However, little is known about current azithromycin susceptibility among extra-genital isolates. We investigated azithromycin susceptibility among urethral, pharyngeal, and rectal isolates collected from men who have sex with men (MSM).

**Methods:** We used data from Strengthening U.S. Response to Resistant Gonorrhea (SURRG), a CDC-supported multisite project; participating jurisdictions collect genital and extra-genital Ng isolates from all gender and perform antimicrobial susceptibility testing by Etest. Azithromycin minimum inhibitory concentrations (MICs) of ≥2.0µg/mL (using doubling dilutions) were defined as reduced susceptibility (AZI-RS). We limited the analysis to 6 SURRG sites with ≥5% AZI-RS (overall). We compared the proportion of MSM isolates with AZI-RS by anatomic site, calculated odds ratios (OR) for AZI-RS among pharyngeal and rectal isolates compared to urethral isolates, and evaluated whether isolates from multiple anatomic sites of individual men demonstrated discordant azithromycin susceptibility (i.e. ≥2 dilution MIC difference).

**Results:** During February–November 2017, 763 urethral, 166 pharyngeal, and 257 rectal isolates from MSM were tested. The proportion of isolates with AZI-RS differed by anatomic site: urethral, 7.9%; pharyngeal, 18.1%; rectal, 15.6%. Compared to urethral, pharyngeal (OR=2.6 (95% CI 1.6–4.2)) and rectal (OR=2.2 (95% CI 1.4–3.3)) isolates were more likely to demonstrate AZI-RS; with some variability, these findings were observed across jurisdictions. Of 82 cases in which isolates were collected from >1 anatomic site, 18.3% had discordant azithromycin MICs: no clear pattern regarding which anatomic site had higher MIC values was observed.

**Conclusion:** Among isolates from MSM in SURRG, AZI-RS was more common among pharyngeal and rectal isolates than urethral isolates. Azithromycin resistance might emerge more rapidly in extra-genital sites. Further research to understand these differences are needed. Through inclusion of extra-genital isolates, SURRG has the potential to substantially improve U.S. detection of emerging AZI resistance.

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**SB1**

**FACTORS CONTRIBUTING TO CONGENITAL SYPHILIS CASES — NEW YORK CITY, 2010–2016

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**Background:** Congenital syphilis (CS) rates increased in the United States from 2012–2016. Cases of CS often represent missed opportunities for prevention by clinicians and public health. We examined data on CS cases reported during 2010–2016 in New York City (NYC) and identified factors that contributed to these cases.

**Methods:** We abstracted surveillance and case management data from the NYC surveillance registry for CS cases reported from 2010–2016. We reviewed records to determine whether prenatal care (PNC), syphilis screening, and treatment occurred early enough in pregnancy to prevent CS. Because the CS case definition can be met if a woman does not initiate adequate treatment ≥30 days before delivery, syphilis testing and PNC were considered timely if received ≥45 days before delivery, allowing time to receive the reactive syphilis test result and begin treatment ≥30 days before delivery.

**Results:** Sixty-eight CS cases were reported, including one syphilitic stillbirth (1.5%), one confirmed case (1.5%), and 66 probable cases (97.1%). In most pregnancies (63.2%, 43/68), maternal syphilis was diagnosed too late to prevent CS: 30.9% (21/68) pregnant women did not receive timely PNC; 5.9% (4/68) received timely PNC but were not tested for syphilis ≥45 days before delivery; and 26.5% (18/68) were not screened in early third trimester after a nonreactive test in early pregnancy, despite characteristics indicating high-risk for syphilis acquisition. Among the remaining 25 pregnant women (24.0% (6/25)) had inadequate maternal treatment and 76.0% (19/25) received provider and public health monitoring throughout pregnancy, but had evidence of reinfection or persistent-infection close to delivery.

**Conclusion:** These findings highlight the importance of primary prevention of syphilis among women, PNC, screening, and rescreening in early third trimester for syphilis. Efforts to enhance screening, including development of more specific third trimester screening guidelines and provider training, might help accomplish CS prevention.

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**SB2**

**A COMPARISON OF PREGNANT WOMEN WITH SYPHILIS WITH AND WITHOUT A HISTORY OF INCARCERATION IN LOS ANGELES COUNTY (LAC) FROM 2014–2016

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**Background:** With the rising rates of syphilis among women of reproductive age and increase in congenital syphilis (CS) cases, improved strategies are needed to identify and treat pregnant women to reduce CS incidence. Limited research is available on pregnant women with syphilis who have a history of incarceration (HOI). This study examined demographics, proportion of treatment received, and follow-up case disposition (e.g., brought to treatment) among female syphilis cases with and without a HOI.

**Methods:** Pregnant syphilis cases reported from 2014-2016 in the LAC STD surveillance database were matched with the LAC jail inmate database. Main outcomes were receipt of treatment and LAC Department of Public Health (DPH) follow-up. Chi-square analyses were performed to compare demographics and outcomes among pregnant syphilis cases with and without a HOI.

**Results:** In 2014-2016, there were a total 1,303 syphilis cases among women of reproductive age (15-45 years) of which, 265 (20.3%) were among pregnant women (59.6% Latina; 74.7% aged 20-34 years). Of the 265 pregnant women, one third (n=88) had a HOI. Cases with a HOI were more likely to be Black (28.4% vs 14.1%; p=0.0002) and diagnosed with early syphilis (43.1% vs. 27.1%; p=0.0062) than those without a HOI. There were no differences in receipt of treatment between cases with a HOI (88.6%) and those without a HOI (93.2%) or in the proportion of cases that were infected with more specific third trimester screening guidelines and provider training, might help accomplish CS prevention.

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Conclusion: Female correctional facilities provide screening opportunities for identifying female syphilis cases, however, in order to tailor interventions that may reduce risk of syphilis among incarcerated pregnant women and their babies, further analyses of behavioral risk factors of these women are warranted.

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5B3
ASCERTAINING PREGNANCY AMONG WOMEN WITH SYPHILIS IN FLORIDA USING AN ELECTRONIC MAIL ALERT SYSTEM TO IDENTIFY POTENTIAL SYPHILIS CASES WITH UNKNOWN PREGNANCY STATUS, 2017
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Background: Pregnancy ascertainment is crucial for preventing congenital syphilis. In 2016, Florida reported 1,062 cases of syphilis among females ages 15–44 years and 160 (15%) cases were missing pregnancy status. In 2017, Florida focused efforts to reduce these numbers through communication and by developing a system-generated weekly email notification for all female syphilis field records (cases and non-cases) with unknown pregnancy status. We aim to describe the outcome of these efforts to reduce unknown pregnancy status among syphilis infections.

Methods: Pregnancy status for all reported 2017 women aged 15–44 years with syphilis infections was extracted from Florida’s sexually transmitted diseases (STD) surveillance system. Review of the frequency and outcomes (reduction in field records flagged and change in pregnancy status variable) of the first email notification of missing pregnancy status (10/2/2017) were compared to the most recent email notification (12/18/2017).

Results: As of 12/13/2017, 1,082 females, ages 15–44 years, were reported to have syphilis and only 25 (2%) had an unknown pregnancy status. In the first email notification, 76 syphilis field records (resulting in 39 cases [51%]) were flagged with unknown pregnancy status. Of the 76 field records, only 11 (15%) field records remained unknown and only 1 of the 11 resulted in a reported congenital syphilis case. Moreover, 3 of the 76 field records were identified as pregnant. One was a case but did not meet the congenital syphilis case definition. Finally, by the most recent notification, the volume of flagged field records had decreased 70% (n=23).

Conclusion: Focused efforts to obtain pregnancy status can yield upwards of 98% ascertainment in large STD programs despite increasing case reports. Email notification tools like the one developed in Florida could be useful in increasing timely pregnancy status ascertainment. However, it is too early to determine the impact of additional pregnancy ascertainment on congenital syphilis prevention.

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5B4
USING STATE AND REGIONAL CONGENITAL SYphilIS (CS) REVIEW BOARDS TO PREVENT CONGENITAL SYphILIS
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Background: Since 2012, Louisiana has had the highest rates of CS in the nation. In 2016, the rate was 7.4 cases per 100,000 live births, five times the national rate (15.7). In 2016, regional CS Review Boards were established to study CS cases and identify opportunities for intervention.

Methods: CS Review Boards include clinical, surveillance, and field staff. Boards meet every two months to review cases. Prior to the meeting, a summary of cases is sent to every board member. During the meeting, detailed information on mothers, infants, and mothers’ partners is viewed and discussed. Recommendations are made to prevent future CS cases. We gathered key findings from these investigations.

Results: Between August 2016 and August 2017, 79 CS cases were reviewed. Many (38%) of the infections could have been prevented by the obstetrician which include: no syphilis testing between 28-32 weeks after negative early test (n=15), no testing at first/second trimester but tested positive at delivery, (n=5), delayed or lack of notification/reporting by the provider to patient/health department (n=4), treatment delay by provider due to delayed appointment or bicalcium shortag (n=3). Some (22%) cases were somewhat preventable: inadequate treatment due to patient non-compliance (n=15), positive at 28-32 weeks with delayed treatment and preterm delivery (n=1). Some (40%) cases were unlikely to be prevented by the obstetrician: screening protocol properly followed, but mother first tested positive at >30 days of delivery (n=10), lack of prenatal care (n=9), mother adequately treated (n=7), first/second trimester negative, but positive at preterm delivery (n=4). These findings were shared with the providers. Recommendations were made to adhere to screening and treatment protocol and timely reporting. Many of these practices have since changed their procedures.

Conclusion: CS review boards have identified some practices where CS cases occurred following inadequate screening and treatment. Broadly sharing these findings may prevent future cases.

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5B5
IMPLEMENTING THE CONGENITAL SYphilIS MORBIDITY & MORTALITY REVIEW TOOLKIT IN FOUR HIGH-MORBIDITY CALIFORNIA COUNTIES
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Background: Congenital syphilis (CS) cases in California increased over 500% from 2012 to 2016. CS cases should be considered sentinel public health events and examined for missed opportunities to identify upstream interventions to prevent future cases.

Methods: In 2016-18, we developed and piloted the CS Morbidity & Mortality Review (CS M&M) Toolkit with four high-morbidity local health jurisdictions (LHJs). This toolkit is intended for use by LHJs to conduct in-depth multidisciplinary examination of CS cases and contains instructions for how to conduct the review, who should participate, PowerPoint slide template to support review preparation, framework to identify missed opportunities, and considerations for associated follow-up interventions to prevent future cases. Case selection for review was driven by severity of outcome and potential to inform systems-level interventions. Cases were examined for missed opportunities related to healthcare, health department follow up, and maternal factors.

Results: Of 124 CS cases eligible for review, 20 were selected (18 singletons and one set of twins) and reviewed in six M&M review sessions. Twelve infants had evidence of CS on physical examination or diagnostic testing, five were stillbirths, one was an infant death, and two were asymptomatic (twins). Maternal factors included methamphetamine use (79%) and limited or no prenatal care (100%). We identified 54 missed opportunities for prevention (one to six per case): 27 clinical (three missed diagnosis, 12 missed prenatal screening, 12 absent/inadequate treatment), 19 health department (four delays, five patients and 10 partners unable to locate), and eight that might have been prevented with syphilis screening in jails.

Conclusion: Evaluating CS cases using the CS M&M Toolkit lead to concrete action to improve health department processes and community clinicians’ practices. Syphilis screening and treatment in jails may play a role in CS prevention.

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5C – TEST IT, TEST IT REAL GOOD

SC1
EXAMINATION OF STD-RELATED HEALTH SERVICES AMONG MEN WHO HAVE SEX WITH MEN, 2011-15
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Background: Syphilis rates continue to increase among men who have sex with men (MSM), especially younger and minority men. Therefore, examining access and use of STD-related services by MSM is critical.

Methods: Data are from the 2011-15 National Survey of Family Growth. To determine if there were differences among subgroups of MSM in the U.S., we examined access and use of STD-related services of sexually active MSM by age (15-24 years and 25-44 years) and race/ethnicity (Hispanic, non-Hispanic white, and non-Hispanic black).

Results: While most sexually active MSM had current health insurance (75.9%), a usual place for healthcare (76.7%), and had gone to their usual

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place for healthcare in the past 12 months (77.1%), 36.8% reported not being covered by health insurance at some time during the past 12 months. By age, more older MSM (80.6%) reported having a usual place for health care compared to younger MSM (67.3%, p=0.0469). Further, risk assessment by a medical care provider in the past 12 months was low; only 24.4% of MSM had been asked about sexual orientation, 22.1% about their number of sex partners, 28.3% about condom use, and 20.8% about type of sex (anal or oral). Twice as many Hispanic and black MSM reported a medical provider asking them about condom use (45.9%, 47.9%, p<0.0001) and types of sex (33.2%, 36.3%, p=0.0012) compared to white MSM (21.8%, 15.9%). Overall, STD testing in the past 12 months was low (35.4%), with less than half of those who were tested receiving extragenital tests (46.4%). Being tested for an STD varied by race/ethnicity, with more Hispanic (54.0%) and black (48.7%) MSM being tested compared to white MSM (29.9%, p=0.0274).

Conclusion: Interventions are needed to increase risk assessments conducted by health care providers, screening for STDs, and healthcare access of sexually active MSM.

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SC2 UPTAKE AND ACCEPTABILITY OF STI SCREENINGS FOR TRANSGENDER AND GENDER NON-BINARY INDIVIDUALS IN A SEXUAL HEALTH CLINICAL SETTING

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Background: The Kind Clinic, a sexual health and wellness clinic in Austin, Texas, is currently the only free clinic in Texas offering gender-affirming care through the provision of hormone replacement therapy for transgender and gender non-binary (TGNB) individuals. Additionally, the clinic provides testing and management of sexually transmitted infections (STI). Official guidelines for the testing of TGNB individuals have not been established, and most of the literature is focused on the risk of HIV acquisition, rather than bacterial STIs including extragenital screening.

Methods: Kind Clinic began gender-affirming care services in March of 2017. Patients accessing gender-affirming care services were provided with an assessment questionnaire to determine patient’s comfort with STI screening for genital and extragenital sites. During the patient encounter, providers would follow up with a comprehensive medical and sexual health history and approach the topic of screening for STIs, based on patients’ preferences.

Results: Between March 21, 2017 and December 31, 2017, the Kind Clinic saw 227 patients for gender care services. Preliminary results found 43 patients (18.4%) had accessed bacterial STI testing. No new cases of gonorrhea or chlamydia were diagnosed but three new cases of syphilis were identified.

Conclusion: While the absolute number of gender-affirming care patients is low in comparison to the entire patient population, this program has provided a framework to reach the TGNB population. In particular, the design of the intake forms and the structure of the clinical encounter creates a space where TGNB individuals may feel free to be honest with clinical staff and receive the care that they need.

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SC3 BRINGING SEXUAL HEALTH WITHIN REACH: PATIENT PREFERENCES FOR EXPRESS SCREENING SERVICES, NEW YORK CITY (NYC) SEXUAL HEALTH CLINICS, 2017

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Background: NYC Sexual Health Clinics (SHC) offer STIs and HIV screening visits for asymptomatic patients in 8 locations throughout NYC. From 1/1/17-3/31/17, 33% (6,223/18,920) of visits were screening visits. In the context of innovative approaches to rapid STI testing, there are opportunities to streamline screening by introducing patient-led services. We conducted a survey to understand SHC patient perspectives on expediting aspects of screening services and moving towards more patient-directed experiences.

Methods: We offered an anonymous, self-administered survey available in English to a convenience sample of people attending NYC SHCs from 1/1/17-3/31/17. Surveyed queried patient demographics, desired components of express visits, levels of preferred self-direction for the visit, and receipt of results, via multiple choice and Likert scale response options. Denominators reflect number of respondents per question.

Results: Among 547 respondents, the average age was 31 years (range 15-73); and 67% (364/546) were men. Patients strongly preferred walk-in services over appointments (84%; 448/536), about half were comfortable using on-screen self-registration (46%; 251/544), and comfort with specimen self-collection varied by anatomic site – urine sample (74%; 395/535); rectal swab (63%; 228/351); and oral swab (61%; 324/535). Most respondents preferred at least half their visits to be staff-led (85%; 447/524); visits to last ≤45 minutes (72%; 377/525); and to receive individual results as each becomes available versus batched results (77%; 406/525). Preferred media for receiving results were: phone (33%; 164/494); email (30%; 147/494); and text (23%; 112/494).

Conclusion: SHC patients prefer timely, and accessible STI screening services on a walk-in basis. However, while about half of patients were comfortable with the idea of self-registration, comfort with specimen self-collection varied with anatomic site, and patients expressed a preference for some degree of staff interaction throughout their visit. A model of fully self-directed registration and specimen self-collection may not be acceptable to a sizable proportion of NYC SHC patients.

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SC4 HIGH WILLINGNESS TO USE NOVEL HIV/STI PARTNER NOTIFICATION, TESTING, AND TREATMENT STRATEGIES AMONG GAY AND BISEXUAL MEN

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Background: Incidence rates of HIV and bacterial sexually transmitted infections (STIs) are disproportionately higher among gay, bisexual, and other men who have sex with men (GBM) compared to heterosexual men. We sought to determine the willingness of GBM to deliver HIV self-testing (HIVST) kits with patient-delivered partner therapy (PDPT), while also investigating the potential of sexual networking app-based partner notification.

Methods: A nationwide sample of GBM who self-tested HIV-negative (n=786) were asked about their willingness to give recent sex partners (past 3 months) PDPT with an HIVST kit (PDPT+HIVST) after hypothetical STI diagnosis. We examined associations of relationship status, any condomless anal sex (CAS) with casual partners, recent STI diagnosis (past 6 months), and perceived risk of HIV (n=0.86) on PDPT+HIVST delivery willingness using binary logistic regression, adjusting for age, race/ethnicity, education, and US region. Frequency measures were also used to report willingness/likelihood to send and receive app-based partner notification, testing, and treatment.

Results: Most (90.1%) were willing to deliver PDPT+HIVST to recent sex partners after STI diagnosis. GBM in relationships had higher odds of reporting willingness to deliver PDPT+HIVST compared to men without a main partner (AOR=2.82, 1.63-4.90, 95% CI). We found no significant differences in willingness associated with CAS with casual partners, prior STI diagnoses, or perceived risk of HIV. Nearly all (96.4%) were willing to notify sex partners met on apps using an anonymous app function after STI diagnosis. If anonymously notified, 92.5% would likely obtain counseling and testing, 92.8% would engage in HIVST if provided a free voucher, and 93.4% would obtain treatment from a pharmacy with prescription voucher.

Conclusion: GBM were responsive to novel partner testing and treatment strategies, including app-based notification and provision of HIVST kits with PDPT. Evaluations are needed to document uptake, delivery, and partner use upon implementation to support potential changes to clinical guidelines.

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SC5 IDENTIFYING UNDIAGNOSED HIV INFECTION IN ORECON THROUGH MOLECULAR CLUSTER AND CONTACT NETWORK ANALYSIS

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Background: There are an estimated 1,200 people with undiagnosed HIV infection living in Oregon. Screening has yielded low positivity rates. Oregon used the combined contact network (HIV, syphilis, gonorrhea, chlamydia, and hepatitis) and HIV molecular data to detect persons at high risk of infection for the purposes of targeted testing and PrEP intervention.

Methods: Recent HIV diagnoses sharing genetically similar strains of HIV were identified using HIV Surveillance data and HIV-Trace (molecular surveillance software). Active clusters were examined within the context of their larger contact networks using Pajek network analysis tools. Contact data was elicited from partner interviews from Oregon’s Acute and Communicable database. Contacts were evaluated by region, transmission risk, viral suppression, and HIV test history among those undiagnosed.

Results: There were 2,982 persons in subnetworks with ≥ 5 persons including an HIV diagnosis 2016–2017 (594 HIV+ and 783 HIV-/STD+). The largest subnetwork represented on-going transmission in Oregon (530 HIV+/2,594 persons) and contained multiple molecular clusters. HIV-Trace found 25 clusters among recent diagnoses (10/2014–9/2017). Contact subnetworks had hubs in the Portland Metro urban area which included different molecular clusters that extended into rural counties of Oregon. Subnetworks with higher proportions of women pointed to patterns of injection drug use, heterosexual risk, syphilis or gonorrhea, and molecular clusters of men who had sex with men and injection drug use. Among persons in HIV-Trace clusters, 38% (2873) were virally suppressed, while 82% (4759/579) of HIV cases in the contact network were virally suppressed. Among persons with undetected HIV status who were interviewed, 67% (409/615) had no record of an HIV test.

Conclusion: Network analytic tools can help visualize HIV molecular clusters and syndemic contact subnetworks, and can also generate lists of persons at high risk of HIV infection without a record of an HIV test.

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5D – TRANSGENDER CARE: UPDATE AND PROGRESS (SYMPOSIUM)

AN OVERVIEW OF THE LIVES OF TRANSGENDER PEOPLE IN THE UNITED STATES: RESULTS FROM THE 2015 U.S. TRANSGENDER SURVEY
Sandy James, JD, PhD
Georgetown University, DC, USA

WHAT DO WE KNOW ABOUT PrEP FOR TRANSGENDER PEOPLE?
Kevin Ard, MD, MPH
Massachusetts General Hospital, MA, USA

LANGUAGE MATTERS: CREATING THE ENVIRONMENT TO PROVIDE CARE FOR TRANSGENDER PATIENTS
Paula Neira, JD, MSN, RN, CEN
Johns Hopkins Center for Transgender Health, MD, USA

Transgender persons are among the most marginalized individuals in the United States and among the most vulnerable to STD and HIV acquisition. Experiences of stigmatizing behaviors, bullying, discrimination, and outright physical and sexual violence occur at high rates among transgender persons. Because the number of transgender persons is small compared to most other recognized vulnerable groups, it is often hard for programs to gain insight into the lives and experiences of transgender persons. It is therefore also hard for programs to ascertain and understand need and to provide the best fit services. The first talk in this symposium provides a comprehensive overview of the experiences of transgender people in the United States. With nearly 28,000 respondents, the 2015 U.S. Transgender Survey is the largest survey ever conducted to document the experiences of transgender adults in the United States. The nationwide study is also the most comprehensive data, examining a wide range of life outcomes, such as those related to health, employment, income, and education. This presentation will provide an overview of the experiences of transgender people in the U.S. and highlight health and other disparities faced by transgender communities. The second talk explores the latest updates in prevention and care for transgender persons with respect to HIV and STD prevention, including PrEP. Finally, the third talk in this symposium focuses upon cultural competency in caring for transgender people. Cultural competency remains low across healthcare disciplines. Language is an essential component in establishing a safe environment in which practitioners can build a trusting relationship with transgender patients. Through techniques such as using the correct name and pronoun, using the correct terminology, and asking the appropriate questions in the appropriate manner at the appropriate time, practitioners can demonstrate dignity and respect.

5E – INNOVATIONS IN STD PREVENTION: INFORMATICS, CLINIC OPERATIONS, AND SURVEILLANCE (SYMPOSIUM)

CONVERTING GUIDELINES INTO CLINICAL DECISION SUPPORT IN THE EMR AT THE POINT OF CARE
Blackford Middleton, MD, MPH, MSc, FACP, FACMI, FHMSS
Harvard T.H. Chan School of Public Health, MA, USA

NATIONAL EFFORTS TO PILOT ELECTRONIC CASE REPORTING FOR CHLAMYDIA AND GONORRHEA
Ninad Mishra, MD, MS
Centers for Disease Control and Prevention, GA, USA

RETHINKING STD SURVEILLANCE: WHAT ARE WE MEASURING AND WHY?
Elizabeth Torrone, PhD
Centers for Disease Control and Prevention, GA, USA

EXPLORING THE ROLE OF EXPRESS STD VISITS USING A COMMUNITY OF PRACTICE MODEL
Hilary Reno, MD, PhD
Washington University in St. Louis, MO, USA

This session explores a number of innovations in informatics, clinic operations and surveillance to enhance STD Prevention. Speakers discuss how STD treatment guidelines for gonorrhea may be converted into Clinical Decision Support in the electronic medical record and how that may improve patient care. They also describe a pilot project using the electronic medical record to trigger case reports for chlamydia and gonorrhea; this has the potential benefits of decreasing the reporting burden of clinicians while at the same time improving the quality and completeness of surveillance data. Methods and challenges for estimating national STD burden will be discussed. As delivery of care for STDs has changed, the role and potential of express STD visits using a community of practice model will be described.

6A – CHANGING THE WAY WE DO BUSINESS: IMPLICATIONS FOR CLINICAL CARE

CALIFORNIA'S TAKE-HOME LESSON: IS CHLAMYDIA (CT) AND GONORRHEA (GO) HOME TESTING A COST-EFFECTIVE WAY TO PROVIDE SAFETY-NET SCREENING FOR YOUNG WOMEN?
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Background: In 2013, Los Angeles County’s “I Know” CT/GC home-testing program was replicated in three other California counties. The program offers free vaginal swab self-collection kits to women age ≥25 who request them online and are neither symptomatic nor pregnant. California Department of Public Health funded infrastructure and per-kit costs. Counties manage program operations, client follow-up, and marketing.

Methods: Users provide demographic information, pregnancy and symptom status when ordering a kit. The website tracks kits ordered and returned, and test results. Addresses for kit requests were geocoded and compared to the highest-morbidity census tracts, defined as those in the top 1% of chlamydia or gonorrhea rates among 12-25 year old females within each county, using ArcGIS. One-time infrastructure costs included website development and maintenance, printers, laboratory-website interface, and one-year of marketing. Per-kit costs included swabs, assembly, and postage, plus laboratory costs.
Background: Many individuals entering correctional facilities have complex medical needs and often lack adequate community care. Few California jails conduct routine STD testing, despite national recommendations and extensive evidence of high morbidity among incarcerated individuals. We assessed the feasibility and case finding yield of CT/GC screening programs among incarcerated women by partnering with two high-morbidity local health jurisdictions (LHJ) to implement jail screening projects.

Methods: In one LHJ, jail nursing staff implemented opt-out screening at intake from July 2014 through May 2015 (11 months). The second LHJ deployed public health staff to conduct weekly opt-in screening in the jail’s housing units from December 2014 through June 2017 (31 months). Females ages 18-35 were eligible. LHJ submitted quarterly data reports containing the number of eligible females booked, screened, CT/GC positives, and cases treated.

Results: Of the total 10,072 eligible females, 1,454 (14%) were screened with 9% CT positivity and 6% GC. The opt-out program screened 709/826 (86% of eligible females), while the opt-in program screened 745/9,246 (8% of eligible females). The opt-out program’s positivity was 8% CT and 4% GC, and the opt-in program’s was 10% CT and 7% GC. Both programs treated over 2,000 females (6% of eligible females). The opt-in program’s was 10% CT and 7% GC. Both programs treated over 2,000 females (6% of eligible females).

Conclusion: Participating counties value “I Know” as a safety-net program for young women who might not otherwise present to a medical office. Although the program demonstrates high positivity and minimal staff burden, increasing prioritization to high-morbidity areas will improve the return on investment.

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Background: Annual screening for chlamydia and gonorrhea is recommended for all sexually active adults with HIV but prevalence varies by gender, age and risk behavior.

Methods: We calculated annual testing and positivity rates during 2007-2016 for chlamydia (CT) and gonorrhea (GC) among women engaged in HIV care in 8 US cities as part of the Centers for AIDS Research (CFAR) Clinical Networks and Integrated Clinical Services (CNICS) longitudinal cohort. Demographics were based on most recent year in care and validated surveys were used to assess risk behaviors in the past 3-6 months (AUDIT-C and ASSIST). Analysis was performed using SAS v. 9.4.

Results: We collected information from 5,084 women and 158,745 HIV primary care and women’s health visits during the study period. The median age was 47 years (IQR 39-55), 62.1% were Black, 70% had CD4 count >350 and 73.6% had HIV viral load <500 copies/mL. In terms of risk, 60.6% were sexually active, (85.5% of whom reported monogamy), 13.1% had problems alcohol use, and 11.6% had active drug use. Nearly all (98.5%) of 23,492 chlamydia tests and 95.7% of 33,324 gonorrhea tests used nucleic acid amplification assays. Samples were mostly from urogenital sites (86.6%), 6.6% were extragenital and 6.8% were “other”. During most recent year in care, 42.7% of women were tested for CT/GC and 3.6% (69/2010) were positive. Annual positivity rates over the study period ranged from 1.5-3.2% for chlamydia and 0.9-1.5% for gonorrhea. Prevalence was inversely related with age: CT/GC positivity in 2016 was 16%/3.9% among women age 18-24 compared to 1.1%/0.7% in women age >50.

Conclusion: Women living with HIV in the United States comprise a heterogeneous but aging cohort. Mirroring national data, women age 18-29 had the highest rates of gonorrhea and chlamydia. Targeted screening for chlamydia and gonorrhea in women with HIV based on age and risk is warranted.

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Background: The number of adults in care at 3 HIV Research Network sites

Results: From May 2013 to December 2017, 1,289 users requested 1,523 kits. Over half (52%; n=785) were returned with an 8% CT (n=62) and 1% GC (n=8) positivity. Most users were 20-25 years of age (77%) and white (39%), Hispanic (20%) or black (16%). Thirteen percent of kits were mailed to women in high-morbidity CT/GC census tracts. Infrastructure investment was $67,000 per county. Overall cost per positive was $384, but ranged from $257 to $1,019 by county. Counties dedicated approximately 0.1 FTE (3-5 hours/week) to maintain program activities.

Conclusion: We included all adults in care at 3 HIV Research Network sites.
6B – NATIONAL VIEW OF ADOLESCENT BEHAVIORS: INQUIRING MINDS WANT TO KNOW

6B1 SELF-REPORTED COGNITIVE DIFFICULTIES ARE ASSOCIATED WITH HIV/STD RISK BEHAVIORS AMONG U.S. HIGH SCHOOL STUDENTS — UNITED STATES, 2015

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Background: Trichomonas vaginalis (T. vaginalis) is highly prevalent among women worldwide and is associated with reproductive morbidity, poor birth outcomes, and HIV transmission. Single-dose metronidazole therapy has been the treatment of choice for over three decades, yet there is mounting evidence of high treatment failure/reinfection rates following this regimen. The purpose of this RCT was to examine the effectiveness of single-dose metronidazole compared to multi-dose metronidazole for the treatment of T. vaginalis among HIV negative women.

Methods: A randomized, parallel, multi-site, open-label clinical trial was conducted at four sexually transmitted disease clinics in New Orleans, Louisiana; Birmingham, Alabama; and Jackson, Mississippi. Non-pregnant women who tested positive for T. vaginalis by two of three test methods [microscopy, culture or nucleic acid amplification assay (NAAT)] were eligible. Women with trichomoniassisms were randomized to receive either 2 g single-dose or multi-dose metronidazole (500 mg twice daily for 7 days) and were retested for T. vaginalis at 4 weeks post-completion of treatment by NAAT and culture. Intent-to-treat analyses were conducted.

Results: Of 623 women included, 69.1% were symptomatic. Women were similar by arm for all factors measured except that those in the single-dose arm were more likely to report a history of T. vaginalis. After adjusting for history of T. vaginalis, among those who were symptomatic at baseline, the multi-dose arm had a lower test-of-cure T. vaginalis rate compared to the single-dose arm (9.8% vs. 21.9%, p=0.001) [R.R. 0.45 (95% C.I. 0.27-0.75)]. There was no difference in TOC rates among those who were asymptomatic (13.0% vs 12.6%, p=0.94) [RR 1.03 (95% C.I. 0.46-2.29)]. Follow up rates and adherence were high (99.4%, respectively) and side effects were mostly nausea (23%); none of these differed by arm.

Conclusion: Multi-dose metronidazole is more effective than single-dose metronidazole for the treatment of symptomatic trichomoniassisms in HIV-negative women.

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were less educated, unmarried, and low income, were more depressed, smok-
ers, reported a high probability of anal and oral sex, and had older partners.
Males in the high odds group were similar to high odds females, but reported
a higher proportion of illicit drug and excessive alcohol use, but lower propor-
tion of older partners. Odds of STI among Hispanic females seemed to differ
by head of household foreign-born status, and Black males at increased odds
differed from White males in the high risk class by demographics.

Conclusion: We found different co-occuring risks for STIs by gender and
race. Understanding the syndemics of STIs in adolescents and young adults
may provide unique opportunities to develop effective and culturally appro-
priate interventions that target high risk, hard to reach groups.

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6B4
RISKY SEX AND STDs AMONG INJECTION DRUG USERS IN THE
NATIONAL SURVEY OF FAMILY GROWTH (2011-2015):
IMPLICATIONS FOR STD CONTROL
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Background: Scant attention has been given to the potential link between
opioid use and STDs. Using national data, we examine risky sexual behaviors
and STD diagnoses among injection drug users (IDU).

Methods: We compare IDU with non-IDU to examine sexual risk behavior,
forced sex, and STD diagnoses among sexually active males and females aged
15-24 using chi-square analyses within the National Survey of Family Growth (2011-2015). SAS-callable SUDAAN was used to account for the complex sample
design. IDU is defined as ever injecting drugs other than those pre-
scribed for you (during the last year or ever) and/or ever using a needle that
you knew/suspected someone else had already used.

Results: IDU women (unweighted n=142) were more likely than non-IDU
women (unweighted n=8,864) to have sex with an IDU (17.5% vs. 1.0%, p<
0.01) and give/take money or drugs for sex (8.7% vs. 0.6%, p<0.01) in the past
year. IDU women were more likely than non-IDU women to have ever expe-
rienced forced sex (36.1% vs. 19.5%, p<0.01), be diagnosed with chlamydia
(7.9% vs. 1.5%, p<0.01), and gonorrhea (6.6% vs. 0.6%, p<0.05) in the past year,
and syphilis in their lifetime (7.0% vs. 0.4%, p<0.01). IDU men (unweighted
n=181) were more likely than non-IDU men (unweighted n=7,029) to have
sex with an IDU (17.3% vs. 0.9%, p<0.01) and give/take money or drugs for
sex (10.1% vs. 1.4%, p<0.01) in the past year. IDU men were more likely than
non-IDU men to have ever had forced sex (11.2% vs. 4.6%, p<0.01), be di-
agnosed with chlamydia and/or gonorrhea (2.8% vs. 1.0%, p<0.01) in the past
year, and syphilis in their lifetime (3.3% vs. 0.3%, p<0.01).

Conclusion: IDU are at high-risk for acquiring and transmitting STDs; un-
derstanding how to stem STDs among IDU has implications for states on the
front lines of the opioid epidemic.

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6BS
PREVALENCE AND CORRELATES OF HETEROSEXUAL ANAL
AND ORAL SEX IN ADOLESCENTS AND ADULTS IN THE
UNITED STATES, 2011-2015
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Spicknall, PhD, Sevgi Aral, PhD
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Background: HPV-associated oropharyngeal and anal cancers are increasing
in the US, as are many common reportable STDs. Thus, it is important to
understand oral and anal sexual behaviors in the US.

Methods: We combined 2011-2015 data from the National Survey of Family
Growth to examine the prevalence and correlates of heterosexual anal and
oral sex, associated condom use, and the prevalence of multiple heterosexual
anal, oral and vaginal sex partners. The response rate was 70% and there were
10,416 respondents (4,601 women; 4,815 men) ages 15-44 years. Questions
pertaining to oral and anal sex were asked during an audio computer-assisted
self-interview. Variables significant at p<.05 in bivariate analyses were exam-
ined using multivariable logistic regression models.

Results: Overall, approximately one-third of women and men had ever en-
gaged in anal sex including 11% of adolescents. Six and seven percent of
women and men used a condom at last oral sex compared to 20% and 30%
who used a condom at last anal sex, respectively. Having multiple sex partners
in the past year was most common among adolescents, never or formerly mar-
rried persons, and those who had a nonmonogamous partner. Less than 10%
reported multiple anal sex partners in the past year. A substantial minority
had multiple oral or vaginal sex partners; black women and men had highest
reports by race/ethnicity.

Conclusion: Anal and oral sex continue to be common sexual practices
among heterosexuals. Given the low rates of condom use during these behav-
iors, it is important that recommendations for HPV vaccination and sexual
risk assessments are followed. Tailored messaging regarding risk for HPV ac-
quision and other STDs during oral and anal sex may benefit adolescents,
singles, and divorced individuals. Electronic medical records could prompt
providers when a patient has experienced a change in marital or relationship
status triggering different counseling and STD screening needs.

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6C1
INTEGRATING HIV AND SEXUALLY TRANSMITTED DISEASE
(STD) SURVEILLANCE TO DIRECT PARTNER SERVICES AND
IMPROVE HIV CARE ENGAGEMENT IN JACKSON, MISSISSIPPI
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Background: Continuous HIV care engagement is important for achieving
viral suppression. Integrating STD and HIV surveillance data presents an op-
portunity to identify people living with HIV (PLWH) with a newly diagnosed
STD who are not engaged in HIV care.

Methods: From 06/2017-01/2018, we routinely merged Mississippi State
Department of Health (MSDH) HIV and STD surveillance data to identify
PLWH from the Jackson metropolitan area diagnosed with early syphilis, gon-
orhea, or chlamydia in the past 14 days who were HIV-infected and out-of-
care (defined as most recent viral load ≥1000 copies/mL or no viral load/CD4
in the past year). Our algorithm matched HIV and STD surveillance records
on last name, first name, and date of birth. Disease Intervention Specialists
(DIS) contacted out-of-care persons to provide STD partner services and pro-
mote care reengagement. We used HIV surveillance data to determine whether
identified cases achieved viral suppression within 6 months of DIS contact.

Results: Our routine merges of STD and HIV surveillance data identified
211 HIV-positive individuals with a new STD; 55 (26%) were identified as
out-of-care. Forty-nine (89%) had a most recent viral load ≥1000 copies/mL and
6 (11%) had no viral load/CD4 in the past year. Thirty-six (65%) cases
were assigned to DIS for investigation, 4 investigations are open, 18 (50%)
and 6 (11%) had no viral load/CD4 in the past year. Thirty-six (65%) cases
were identified cases achieved viral suppression within 6 months of DIS contact.

Conclusion: Over one-quarter of PLWH with a new STD in Jackson, MS
were identified as being out-of-care by surveillance though half of those in-
vestigated were later determined to need no DIS intervention. Integrating
STD and HIV surveillance data may be a promising method to prioritize
surveillance-based Data-to-Care investigations to identify and relink out-of-
care PLWH.

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6C2
REFRAMING THE VALUE OF SYPHILIS PARTNER SERVICES -
SAN FRANCISCO 2017
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Background: Partner services (PS) is a long-standing public health control
strategy for syphilis. Given high HIV/syphilis co-infection rates and increased
risk of HIV acquisition in patients with syphilis, the value of PS
should be reconsidered.

Methods: We identified San Francisco early syphilis cases assigned for PS
interview from April-September 2017. Traditional syphilis PS outcomes were
calculated. Partner HIV status was determined using field investigation dis-

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ORAL SESSIONS, SYMPOSIA

positions or available test data. Last viral load date in HIV surveillance was used to assess care status. PrEP knowledge and current use were assessed for HIV-negatives.

Results: Of 384 early cases, 81% (n=310) were interviewed, 41% (n=156) named ≥1 partner, and 27% (n=105) had ≥1 treated partner. Of 345 named partners (CI: 1.3), 65% were epi-treated (n=154), brought-to-treat (n=25), or previously treated (n=44). Of 147 HIV-positive syphilis cases, 83% (n=122) were interviewed and 38% (n=57) named ≥1 partner. Of 94 named partners receiving HIV follow-up (CI: 0.77), 53% (n=50) were known HIV-positives, 22% (n=21) were not located or tested, and 24% (n=23) tested HIV-negative, with 87% having heard of PrEP and 70% currently using PrEP. 93% of HIV-positive partners in eHARS had viral load within 12 months. Of 237 HIV-negative/unknown syphilis cases, 79% (n=188) were interviewed, 62% (n=99) named ≥1 partner, and 43% (n=102) were currently using PrEP. Of 189 named partners (CI: 0.85), 26% (n=50) were HIV-positive, 59% (n=112) were HIV-negative, and 14% (n=27) had unknown status. While 63% of 100 notified HIV-negative partners knew of PrEP, only 38% currently used it.

Conclusion: Most named partners received syphilis treatment; however, less than half of cases yielded partners. No new HIV-positives were identified; 30% of HIV-negative partners to HIV-positive cases were not on PrEP. Syphilis PS offers opportunity for PrEP counseling and re-engagement in HIV care; more data on PS PrEP referral outcomes is needed.

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6C3 GONORRHEA AND CHLAMYDIA PARTNER SERVICES FOR HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN (MSM) TO INCREASE HIV TESTING AND CASE-FINDING IN JACKSON, MISSISSIPPI

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Background: Mississippi has among the highest rates of HIV, gonorrhea (GC), and chlamydia (CT) in the United States and men who have sex with men (MSM) are disproportionately affected. Integrating HIV testing into GC/CT partner services (PS) may be an effective method to identify MSM with undiagnosed HIV.

Methods: Mississippi State Department of Health (MSDH) routinely provides GC/CT PS to HIV-negative individuals. In July 2016, MSDH began offering PS to HIV-negative MSM (i.e., index cases) diagnosed with GC, CT, or urethritis at the municipal STD clinic in Jackson, MS. Disease Intervention Specialists (DIS) contacted partners of GC/CT/urethritis cases to conduct interviews and HIV/STD testing.

Results: From July 2016 to December 2017, there were 280 MSM diagnosed with GC, CT, or urethritis at the STD clinic; 207 (74%) were not HIV-positives. Among these 207 MSM, 50 (24%) were diagnosed with non-gonococcal non-chlamydial urethritis and no follow-up was initiated. Of 157 index cases diagnosed with GC (47%), CT (28%) or GC and CT (25%), DIS initiated PS for 103 (66%) and interviewed 72 (70%) of 103. Interviewed MSM named 43 partners, of whom 30 (70%) were successfully contacted. Among contacted partners, 33% had previously diagnosed HIV, 3 (10%) refused HIV testing or were out-of-jurisdiction, 2 (7%) were not tested for unknown reasons, 17 (57%) tested negative for HIV, and 1 (3%) tested newly HIV positive. Eighty partners were tested for STDs; 39%, 44%, and 11% tested positive for GC, CT, and syphilis, respectively.

Conclusion: GC/CT PS among HIV-negative MSM identified persons with a high prevalence of bacterial STDs, but was relatively ineffective in identifying persons with undiagnosed HIV. The need for DIS investigations of HIV-negative MSM with GC/CT depends largely on the value placed on PS as an STD case-finding tool, and their as yet undefined effectiveness in linking MSM to HIV pre-exposure prophylaxis.

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6C4 DISEASE INTERVENTION SPECIALISTS’ ROLE IN INCREASING AWARENESS OF RESISTANT NEISSERIA GONORRHOEAE - STRENGTHENING THE U.S. RESPONSE TO RESISTANCE GONORRHEA IN DENVER, COLORADO, APRIL-DECEMBER 2017

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Background: Cases of Neisseria gonorrhoeae (Ng) are increasing annually and resistant Ng is becoming a greater concern. Preliminary 2017 data indicate Colorado (CO) had over 8000 cases of Ng; however, routine Ng partner notification services delivered by Disease Intervention Specialists (DIS) was limited. CDC’s Strengthening the U.S. Response to Resistant Gonorrhea (SURRG) study recommends focusing DIS services to enhance primary and secondary prevention service delivery.

Methods: Individuals with resistant Ng isolates and their partners received SURRG specific DIS follow up. The number of individuals interviewed, notified of exposure, brought to testing or treatment, provided with STI and HIV education, and linked to care are presented.

Results: Denver SURRG identified 6 individuals with resistant Ng isolates. DIS interviewed 65 (94.2%) and elicited 127 contacts (2.0 contact index). Of the 127 partners, 107 (84.3%) were notified of exposure and 100 (78.7%) were brought to exam. Of the 100 brought to exam, 13 13.0% tested positive for Ng. Additionally, 86 (67.7%) of the 127 partners were interviewed by DIS which identified another 104 secondary partners (1.2 contact index). Of the 104 secondary partners, 96 (92.3%) were notified of possible exposure and 88 (84.6%) were brought to exam. Three of the 88 tested (3.4%) were positive for Ng. Of the 16 additional cases of Ng identified, 4 (25.0%) had resistant Ng isolates.

Conclusion: Significant increases in CO Ng cases challenge current prevention methodologies. From April to December 2017, SURRG specific DIS follow up with individuals identified with resistant Ng isolates and their partners, highlights the importance of prevention service delivery. Nearly 300 individuals received primary or secondary prevention services such as notification of exposure, testing, treatment, and risk reduction education. Specifically, SURRG DIS are responding to the emerging public health threat of resistant Ng and increasing prevention service delivery for at risk individuals.

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support diagnosis and referral of co-infected patients and intervention with those at risk of co-infection.

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6D – MEASURING NEW INTERVENTIONS AND THEIR IMPACT ON STD MORBIDITY
(SYMPOSIUM)
CONSIDERATIONS FOR PrEP COST-EFFECTIVENESS IN STD CLINICS
Thomas Giffi, PhD
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MEASURING THE IMPACT OF SCREENING GUIDELINES ON STDS IN MSM
Kevin Weiss, MPH
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SMARTPHONE APP TO REDUCE TIME TO NOTIFICATION OF STIS
Adam Cohen, PhD, MPH
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THRIVE: EXPANDING STD SCREENING TO REVERSE THE HIV EPIDEMIC
Ashley Carter, MPH
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The landscape of sexually transmitted infections has changed significantly in recent years. Some of the observed changes are driven by the overlap of HIV infection and other sexually transmitted infections. Pre-exposure prophylaxis (PrEP) to prevent HIV infection is a critical intervention for reducing HIV infection. MSM, the largest group of men for whom PrEP is provided, are at increased risk for STI. Providing PrEP gives an opportunity for screen for STI and STI clinics are an important source for PrEP. In STI clinics and elsewhere, notification of STIs may be enhanced by using mobile phone apps. Taken together, these interventions have significant potential to reduce STI.

6E – INNOVATIONS IN STD PREVENTION PROGRAMS
(SYMPOSIUM)
IDENTIFYING AND LOCATING STI CLIENTS WITH A SMARTPHONE
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STI/HIV PUBLIC HEALTH DETAILING: EXPANDING OUR REACH AND ENGAGING TOGETHER WITH COMMUNITY PROVIDERS
Jacky Jennings, PhD, MPH
Johns Hopkins University School of Medicine, MD, USA

LOVE IN THE TIME OF GONORRHEA: REVAMPING STI PROGRAMS IN A MODERN ERA
Travis Gayles, MD
Montgomery County Department of Health and Human Services, DC, USA

INCORPORATING NEGATIVE STD TEST RESULTS INTO AN ELECTRONIC LAB REPORTING SYSTEM: HOW CASE MANAGEMENT AND SURVEILLANCE BENEFITS
Scott White, MS, MPH
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Speakers will describe innovative projects to improve STD prevention and care, including the incorporation of geospatial networking applications into partner services, provider detailing, revamping STI clinics to better serve patients and address public health priorities, and expanding surveillance to include negative test results. Speakers will describe the rationale underlying each intervention, their experience implementing and evaluating the intervention, and how their experience can inform public health programs in other geographic areas. Session attendees should come away with new ideas and practical resources for implementing program innovations to their own work settings.
POS 1 - T
CONVERTING PAPER BASED GONORRHEA TREATMENT GUIDELINES TO A STANDARD ELECTRONIC FORMAT FOR USE IN ELECTRONIC HEALTH RECORD (EHR) SYSTEMS AND MOBILE DEVICES

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The Task Force for Global Health, GA, USA; Apeeriva, IL, USA

Background: Clinical decision support (CDS) refers to the use of health information technology (IT) to encourage health care providers’ adherence to clinical guidelines. Clinical guidelines can include recommended treatment regimens for health conditions of public health concern. The Division of STD Prevention at the Centers for Disease Control and Prevention (CDC) has partnered with the Public Health Informatics Institute (PHII) and Aperiva to convert gonorrhea treatment recommendations into a CDS format that can be accessible by external electronic health record (EHR) systems used by health care providers. The objective is to improve gonorrhea treatment and patient outcomes.

Methods: Gonorrhea treatment guidelines from CDC were reviewed by project team members and abstracted into a logic flow diagram describing treatment pathways based on patient presentations. The resulting model was reviewed and validated by subject matter experts before serving as the basis for a CDS prototype designed for use by various EHR systems.

Results: A functional CDS prototype demonstrated appropriate delivery of gonorrhea treatment recommendations for patient presentations reflecting differences in infection site, treatment allergies, and pregnancy status. The CDS prototype utilized health IT industry standards that enabled the tool to be embedded in a commercial EHR product or accessed as a web-based application.

Conclusion: We used Health IT standards of today (Clinical Quality Language or CQL) to accomplish delivery of gonorrhea treatment guidelines through interoperable CDS. An authoritative CDS service accessed and utilized by different EHR systems should help ensure patient care that is consistent with current treatment guidelines. Modifications to traditional treatment guidelines, intended for human readers, should be considered to facilitate translation to CDS artifacts intended for EHR systems. Future work includes testing the CDS service with clinical environments and integration with tools such as mobile devices for gonorrhea case detection and public health surveillance.

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POS 2 - T
PREVENTIVE TREATMENT FOR GONORRHEA AND CHLAMYDIA AMONG PUBLIC HEALTH DEPARTMENT SEXUALLY TRANSMITTED INFECTION (STI) CLINICS IN VIRGINIA, 2016

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Background: Presumptive antibiotic treatment is common for suspected chlamydia (CT) and gonorrhea (GC) infections prior to laboratory confirmation; however, the consequences of this practice in public sexually transmitted infection (STI) clinics are seldom assessed. Our purpose was to determine the prevalence of presumptive treatment for CT/GC among health department (HD) STI clinics in Virginia.

Methods: We performed a retrospective analysis of data from 57,245 patient visits to 114 HD STI clinics in Virginia in 2016. Information on procedures and treatments for each visit were extracted from a financial management data system and merged with electronic laboratory reporting data. We calculated sensitivity and specificity measures for empiric treatment of CT/GC among STI clinic patients using the reference standard of laboratory test results, as well as the frequency and odds of such treatment by both patient and clinic characteristics.

Results: Of 38,654 patient visits with valid laboratory results, 17% had a positive CT and/or GC test result. Overall, 58% (95% CI, 47.2-59.3%) of infected persons were treated presumptively (sensitivity), and 85% (95% CI, 84.4-85.2%) of persons with negative tests were not treated presumptively (specificity). Among the 7,777 patients presumptively treated, 48% had positive test results (PPV). Presumptive treatment was more common among infected males than infected females (66% vs. 34%, adjusted OR 3.70, 95% CI 3.31-4.12), with smaller variations observed across age, race/ethnicity, and diagnostic categories. For the 3,074 infected patients not presumptively treated, 60% received appropriate treatment within 14 days, and 70% within 30 days.

Conclusion: Although presumptive treatment for CT/GC in STI clinic settings resulted in some over-treatment, it may be warranted as untreated patients may not return quickly, or at all, for follow-up treatment, possibly resulting in further transmission of infection. However, others have shown a potential for less frequent partner treatment after presumptive treatment which requires further study.

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POS 3 - T
EVALUATING THE OPTIMAL PLACEMENT OF THE NOVEL ANTIMICROBIAL GEPOTIDACIN IN THE TREATMENT PARADIGM FOR UNCOMPPLICATED GENITOURINARY GONORRHEA

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Background: Increasing antibiotic resistance is limiting treatment options for uncomplicated gonorrhea. The causal agent of gonorrhea, Neisseria gonorrhoeae, has developed resistance (exceeding 5%) to almost all currently available antimicrobials. There is an urgent need for novel treatments, deployed in a way that minimises the risk of future resistance development. Gepotidacin is a novel antimicrobial with in vitro and in vivo activity against N. gonorrhoeae.

Methods: Stochastic compartmental simulation models were developed to evaluate the risk of resistance to gepotidacin exceeding a prevalence of 5% over a 5-year time period under multiple treatment scenarios, beginning with no initial resistance. Sequential treatment rounds were simulated with different antimicrobials in case of treatment failure. The effect of a molecular point-of-care test (POCT) reporting genetic resistance markers was also investigated. The risk of resistance emergence was assessed depending on POCT uptake, sensitivity and specificity.

Results: In the scenario considered, the risk of resistance development to gepotidacin can be minimised if gepotidacin is used as a first-line treatment. Simulations in which gepotidacin was given first had at least 50% lower resistance development than those where ciprofloxacin was given first and gepotidacin was kept for first-line treatment failures. A POCT that detects resistance mutations can reduce the risk of resistance; however, test uptake needs to be high (50% to halve the risk). A hypothetical POCT would be less effective with higher resistance mutation rates and in populations with a high initial prevalence of resistance mutations. The sensitivity and specificity of the POCT do not greatly affect the risk of resistance, as long as they are above 80%.

Conclusion: Introduction of gepotidacin as part of a first-line treatment regimen could potentially minimise the risk of emerging resistance in gonorrhea. Sufficient uptake of a POCT that detects gonorrhea resistance mutations could further limit the spread of resistance.

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POS 4 - T
TREATMENT OF GONORRHEA WITH GENTAMICIN IN NEW YORK CITY HEALTH DEPARTMENT’S SEXUAL HEALTH CLINICS, 2015-2017

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Background: CDC recommends that patients with suspected gonorrhea (GC) treatment failure or patients who report beta-lactam allergy receive gentamicin plus azithromycin. The aim of this analysis is to evaluate gentamicin usage among patients based on CDC guidelines at New York City Sexual Health Clinics (NYC SHC).

Methods: NYC SHC introduced gentamicin in September 2015 after conducting a clinician training on indications and use, including advising patients treated with gentamicin for oropharyngeal GC to return for a 2 week test-of-cure. Electronic medical record data were used to identify patients who had received gentamicin and examine their demographics, medication allergies, GC test results, medication history, and GC follow-up testing from September 2015 through August 2017.

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Results: A total of 352 unique patients received gentamicin. Half of patients had lab-confirmed GC (50%, 175/352), 22% (77/352) received presumptive treatment, and 28% (100/352) were contacts to GC cases. Only six patients received gentamicin for suspected GC treatment failure. Among the other 346 patients, only 59% (208/346) had a history suggestive of true IgE-mediated beta-lactam allergy. Of note, 9% (32/346) of the patients reporting allergy had received ceftriaxone on previous and/or subsequent visits within any documented allergic reaction. Providers gave correctly dosed gentamicin and azithromycin to 73% (257/352) of patients. Forty-nine (14%) patients had tested positive for oropharyngeal GC and of those, 16 (33%) returned for a test-of-cure with a median return time of 16 days (range 9-65 days). Twelve of 45 women and transmen patients had possible missed menstrual periods at the time they were treated with gentamicin, and of those, 5 did not have pregnancy tests before receiving gentamicin. (Pregnancy Cautery C).

Conclusion: Gentamicin in NYC SHC is over utilized as an alternative GC treatment in patients with self-reported beta-lactam allergy. Additional clinician education surrounding appropriate usage of gentamicin is needed to adhere to current CDC guidelines.

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POS 6 - T
WHOLE GENOME SEQUENCING AND SEQUENCE TYPING OF 15 NEISSERIA GONORRHOEAE ISOLATES FROM A PHASE 2 GONORRHOEA STUDY EVALUATING THE NOVEL ANTIBACTERIAL AGENT GEPOTIDACIN
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Background: Due to increasing resistance in Neisseria gonorrhoeae, new and effective options for the treatment of gonorrhea are needed. Gepotidacin, a novel triazacacenaphthylene antibacterial targeting bacterial type II topoisomerases, was evaluated in BTZ116576, a Phase 2 clinical study in subjects with uncomplicated gonorrhea. In BTZ116576, microbiological cure was achieved in 67.4% (90/134) of urogenital infections. N. gonorrhoeae isolates from 2 subjects developed resistance to gepotidacin between the baseline and test of cure (TOC) visit.

Methods: To identify clonality and possible genetic markers predictive of gepotidacin failure and/or elevated MIC values, whole genome sequencing was completed on 15 isolates from BTZ116576, including all baseline and TOC isolates from failures, and a sampling of isolates from subjects that achieved microbiological success. Genomes were sequenced using Illumina HiSeq Sequencing, and PaBio as a scaffold to Illumina Sequencing. Sequencing data was evaluated using three N. gonorrhoeae bioinformatics tools: Multi-Locus Sequence Typing (MLST), N. gonorrhoeae Multi-Antigen Sequence Typing (NG-MAST) and N. gonorrhoeae Sequence Typing for antimicrobial resistance (NG-STAR).

Results: No individual sequence typing method or combination of methods was able to predict failure or resistance development to gepotidacin. With the exception of the 2 TOC isolates with elevated MICs to gepotidacin (due to an additional mutation in GyrA), baseline and TOC isolates from the same subject had the same MLST, NG-MAST and NG-STAR sequence type.

Conclusion: Sequence typing demonstrated that baseline isolates from microbiological failures in the BTZ116576 were the same as TOC isolates, thereby failure was unlikely caused by re-infection with a different strain. Of the isolates studied, no one sequence typing method or combination of any of the systems was able to predict failure or resistance to gepotidacin. Further study of gepotidacin, in the treatment of gonorrhea is warranted.

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POS 7 - T
SEEING RESULTS: USING CHEXOUT ELECTRONIC MESSAGING TO FACILITATE GONORRHEA AND CHLAMYDIA RESULT, TREATMENT, AND PARTNER NOTIFICATION
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Background: Chexout, a software that notifies patients of available test results using electronic messages (email or text), is being piloted in sexually transmitted disease (STD) clinics in Durham, North Carolina and Shreveport and New Orleans, Louisiana. We developed additional messages to be communicated electronically to patients with positive gonorrhea (GC) or chlamydia (CT) results to improve time to treatment and partner notification.

Methods: Local staff worked with Chexout programmers to modify the patient portal to include web links with information about GC/CT, partner notification, and local STD testing and treatment resources for infected patients. We calculated the time from testing to treatment for GC/CT patients in the Durham (3/1-6/30/2017) and Shreveport/New Orleans clinics (7/1/2016-12/31/2016).

Results: Before Chexout implementation, 86% of Durham GC/CT patients and 75% of Shreveport/New Orleans GC/CT patients were treated. The mean time from testing to treatment varied (Durham: 3 days (range 0-50); Shreveport/New Orleans: 21 days (range 0-78)). Therefore, we modified the Chexout portal to include web links with information about GC/CT, partner notification, and local STD testing and treatment resources for infected patients. We generated electronic reminders for infected patients to notify sex partners of their exposure (sent 3 days after treatment) and to rescreen for GC/CT (sent 3 months after treatment). We developed a unique “code” in the portal for patients to give partners to facilitate prioritized STD clinic services and link patients and their partners in Chexout. For patients who prefer their partners be notified by health department staff, we created a secure form within the portal for patients to enter locating information for partners.

Conclusion: Electronic messaging is a novel method of communicating with STD clinics that maximizes limited staff resources. Chexout has other potential uses for STD prevention; its impact on clinic services is important to assess after implementation.

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POS 8 - T
ANTIMICROBIAL SUSCEPTIBILITY TESTING: THE UTILITY OF ETEST® TO COMBAT THE THREAT OF ANTIBIOTIC-RESISTANT NEISSERIA GONORRHOEAE.
Background: Agar dilution (AD) is the gold standard antimicrobial susceptibility testing (AST) method for Neisseria gonorrhoeae. This laborious method is not suitable for most public health and clinical labs. A less onerous and more flexible AST method, the Etest, has become a promising alternative for N. gonorrhoeae. To help inform programmatic use of Etest, we compared results of Etest and AD AST from a diverse sample of gonococcal isolates collected in the US and tested at multiple labs in 2017.

Methods: Genital and extra-genital N. gonorrhoeae isolates are collected as part of Strengthening U.S. Response to Resistant Gonorrhea (SURRG); participating jurisdictions (n=9) performed azithromycin (AZM), ceftriaxone (CRO), and cefixime (CFX) Etests on gonococcal isolates. Isolates are sent to an Antibiotic Resistance Laboratory Network. AR Lab Network reference lab for AD. Isolates with elevated minimum inhibitory concentrations (MICs) ≥ 2.0, ≥ 0.125, and ≥ 0.25 μg/ml to AZM, CRO, and CFX, respectively, are considered “alert” isolates by the Centers for Disease Control and Prevention (CDC) and were included in this analysis. Concordance was assessed by categorical and MICs log, differences comparison.

Results: One hundred and ninety seven N. gonorrhoeae isolates were identified as alert by either method. Using categorical comparison, the concordances are 96%, 95%, and 92% for CRO, CFX, and AZM, respectively. Likewise, log, analysis indicates 95%, 92%, and 96% of the isolates have MICs of ±1 log, differences for CRO, CFX, and AZM respectively.

Conclusion: Our comparison of Etest and AD AST showed high levels of concordance, with the vast majority of specimens being within 1 doubling-dilution of each other. We hope to include non-alert data, when available, in future analyses. The data suggest that Etest can be a useful AST tool in combating the urgent threat of antibiotic-resistant N. gonorrhoeae in the US.

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POS 9 - T
DEVELOPING TARGETED CULTURE CRITERIA TO MAXIMIZE THE ISOLATION OF NEISSERIA GONORRHOEAES AT A SEXUAL HEALTH CLINIC IN NEW YORK CITY, 2015-2017
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Background: Using Neisseria gonorrhoeae (GC) culture to detect, and rapidly respond to, cases of GC with reduced susceptibility is crucial to slow the spread of antimicrobial resistance. The New York City STD program participates in the Strengthening the United States Response to Resistant Gonorrhea (SURRG) project, and sought to maximize the isolation of GC without increasing the number of cultures performed. We examined positivity among nucleic acid amplification tests (NAAT) performed in 2015 at a Sexual Health Clinic that participates in multiple, targeted culture collection activities, including GISP (Gonococcal Isolate Surveillance Project): culture positivity was 9.4% (192/2,050).

Methods: We measured anatomic site-specific GC NAAT positivity rates for: a) patients tested at all anatomic sites of reported sexual exposure, and b) asymptomatic, presumptively treated patients tested at the anatomic site indicating need for treatment. We used these data to inform culture criteria for 2017 SURRG activities, and report positivity results.

Results: In 2015, GC NAAT testing (available for anorectal and urogenital sites) yielded an overall positivity of 5.2% (376/7,190); anorectal, 8.4% (82/978); urethral/urine, 6.3% (249/3,930); endocervical/urine, 1.9% (45/2,382). Among those patients presumptively treated, GC NAAT overall positivity was 24.1% (222/922); anorectal, 16.9% (23/136); urethral/urine, 27.9% (197/704); endocervical/urine, 2.4% (2/82). Based on these data, in 2016, GC NAAT testing (available for anorectal and urogenital sites) yielded an overall positivity of 5.2% (376/7,190); anorectal, 8.4% (82/978); urethral/urine, 6.3% (249/3,930); endocervical/urine, 1.9% (45/2,382). Among those patients presumptively treated, GC NAAT overall positivity was 24.1% (222/922); anorectal, 16.9% (23/136); urethral/urine, 27.9% (197/704); endocervical/urine, 2.4% (2/82). Based on these data, in 2016, GC NAAT testing (available for anorectal and urogenital sites) yielded an overall positivity of 5.2% (376/7,190); anorectal, 8.4% (82/978); urethral/urine, 6.3% (249/3,930); endocervical/urine, 1.9% (45/2,382). Among those patients presumptively treated, GC NAAT overall positivity was 24.1% (222/922); anorectal, 16.9% (23/136); urethral/urine, 27.9% (197/704); endocervical/urine, 2.4% (2/82).

Conclusion: Likewise, log, analysis indicates 95%, 92%, and 96% of the isolates have MICs of ±1 log, differences for CRO, CFX, and AZM respectively.

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POS 10 - T
A DESCRIPTIVE COMPARISON OF COSTS AND CHANGES IN HEALTHCARE EFFECTIVENESS DATA AND INFORMATION SET (HEDIS) RATES OF CHLAMYDIA SCREENING BY PRIVATE PROVIDERS RECEIVING PUBLIC HEALTH DETAILED IN PENNSYLVANIA, 2016-2017
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Background: In 2016, 85% of reported cases of chlamydia in Pennsylvania were patients screened in a private practice setting. The Pennsylvania Department of Health (PADOH) used public health detailing to deliver educational messages to private practice physicians in order to improve screening rates.

Methods: Private practices (N=15) received detailing through one of two phases: Phase I, in-person presentations conducted by PADOH staff (n=4); or Phase II, integration of detailing into the ongoing activities of health plan quality assurance account managers (n=11). Staff time and implementation costs were collected for each modality. Practice level HEDIS screening rates were compared pre-intervention (2016) and post-intervention (2017) for all 15 sites.

Results: Implementation occurred June 2016 through December 2017. Overall PADOH material development costs included: $11,683 for staff salary (183 staff hours) and $4,804 for physical material procurement. Implementation is associated with an average of 4.6 and 0.5 staff time hours per visit, $335 and $32 program costs per visit, and a 5.3% and 4.6% increase in screening rates, for Phase I and II, respectively.

Conclusion: In Phase I, PADOH had extensive control over detailing content and delivery. Nevertheless visits were time and resource intensive and not sustainable at the determined staffing levels. Phase II was less time and resource intensive. However, PADOH had less control over consistency, frequency, targeting, and delivery of implementation. Utilizing lessons learned in Phases I and II, PADOH is conducting Phase III integration of detailing by melding positive aspects of the previous phases and using internal PADOH Disease Intervention Specialists to integrate detailing into routine communications with a breadth of providers that spans the entire Commonwealth. It is anticipated that this will blend the assurance of high quality delivery of messages and information from Phase I with the cost savings of Phase II.

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POS 11 - T
CAN TEXTING GET PATIENTS TO TREATMENT FASTER THAN DIS?
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Background: Disease Intervention Specialists (DIS) have had their roll expanded over the years to include more tasks which require their workload to be explored. Chlamydia and Gonorrhea treatment verification for most programs are no longer assigned for DIS follow-up. The Philadelphia Department of Public Health (PDPH) explored using text/email messaging to notify patients with positive test results from a Community Based Organization prior to DIS assignment.

Methods: Patients with positive Chlamydia or Gonorrhea test results were held from DIS assignment for 7 days from texting to allow for the patient to come into the STD Clinic for treatment after receiving a text/email message prompting them to call PDPH. Two groups were created: “pre-texting” which were investigation assigned directly to DIS for treatment verification and “post-texting” which were investigations held for 7 days post texting prior to DIS assignment. Outcomes of interest include: 1) # of patients requiring DIS assignment 2) # of investigations achieving a “Brought to Treatment” disposition and 3) the time between specimen collection date and treatment date.

Results: Between July 2017-January 2018, 353 investigations were initiated with 20% ineligible for DIS assignment given the patient having an address outside Philadelphia. Of the 282 remaining investigations, 71 % (116/163)}
of pre-texting investigations were assigned to DIS for treatment verification and 91% (149/163) had documented treatment. Post-texting investigations saw only 37% (44/119) requiring DIS assignment and 92% (110/119) had documented treatment. Pre-texting had a lower mean days to treatment (11.7 days, 95% CL 10.5 -12.9 days) compared to post-texting (14.0 days, 95% CL 12.5 -15.5 days).

Conclusion: While testing is able to save a significant amount of investigations being assigned to DIS, the time to treatment is better when given to DIS. Further work is needed to identify areas between specimen collection and treatment that could be improved.

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POS 12 - T
KEEPING UP WITH THE TIMES: THE PHILADELPHIA HIGH SCHOOL SCREENING PROGRAM (HSSP)
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Background: The Philadelphia HSSP, in collaboration with the Philadelphia School District, has been providing a brief presentation on Chlamydia and Gonorrhea and offering voluntary, free testing since the 2002-2003 school year to over 30,000 students per year. Since the inception of the program, we have changed the method of the presentation, the way students receive results, and how we conduct re-screening in order to keep with the times.

Methods: For the 2017-2018 school year, we changed the educational video from DJs, whom were no longer recognizable to our students, to using peer actors and a reality show type theme in the updated format of the presentation to appeal to the students. In addition, during the 2016-2017 school years, students have the option to receive notification of when their test results are ready via text or email. Finally, instead of assigning one DIS dedicated to rescreening students 3 months after treatment, we began offering the opportunity to request an email reminding them to rescreen.

Results: Preliminary results show that, when controlling for schools, 8% more students are testing during the 2017-2018 school year compared to the previous year (5,132 tests compared to 4,743 tests). In addition, of the 200 students eligible for rescreening, 70 (35%) have elected to receive an email in 3 months. Finally, previous years’ data showed that approximately 35% of students called for test results. Since implementing texting/email, approximately 31% of students are viewing their results via our patient portal.

Conclusion: Staying current with technology and social media trends, as well as ensuring materials are not dated, has helped the HSSP maintain, and even increase, the number of students testing each year while reducing the burden on staff.

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POS 13 - T
ENHANCING GONORRHEA SURVEILLANCE USING AN INTEGRATED EMR
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Background: Denver Health and Hospital Association (DHHA) diagnoses approximately 50% of all Gonorrhea cases within the City and County of Denver. Local surveillance efforts have often been limited due to information silos within each clinical location program area, instead relying on state case reporting for local surveillance needs. Such information however is often limited and incomplete, causing delays in analysis and knowledge of evolving trends. In April of 2016, DEHA moved to an integrated Electronic Medical Record (EMR) system to support the broad use of electronic health information across all clinical program areas. We sought to better understand how this shared infrastructure could enhance Gonorrhea surveillance within the organization.

Methods: Gonorrhea cases diagnosed within DHHA from 2017 were examined to compare information reported from traditional state reporting methods to information gained utilizing our integrated EMR. Data was assessed to determine if an integrated EMR would efficiently support local GC surveillance, allowing us complete case information.

Results: Of the 2,807 Gonorrhea cases diagnosed within the City and County of Denver, 1,331 (48%) were reported from DHHA. Traditional reporting methods indicated 432 DHHA cases (47%) lacked race and ethnicity information. 177 (13%) were flagged as HIV positive and 49 (4%) were men who have sex with men (MSM). Data analysis utilizing our integrated EMR found no missing race and ethnicity. In addition, 61 cases (4.6%) were HIV positive, and 266 (20%) were men who have sex with men (MSM).

Conclusion: The use of an integrated EMR presents opportunities to advance public health surveillance by improving local capacity to detect, monitor, and respond rapidly to changing trends in Gonorrhea. Such surveillance efforts also allow a clearer picture of the connections between changes in risk factors and early detection behaviors and disease outcomes, helping us to recognize multiple causal levels of morbidity.

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POS 14 - T
PERCEPTIONS OF AND WILLINGNESS TO USE CHLAMYDIA AND GONORRHEA SELF-TESTING KITS
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Background: There are many FDA-approved self-tests currently available in the US, including chlamydia and HIV tests. However, there are no FDA-approved self-tests for sexually transmitted diseases (STDs) available. In these analyses, we examined the willingness of potential patients and providers to use a self-test for chlamydia (CT) and gonorrhea (GC).

Methods: Data were collected from three different surveys conducted in 2017, including the American Men’s Internet Survey, a web-based survey of men who have sex with men (MSM, n=7,929) conducted by Emory University, the SummerStyles (young adults 18-29 years old, n=590) and DocStyles (those who providers also surveyed) conducted by Porter-Novelli. With these surveys, we determined respondents’ willingness to use a STD self-testing kit, and perceptions about the kit. Responses were tabulated and stratified by respondent characteristics.

Results: Among MSM, 92% said they would be willing to pay at least $10 for a STD self-test, and 80% preferred to use such a test at home. Among 18-29 year olds, nearly two-thirds (64.5%) were willing to pay at least $10 for the test and over half (54.1%) indicated that they would want to take this type of test at home. Among our sample of primary care providers, 85.1%, were either “likely” or “very likely” to use an FDA-approved self-test in their office to screen for CT or GC, with pediatricians providing the lowest percentages: 27.2% “likely” and 46.4% “very likely”.

Conclusion: Our findings suggest that both patients and providers are interested in using a CT/GC self-test. More convenient delivery of healthcare is one method of achieving improved cost, quality, and access to health services, and CT/GC self-test kits may be a way of achieving these goals in STD care. Further work is needed to determine the best methods for developing and delivering CT/GC self-testing kits to populations most at risk for CT/GC infections.

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POS 15 - T
GONORRHEA INFECTIONS MISSED BY UROGENITAL–ONLY SCREENING BY GENDER IN PUBLICLY FUNDED SITES, WYOMING, 2015–2017
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Background: Gonorrhea (GC) infections continue to increase in the United States, with the highest increase experienced by the West from 2012–2016. Many studies describe extragenital screening among men who have sex with men but few describe extragenital testing and infection among the entire patient population. Publicly funded sites in Wyoming were educated to provide gonorrhea testing to all patients for each indicated anatomical site based on reported sexual practices. We examined extragenital GC testing and infections among patients visiting publicly funded sites.

Methods: Extragenital and urogenital testing was conducted at the Wyoming Public Health Laboratory (WPHL), the only laboratory in Wyoming that tests for GC. Delivering CT/GC self-testing kits may be a way of achieving these goals in STD care. Further work is needed to determine the best methods for developing and delivering CT/GC self-testing kits to populations most at risk for CT/GC infections.

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POSTERS
males, 83.2% (N=4,784) were urogenital; 11.2% (644) were pharyngeal; and 5.6% (321) were rectal. Of these tests, 1.7% were urogenital-positive, 1.6% were pharyngeal-positive, and 4.0% were rectal-positive. More than 82% of extragenital infections among males and 25% among females were associated with a negative urogenital test. Of all gonorrhea infections, 18% among males and 3.3% among females would have been missed with urogenital-only screening.

Conclusion: Our analysis showed that gonorrhea infections among both genders would have gone undetected and untreated if urogenital-only testing was conducted. With the continued increase of gonorrhea cases in the U.S., efforts are needed to improve extragenital screening, including laboratory validation, for all persons reporting unprotected anal or oral sex.

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POS 16 - T
DISSEMINATED GONOCOCCAL INFECTIONS IN NEW YORK CITY, 2000-2017
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Background: No recent studies describe the epidemiology of disseminated gonococcal infections (DGI) in the United States despite an increase in Neisseria gonorrhoeae (GC) cases nationally. In New York City (NYC), gonorrhea rates are ~4 times higher in males than females. We describe the number of DGI cases in NYC.

Methods: We examined data from the following four different sources: 1) the NYC Health Department sexually transmitted infections (STI) surveillance registry (January 2000-October 2017); DGI was defined as laboratory-confirmed GC infection at sterile sites (blood, CSF, joint fluid, and bone); 2) a hospital discharge database (SPARCS) (January 2000-December 2016); DGI was identified using diagnostic codes corresponding to sterile-site GC infection for discharges among NYC residents; 3) the NYC Death Registry; we searched for deaths with GC infection as underlying/contributing cause-of-death; and 4) hospital microbiology laboratories located in neighborhoods with high GC rates; through active surveillance we obtained a list of positive GC cultures from sterile sites for past 10 years. We characterized DGI cases identified in each data source, and calculated the DGI rate/100,000 reported GC cases by summing de-duplicated DGI cases identified across these data sources for 2000-2017.

Results: Twenty-nine DGI cases were identified in STI surveillance data [19 (65.5%) GC isolates from blood, 8 (27.6%) joint, 1 (3.4%) bone, and 1 (3.4%) CSF]; males (55.2%) were predominant. SPARCS revealed 277 cases, 57.4% of which were among men (159/277). Six additional cases were identified through laboratory surveillance (6 DGI cases/95 laboratory-years). Twenty-nine DGI cases were identified in STI surveillance data [19 (65.5%) GC isolates from blood, 8 (27.6%) joint, 1 (3.4%) bone, and 1 (3.4%) CSF]; males (55.2%) were predominant. SPARCS revealed 277 cases, 57.4% of which were among men (159/277). Six additional cases were identified through laboratory surveillance (6 DGI cases/95 laboratory-years). Among these 58 men, 17 (30%) reported new partners and 38 (66%) reported not using a condom during their last sexual encounter. Additionally, 39 (67.2%) were diagnosed with urethritis (26% gonococcal, 19% chlamydial NGU, and 22% non-chlamydial NGU). Finally, for men that had sex following symptom onset prior to clinic presentation, there was a shorter median time interval to their last sexual encounter (4 vs. 7 days, p<0.001).

Conclusion: Significant increases were observed in the percent of males tested for gonorrhea and the prevalence of those with laboratory confirmed infections during 2010-2017. Positivity rates increased more rapidly than testing rates, suggesting that rising gonorrhea rates are the result of both increased testing and increased incidence. Further research is needed to discern whether the increase in testing is due to more screening of asymptomatic patients or because more men are presenting with symptomatic disease.

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POS 17 - T
GONORRHEA TESTING PATTERNS AMONG MALES IN THREE LARGE CLINICAL PRACTICES IN MASSACHUSETTS, 2010-2017
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Background: In Massachusetts, the incidence of Neisseria gonorrhoeae infection among males has risen since 2010. It is unclear whether this is due to increased testing, increased incidence, or a combination of both.

Methods: We examined temporal patterns in gonorrhea testing and positivity using electronic medical record data from three independent clinical practice groups in Massachusetts by means of Electronic medical record Support for Public Health (ESP, esphalth.org). We limited our evaluation to males aged ≥15 years with encounters during 2010-2017 and assessed the percentage tested for gonorrhea, prevalence of laboratory confirmed infection, and percentage of males tested with positive results. We used binomial regression to examine linear changes in these measures, expressed as relative risk (RR) comparing each year to the previous.

Results: We identified, on average, 415,000 males with encounters per year. The percentage of males tested for gonorrhea increased significantly from 2010 (2.7%) to 2017 (6.3%; RR: 1.11, 95% confidence limits [CI]: 1.107, 1.112). Increases also were observed in the prevalence of males with ≥1 laboratory confirmed infection (2.7 to 9.7 males per 10,000; RR: 1.18, 95% CI: 1.16, 1.21) and the percentage of males tested with positive results (1.0% to 1.5%; RR: 1.07, 95% CI: 1.05, 1.10). The temporal trend of increased laboratory confirmed infection was significantly greater than the trend in increased percentage of males tested (PC<0.001).

Conclusion: The increase in testing is due to more screening of asymptomatic patients or because more men are presenting with symptomatic disease.

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POS 18 - T
CONTINUED SEXUAL ACTIVITY FOLLOWING ONSET OF URETHRITIS SYMPTOMS IN MEN
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Background: The impact of possible STI symptoms on transmission-related sexual behaviors in men is not well-studied.

Methods: Consenting men who were attending an STD clinic, ≥18 years old and had not taken antibiotics ≥30 days prior to their last diagnosis were recruited into the study. Genital specimens, demographic and behavioral data as well as information on possible symptoms were obtained. Urine was tested using Cepheid's GeneXpert CT/NG assay (Sunnyvale, CA) for detection of Chlamydia trachomatis and Neisseria gonorrhoeae; and, Gram's stain of urethral swab smears was used to detect non-gonococcal urethritis (NGU) as defined by ≥2 PMNs per oil immersion field. Self-reported discharge and/or dysuria were used to evaluate the presence and duration of symptoms, and interval since last sex was used to determine the relationship between symptoms, sexual activity, and care seeking. Chi-square or Fisher's Exact tests for categorical variables and ANOVA or Kruskal-Wallis tests for continuous variables were used to assess relationships among the variables.

Results: Of 387 men, over 90% were heterosexual African Americans ages 18-77 years. Urethritis symptoms were reported by 172 (44.4%); and, of those, 157 (85.7%) had symptoms ≥33 days prior to clinic presentation. Among these 58 men, 17 (30%) reported new partners and 38 (66%) reported not using a condom during their last sexual encounter. Additionally, 39 (67.2%) were diagnosed with urethritis (26% gonococcal, 19% chlamydial NGU, and 22% non-chlamydial NGU). Finally, for men that had sex following symptom onset prior to clinic presentation, there was a shorter median time interval to their last sexual encounter (4 vs. 7 days, p<0.001).

Conclusion: Approximately 1/3 of men remain sexually active after the onset of STI symptoms and 2/3 of these men engage in unprotected sex. Interventions that promote symptom recognition and facilitate timely access to care and counseling may provide opportunities to reduce STI transmission.

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POS 19 - T
WHY WERE THE CHLAMYDIA SCREENING RATES PLATEAUED RECENTLY IN YOUNG WOMEN COVERED BY MEDICAID?
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Background: The rate of chlamydia screening as measured by HEDIS is suboptimal and has plateaued in recent years for young women covered by Medicaid with no cause yet elucidated. Previous studies show that chlamydia screening is significantly higher in women with Pap testing or prenatal care visits than those without. The objective of this analysis was to assess factors associated with this plateau.

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Methods: Using the 2004-2013 Medicaid Analytic eXtract (MAX) database, we identified sexually-active women aged 15–25 years enrolled in Medicaid for ≥11 months in a given calendar year. Sexually-active women were identified independently each year during 2004-2013 if they had Pap testing, pelvic examination, contraceptive, pregnancy, STD, or infertility services each year and were classified into two service groups: 1) those having Pap testing or pregnancy and 2) those having neither Pap testing nor pregnancy. The annual chlamydia screening rate was calculated as the proportion of sexually-active women who had ≥1 chlamydia test in that year.

Results: Chlamydia screening increased and was consistently higher in women with Pap testing or pregnancy than those without during 2004-2013 (50.3% vs. 19.2% in 2004 and 65.3% vs. 42.0% in 2013). Despite significant increases for both service groups, chlamydia screening rates plateaued during 2009-2013, especially for women aged 15-19 years (at ~43%). The overall proportion of sexually-active women with Pap testing or pregnancy decreased during 2004-2013. In sexually-active women aged 15-19 years, the proportion with a Pap test or pregnancy significantly decreased from 46.7% in 2009 to 23.6% in 2013; among the 20-25 year olds, this proportion significantly decreased from 70.9% in 2009 to 57.7% in 2013.

Conclusion: The proportion of young sexually-active women who had a Pap test or pregnancy significantly decreased during 2009–2013, potentially resulting in plateaus in CT screening rates. Structural-level interventions for improving CT screening are urgently needed.

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POS 20 - T
DECLINING CHLAMYDIA CASES IN DETROIT: IDENTIFYING THE CAUSES
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Background: Reported chlamydia gradually increased for several years in Detroit, Michigan, then from 2010 to 2015 this number fell by 53% (from 11,156 to 5,283) among young black women 15 to 24 years old; elsewhere in Michigan chlamydia continued to gradually increase. We investigated potential explanations.

Methods: Key informant interviews with stakeholders were conducted to identify possible changes in screening, reporting, behavior, data management, prevalence/incidence. We stratified data by demographics, jurisdiction and reporting source to identify clues; compared to trends in gonorrhea; and focused on 15 to 24 year old women to minimize confounding. We investigated potential data errors, considered changes in the population that may influence testing or positivity, and evaluated chlamydia screening rates among Detroit Medicaid enrollees 2013 through 2015.

Results: Two errors were identified: 1,426 cases from 2009 were included in error in 2010 due to delayed data entry and 704 additional cases in 2010 were duplicate records. After correcting for these errors, reported cases among young black women in Detroit decreased from 9,026 in 2010 to 5,216 cases in 2015 (~42%); adjusting for population declines, rates decreased from 17,593 per 100,000 population to 12,060 (~31%). Decreases in other age groups were smaller and trends in gonorrhea followed similar patterns. Declines in reported cases were not isolated to a particular provider, though provider information was often incomplete or missing. Medicaid enrollment increased for young black women in Detroit from 2013 to 2015 (N=11,940 to N=13,297) but the proportion screened for chlamydia decreased according to the HEDIS definition only slightly (75.9% to 73.1%).

Conclusion: Multiple factors contribute to the number of chlamydia cases reported. Data errors explained a portion of the decline, but much remains unexplained. We had limited information on screening, positivity, and source of report. Our search for an explanation is ongoing.

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POS 21 - T
AS A RESPONSE TO STD TREATMENT GUIDELINE UPDATES, HAVE NEISSERIA GONORRHOEAE STRAINS REGAINED SUSCEPTIBILITY TO CIPROFLOXACIN?
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Background: In 1993, ciprofloxacin was first recommended for gonorrhea treatment in the United States (US). However, emerging resistance resulted in its removal as recommended treatment for patients in the West (in 2002), then among men who have sex with men (MSM) (in 2004) and eventually for all patients (in 2007). We investigated if decreased antibiotic pressure following treatment guidelines changes affected trends in observed ciprofloxacin resistance.

Methods: We reviewed data from the Gonococcal Isolate Surveillance Project (GISP), a US sentinel surveillance system that monitors antimicrobial susceptibility in isolates collected from men with gonococcal urethritis at STD clinics. We evaluated trends in the prevalence of ciprofloxacin resistance (defined as minimum inhibitory concentration ≥1 µg/mL) during 1990-2016, by sex of sex partner and geographic region.

Results: Among patients in the West, ciprofloxacin resistance increased rapidly from 0.2% in 1998 to 5.1% in 2002 when it was removed as recommended treatment for these patients. Subsequently, the proportion of isolates with resistance in the West increased quickly to 24.5% in 2006, then fluctuated slightly, ultimately increasing to 31.8% in 2016. Similar patterns were seen in other regions with resulting resistance of 29.9% (Northeast), 25.4% (South) and 19.6% (Midwest) by 2016. Following removal of ciprofloxacin as treatment for MSM in 2004, resistance in this population was 23.8%. The proportion of isolates among MSM exhibiting resistance initially increased to 33.6% (then declined to 18.1% in 2009). However, the proportion of MSM with resistance has increased 84% from 2009 to 37.0% in 2016. Overall, the proportion of GISP isolates with ciprofloxacin resistance in 2016 was 26.8%.

Conclusion: Ciprofloxacin-resistant N. gonorrhoeae has persisted despite ciprofloxacin not being a recommended treatment. Innovative strategies to prevent and delay resistance to current first-line regimens are needed to maintain treatment options until new drugs or vaccines are available.

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Background: Chlamydia and gonorrhea are the two most frequently reported bacterial STIs among youth ages 15-24 years and are often asymptomatic. Expedited partner therapy (EPT) is a useful option to prevent reinfection from an infected sex partner. In June 2015, EPT dispensing and prescribing became legally permissible in Maryland. The objectives were to 1) describe the provision of EPT to young people in Baltimore by providers at federally qualified health centers (FQHC) and 2) the willingness to accept EPT by young minority heterosexual males.

Methods: Data were derived from two datasets. STD-AAPPS Supplemental data were collected between January and June 2017 from interviews with providers in 6 FQHCs at 18 locations. Project Connect Baltimore data were collected in July 2016 and October 2017, among a convenience sample of young minority males accessing sexual and reproductive health care at six urban clinics.

Results: Among 47 FQHC providers (69.4% physicians, 26.5% nurse practitioners) who self-reported presumptively treating young females for chlamydia in the past week, 14.3% (7/47) reported dispensing medication or giving a prescription for sex partners. Reasons for non-provision included unfamiliar with current regulations 8.2% (4/52), not the clinic's policy 8.2% (4/52), takes too much time 4.1% (2/52), too costly for patient 4.1% (2/52) and other 40.8% (20/52). Among 114 heterosexual young men, with an average age of 20.4 years (SD 2.84), 85.5% (102) were non-Hispanic Black and 26.3% (30) reported STD treatment that day. 44.7% (51) were willing to accept medication or a prescription from their provider for their current sex partner/s if they tested positive for an STD.

Conclusion: We identified low provider reports of delivery of EPT to young female patients diagnosed with chlamydia. Reports from young minority males suggest many are willing to accept EPT for their partners, although, reasons for non-acceptance should be explored.

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POSS 24 - T
WHAT CAN WE LEARN ABOUT CHLAMYDIA INCIDENCE FROM OBSERVED CASE RATES?
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Background: National rates of reported chlamydia cases among young women rose steadily from 2000 through 2011 and fell modestly from 2011 through 2014, suggesting that infection incidence changed over time; however, case rates are influenced by infection incidence, as well as changes in screening coverage, diagnostic test sensitivity and specificity, and reporting practices. We examined the influence of these time-varying biases on reported chlamydia case rate trends among young women.

Methods: We estimated counterfactual annual incidence rates of correctly diagnosed chlamydia that would be obtained with perfect screening coverage, diagnostic tests, and reporting, by applying a series of corrections to national reported case rates among women aged 15-24 years from 2000 through 2015. Estimates of annual screening coverage, diagnostic test sensitivity and specificity, and reporting were derived from literature reviews and expert opinion.

Results: Counterfactual incidence rates of chlamydia diagnosis among young women were higher than reported case rates throughout the study period (in 2015, reported case rate = 3.377/100,000 person-years; counterfactual rate = 7.073/100,000 person-years). In contrast to observed increases in reported case rates from 2000 through 2011, counterfactual rates declined sharply from 12,855 cases/100,000 person-years in 2000 to 7,846 cases/100,000 person-years in 2007. After 2007, counterfactual rates declined modestly to 7,073 cases/100,000 person-years in 2015. Screening coverage, which increased from 30% to 55% over the study period, was the most influential bias affecting reported case rate trend shape.

Conclusion: Estimated counterfactual incidence rates of chlamydia diagnosis, which were approximately 2.1 to 5.8 times as high as reported chlamydia case rates, suggest that reported case rates increased from 2000 through 2011 likely reflect improvements in screening coverage, diagnostic tests, and reporting, rather than increasing infection incidence. Time-varying biases were smaller in magnitude in recent years, suggesting that decreases in reported chlamydia case rates after 2011 may reflect slightly reduced infection incidence among young women.

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CT infection who had confirmed treatment, we identified instances of CT retesting 3-12 months after treatment. We estimated CT retesting rates by patient group (females <25, females ≥25, males); insurance type (uninsured, commercial, or public); facility type; whether organizations provide expedited partner therapy (EPT); and whether patients were initially treated presumptively. Among those retested for CT, we examined rates and correlates of CT retest positivity.

Results: Of 777 CT cases with confirmed treatment, 17.6% (137) were retested within 3-12 months (organization-specific rates = 7%-34%). Retesting was significantly higher among females <25 (23.9% [84/352]) vs. 10.4% (28/269) among males; P<0.001; those from non-hospital settings (33.8% [2677] vs. 15.9% [111700] from hospitals; P<0.001); organizations that did not provide EPT (26.9% [29/108] vs. 16.1% (108/669), among EPT organizations; P=0.01); and non-presumptively treated patients (26.4% [117/444] vs. 12.6% [41/326], presumptively treated patients). Adjusting for all covariates, retesting was only significantly higher among females <25. Among those retested, follow-up CT positivity was 18.2% (25/137), and was higher among those initially treated presumptively (31.7% [13/41] vs. 13.7% [16/117], non-presumptive; P=0.01).

Conclusion: CT retesting rates were low overall, and highest among females aged <25, possibly reflecting routine screening. Follow-up CT positivity at retest was high, reinforcing the importance of repeat testing and partner treatment strategies.

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POS 27 - T ENHANCED GONORRHEA POPULATION BASED SURVEILLANCE IN MARYLAND, 2017
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Background: Between 2015 and 2016, the United States saw a 18.5% increase in gonorrhea (GC) rates. More significant rate increases in Maryland (39%) prompted the Maryland Department of Health Center for STI Prevention (MDHCSTIP) to launch an enhanced surveillance project to gather additional information on randomly selected GC cases.

Methods: MDHCSTIP used the Patient Reporting Investigation Surveillance Manager (PRISM) to prospectively select a random sample of 30% of GC cases from nine counties. Counties were selected based on increased GC rates between 2015 and 2016, proximity to high morbidity areas, and personnel capacity. Cases were randomly selected as they were entered into PRISM. Individuals were eligible to be sampled if they were over 13 years old and if the case had been entered during the project period between July 1, 2017 and December 31, 2017. Disease Intervention Specialists (DIS) then conducted phone interviews to collect additional demographic, clinical, and behavioral risk factor data.

Results: Analysis included data from 58 (61.1%) males and 37 (38.9%) females who had completed interviews. Among males, 13 (22.4%) were identified as men who have sex with men (MSM), 38 (65.5%) were identified as heterosexual males, and 7 (12.1%) males did not report their sexual risk behaviors. There were 44 (46.3%) Non-Hispanic Blacks, 14 (14.7%) Non-Hispanic Whites, and 6 (6.3%) Hispanics interviewed. In total, 35 additional data points were collected for selected cases, including sex of sex partners, Expedited Partner Therapy (EPT) availability and uptake, and other behavioral risk factors.

Conclusion: The persistent increases in morbidity in Maryland reinforce the need for innovative and sustainable interventions that focus on collecting and addressing these risk factors. By detailing the demographic and behavioral risk factors of a sample of GC cases, Maryland will be able to create a more complete description of the local epidemic, allowing for more targeted interventions.

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POS 28 - T COMPARISON OF TRADITIONAL REPORTING SYSTEMS IN DETECTION OF GONORRHEA TO A STD REGISTRY IN A MIDWESTERN CITY
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Background: To investigate trends in gonorrhea testing and cases from 2003-2014 in the Indianapolis Metropolitan Statistical Area (MSA) using an integrated STD registry and to compare gonorrhea cases using the registry with cases traditionally reported through the nationally notifiable STD surveillance system.

Methods: We created an STD registry that included all chlamydia, gonorrhea, and syphilis tests performed from all major hospitals, laboratories, and outpatient clinics, plus the county STD program in the Indianapolis MSA from 2003-2014. The number of gonorrhea cases detected through the registry was compared to that reported to the surveillance system overall and by year.

Results: A total of 1,713,370 gonorrhea tests were identified on 520,630 unique individuals in the STD registry during the study period. Of these tests, 49,942 were identified as gonorrhea cases in the registry compared with 44,639 cases reported to the surveillance system. The number of individuals tested increased significantly over time. Racial and gender composition of those infected with gonorrhea remained the same for the time period, with non-Hispanic Blacks and females being the most infected. The number of cases per year in the registry did not change significantly (p=0.05). However, during 2009-2014, the number of gonorrhea cases reported to the surveillance system was significantly lower than that identified in the STD registry (p<0.05).

Conclusion: The higher number (about 10%) of gonorrhea cases identified from the STD registry than that from the surveillance system data may warrant further analysis to examine the reasons why many identified gonorrhea cases in the registry were not reported in the surveillance system.

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POS 29 - T RETAIL CONDOM ACCESSIBILITY IN CALIFORNIA COMMUNITIES WITH HIGH ADOLESCENT STD RATES IN 2016
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Background: Improving condom access is key to STD control efforts, particularly in areas with high STD rates. STD programs distribute free condoms, but have typically lacked information on retail condom access, despite the fact that retail distribution is more prevalent and sustainable than public health initiatives. We integrated questions about condom access into the 2016 “Healthy Stores, Healthy Communities” survey of tobacco retailers conducted by California’s tobacco, alcohol, and nutrition programs.

Methods: Surveyors assessed eligible stores in randomly sampled California zip codes to determine a) if condoms were accessible (defined as unlocked on aisle shelves); b) smallest unit sold; and c) price. We compared average price by store type (e.g. drugstores, chain convenience stores, corner markets, liquor stores). Statewide results were weighted by local health jurisdiction. We classified zip codes in the top 25th percentile of gonorrhea rates among 15-19 year olds as hotspots, and used a test to compare the mean proportions of stores selling accessible condoms in hotspots and non-hotspots.

Results: Of 7,152 stores surveyed, 81% sold condoms; 46% made them accessible. The smallest unit of condoms for sale at 90% of stores was a three-pack, at an average price of $3.75. Drugstores were most likely (92%) to keep condoms accessible compared to all other store types (35%), but their average price was also 150% higher ($5.60). Fewer stores in hotspots sold accessible condoms compared to stores in non-hotspots (mean proportion 31% compared to 48%, p=0.001).

Conclusion: Tobacco, nutrition, and alcohol programs have a long history of engaging retailers to address access to healthy and unhealthy products. Condom accessibility data, along with improved understanding of retail condom distribution and pricing, will be key to developing productive public-private partnerships to improve condom accessibility. These data can also inform placement of free condom programs in areas with high STD rates.

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POS 30 - T IS THE EMERGENCY DEPARTMENT AT TAMPA GENERAL HOSPITAL OVER-TREATING OR UNDERTREATING CHLAMYDIA AND GONORRHEA?
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POS 31 - T
IF YOU BUILD IT, YOU'RE NOT DONE: HOW COMMUNITY CLINICS IN HIGH STD AREAS CAN DO MORE TO REACH AND SERVE YOUTH
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Background: Community clinics are critical partners in addressing STDs among youth. We surveyed clinics and adolescents in a high STD incidence area of Los Angeles County (LAC) to identify the best, youth-serving clinics and determine youth awareness of services. Our findings will inform an online clinic guide and efforts to link adolescents to services.

Methods: From 2016-17, we surveyed 46 clinics to assess their youth-friendly lines including operating hours, affordability, accessibility without a parent and delivery of CDC-recommended adolescent care. We also surveyed 9th grade students (n=529) in 7 local high school attendance areas to determine their awareness and use of clinics. High school attendance areas were chosen based on STD morbidity data; clinics in these areas were surveyed if they reported ≥2 positive chlamydia (CT) or gonorrhea (GC) cases among females 15-19 years old since 2014.

Results: Twenty-seven (58.7%) clinics did not meet standards for youth-friendliness. Among excluded clinics, 55.5% (15) failed to follow CDC recommended best practices for GC or CT treatment; 59.2% (16) required females complete exams/testing before receiving contraception; and 7.4% (2) refused services to eligible youth. Of the 529 9th graders surveyed, 51% (269) identified as female and 2.2% (11) as Transgender; 85.6% (453) were Hispanic/Latino, and 90.1% (473) were age 14-15 years. Over one-third (39.3%; 208) reported not knowing where they could get sexual health services. Only 15.8% (84) reported utilizing clinics for birth control or STD testing.

Conclusion: Not all health clinics in high STD incidence areas are delivering services youth require. Staff must be knowledgeable about CDC best practices for STD treatments, California youth rights, and sensitive to transportation and privacy concerns. Clinics that offer evening or weekend hours, on-site STD treatments and birth control, and low/no-cost care are best positioned to support adolescent clients. Efforts are equally needed to promote available services to youth.

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POS 32 - T
MIND THE GAP: WHERE DO WOMEN WITH GONORRHEA SEEK THEIR CARE
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Background: Quality and comprehensiveness of STD care may vary by healthcare setting. Understanding where women receive care can inform quality assurance efforts and resource allocation. We describe healthcare settings in which women were diagnosed with gonorrhea in the United States during 2012–2016.

Methods: We reviewed 2012–2016 national gonorrhea case report data reported to CDC. We restricted the analysis to women of childbearing age (15–44 years) and reported on the top five healthcare settings identified as a diagnosing facility type in 2016 (private physician/health maintenance organizations [HMOs], other hospital clinics/facilities, STD clinic, family planning, and laboratory). We calculated the proportion of cases diagnosed by setting, stratified by demographic characteristics, and described temporal changes.

Results: During 2012–2016, the number of gonorrhea cases among women of childbearing age increased from 165,480 to 188,992 (12.4%). Of these, the proportion of cases with known diagnosing health care facility type decreased slightly from 88% to 86%. During 2012–2016, the percentage of cases reported by private physicians/HMOs (27% to 26%) and laboratory (5% to 6%) remained stable; increases were observed from other hospital clinics/facilities (12% to 14%). Decreases were observed in cases reported by family planning clinics (10% to 7%) and STD clinics (9% to 7%). The percentage reported by STD clinics declined more sharply among white (32% to 16%) than black women (12% to 9%), whereas cases from other hospital clinics/facilities increased (white 11% to 15%; black 14% to 16%) among both.

Conclusion: Although the number of gonorrhea cases among women in recent years, the number and relative proportion of cases reported by STD clinics declined. Efforts to ensure appropriate gonorrhea care, including partner services, in non-STD clinic settings may be warranted. Increasing the proportion with known healthcare facility type may inform national trends and care settings for targeted interventions.

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POS 33 - T
EXAMINING EXTRAGENITAL NEISSERIA GONORRHOEAE TESTING AND HIV CO-INFECTION AMONG MSM IN DOUGLASS COUNTY, 2016-2017
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Background: Extranal Neisseria gonorrhoeae testing has shown to capture cases genital-only testing would have missed, especially among high risk populations such as men having sex with men (MSM). Rectal gonorrhea has been examined as an independent risk factor for HIV among MSM. The objective is to examine extragenital gonorrhea testing within Douglas County while focusing on MSM and HIV co-infection.

Methods: A descriptive analysis was conducted. Data was collected between January 1, 2016 and December 31, 2017 from the Sexually Transmitted Diseases Management Information System (STD*MIS) database. SAS statistical software was utilized to assess positive extragenital gonorrhea cases in Douglas County. To account for any potential persons that would have been missed if genital-only screening was implemented, positive extragenital tests among persons with a negative or missing urine test were analyzed.

Results: Of the total 3009 positive gonorrhea cases reported in Douglas County between January 1, 2016 and December 31, 2017, 186 (6.2%) cases would have been missed if extragenital testing was not conducted. Of those cases, 88 (47.3%) were positive for rectal gonorrhea. When examining gonorrhea among MSM, 80 (90.9%) of the positive rectal gonorrhea cases were among this population. Analysis showed that there were no HIV co-infection cases among MSM during this time period.

Conclusion: Increasing extragenital STD testing is crucial to providing adequate treatment, among populations that would have been previously missed, while reducing the spread of diseases such as gonorrhea. Although HIV co-infection was not found in this analysis, the risk of HIV co-infection is still a major concern and implementation of extragenital testing has shown to be beneficial in capturing many gonorrhea cases.

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Background: In the U.S., young men who have sex with men (YMSM) are disproportionately impacted by sexually transmitted infections (STIs). To develop effective disease control measures, researchers must better understand the behaviors that contribute to increased STI prevalence among YMSM compared to other population groups.

Methods: Data were collected from 448 YMSM in Los Angeles between June 2016 and September 2017. Individuals were eligible to participate if they were 16- to 24-years old; male; self-identified as gay, bisexual, or uncertain; and had had a same-sex encounter within the previous 12 months; and self-identified as Black/African American, Latino/Hispanic, or multi-ethnic. We used latent class analysis to examine patterns of sexual and substance use and behaviors within the past six months. The following behaviors were included in the latent class model: binge drinking, cigarette use, marijuana, illicit drugs, number of sexual partners (1-3, 4 or more), alcohol/drug use during sex, and sex in exchange. We then examined the association between the resulting latent classes and biologically-confirmed STI status (gonorrhea and chlamydia).

Results: We identified four latent classes (LC): 1) 1-3 partners, tobacco/marijuana use (40%); 2) 4+ partners, use of all substances, use of alcohol/drugs during sex (35%); 3) 4+ partners, illicit drug use (no tobacco, alcohol, marijuana) (16%); and 4) 4+ partners, use of all substances, sex exchange (9%). YMSM in LC #3 had the highest probability of testing positive for an STI (25%), followed by LC #2, LC #4 (19%), and LC #1 (9%). In this case, young men having 4+ partners, illicit drug use (i.e., no tobacco, alcohol, marijuana), and use of alcohol/drugs during sex had the highest probability of being STI positive.

Conclusion: Examining the intersection of a variety of sexual and substance use behaviors indicates particular subgroups of YMSM are more likely to be STI-positive.

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Results: Of 420 men responding, the mean age was 20.1 (s.d. 2.4), 100% had sex with women and 9.1% also had ever had sex with men. The majority (74.8%) reported they ever had sex with education and 12.0% tested positive for Ct (11.8%) or GC (1.4%). The mean age receiving sex-education was 13.6 (s.d. 2.4). Topics covered were: STI (92%), condoms (91%), pregnancy/birth (71%), birth control (68%), consent (48%), male-anatomy (51%), female-anatomy (49%), gender-identity (43%), sexuality (64%), fathering (42%), and abstinence (45%). Of the 314 who reported receiving any sex-education, delivery was in school (87%), from a parent (14%), at church (5%), and other (6%). Those who received sex-education received an average of 6.6 (s.d. 3.4) out of 11 topics with 11.5% receiving all 11 topics. Those who received any sex-education tended to have a lower Ct/GC rate (11.5% vs. 16.0%, p=0.22) and tended to be more likely to be previously tested for Ct (42.9% vs. 33.0%, p=0.11) compared to those who did not.

Conclusion: Most young AA men who have sex with women in New Orleans received sex-education, though it was not comprehensive. The trend towards lower Ct prevalence and higher STI testing points towards the importance of sex-education for youth.

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POS 38 - T
WILL PARENTS ALLOW THEIR ADOLESCENT CHILD TO BE SCREENED FOR STDS AT THE PEDIATRICIAN’S OFFICE?
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Background: Despite recommendations to screen sexually active female adolescents annually for chlamydia and gonorrhea, screening rates remain low. Many pediatricians do not routinely offer STD screening. Among the barriers is the perception that parents are unwilling to allow screening. We evaluated parental receptivity to STD screening of their child during a pediatric visit.

Methods: We conducted anonymous surveys with parents/guardians accompanying an adolescent 15-17 years old to an appointment at two pediatric offices from June 2017-present (anticipated final n=200). A convenience sample was based on the availability of the lead investigator. Receptivity to chlamydia and gonorrhea screening and parental attitudes about STDS were assessed.

Results: Among the 102 parents enrolled to date, the average age was 45, 90% were female, 92% were white (94, 92%). Sixty percent (61/102) would accept STD screening for their child, 22% were unsure, and 19% would decline. While 86 (84%) parents did not believe that their child had ever engaged in sex, 49 (57%) would accept STD screening if offered. Most parents (66%) responded it was “very important” for providers to discuss STDs with their child, similar to the importance of depression/suicide (71%), drug/alcohol use (68%), and higher than obesity (43%) and exercise (40%). Parents responding that STD counseling was “very important” were more likely to agree to screening than parents who did not believe that STD counseling was very important (70% vs 40%, p<0.01).

Conclusion: Most parents would accept STD screening of their adolescent child during a pediatric office visit. STD counseling was perceived by parents to be as important as other preventive health topics and was associated with receptivity to STD screening. Our findings indicate parental interest in STD screening during pediatric office visits and support further efforts to determine whether educating parents about STD prevention and screening has an impact on parental receptivity to STD screening.

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POS 39 - T
ENHANCED GONORRHEA (GC) POPULATION CASE-BASED SURVEILANCE, CHICAGO, IL, 2017
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Background: In 2016, 10,836 of gonorrhea (GC) cases were reported to the Chicago Department of Public Health (CDPH), a 23% increase over 2015, reflecting persistently high and increasing morbidity. From October 12 – December 31, 2017, CDPH conducted enhanced case-based GC surveillance to identify factors that may aid targeted interventions.

Methods: GC data reported to the STD Surveillance unit were obtained from the Illinois National Electronic Disease Surveillance System (INEDSS). Lab-confirmed GC cases were randomly selected for further investigations. Within 30-60 days of the specimen collection date, demographic, clinical, and behavioral data were collected through phone interviews or through direct provider assessment.

Results: A total of 350 of individuals were interviewed, representing 12.2% of all lab-confirmed GC cases (N=2863) reported to CDPH during that time. Respondents were 50.3% Non-Hispanic Black, 27.9% Non-Hispanic White, and 19.1% Hispanic, and were 81% male, 19% female and 0.1% transgender. In total, 216 (62%) respondents reported sex partner gender. Among these cases, 27% were women (88% male partners, 12% male and/or female partners); 23% men who have sex with women (MSW); 41% men who have sex with men (MSM); 9% men who have sex with men and women (MSMW). Median age was youngest for women (24 years) compared to MSW (26 years) and MSM/MSMW (29 years) (p<0.001). The median number of sex partners in the last 30 days was 1 for females and 2 for males (p=0.001), 56% of females and 79% of males reported testing at a community health center (p<0.001).

Conclusion: Collection of enhanced GC surveillance data provides timely and high quality behavioral data. Through enhanced GC surveillance, we identified trends that differ from national GC profiles. Additional clustering analysis is underway to identify and characterize dominant risk profiles, which can be used to promote provider awareness and target and evaluate prevention efforts.

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POS 40 - T
CHARACTERISTICS ASSOCIATED WITH DELAYED GONORRHEA TREATMENT, MASSACHUSETTS, 2015-2017
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Background: Gonorrhea incidence is increasing. We sought to identify key characteristics associated with delays in gonorrhea treatment, which prolong carriage and transmission, and contribute to ongoing increases.

Methods: We examined patient and healthcare characteristics associated with treatment delay using a random sample of reported Massachusetts gonorrhea cases from 2015-2017. Treatment time was defined as number of days between sample collection and reported treatment. Delay was assessed according to reported symptom and contact status. Among symptomatic/contact cases who had clinical indications for treatment on day of specimen collection, treatment delay was defined as treatment after specimen collection. Among asymptomatic cases, treatment delay was defined as treatment >4 days after specimen collection. All analyses were restricted to an interviewed subset and stratified by reported symptom status.

Results: 39% of gonorrhea cases met the inclusion criteria of being interviewed (494 symptomatic/contact, 105 asymptomatic). Cases were primarily male (78.5%), non-Hispanic white (44.7%), and men who have sex with men (49.6%). Median time to treatment was 0 (Interquartile Range (IQR)= 3) and 4 (IQR = 4) days in symptomatic/contact and asymptomatic cases, respectively. Approximately 43% of gonorrhea cases interviewed experienced a delay in treatment (41.9% in symptomatic/contact vs. 50.5% in asymptomatic patients, P=0.11). Among symptomatic/contact cases, delay was more common in women versus men (Prevalence Ratio (PR)= 1.62; 95% CI: 1.20, 2.17). Among asymptomatic cases, treatment delay was more common in men who have sex with men (MSM) versus women (PR = 5.46; 95% CI: 2.00, 22.49).

Conclusion: Treatment delays are common in both symptomatic and asymptomatic people with gonorrhea, but delays are most pronounced in asymptomatic cases. This may contribute to population transmission of gonorrhea. Delays were more common in symptomatic women and asymptomatic MSM. Future research should explore factors minimizing treatment delays, particularly for these high-risk groups.

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POS 41 - T
AN EXPLORATORY ANALYSIS OF CHLAMYDIA AND GONORRHEA RE-INFECTION IN SAINT LOUIS COUNTY, MO IN 2017
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Background: We aimed to assess the burden of chlamydia and gonorrhea re-infection in Saint Louis County, to investigate its demographic correlates, and to determine whether those correlates differed between chlamydia and gonorrhea.

Methods: Using Missouri’s communicable disease surveillance database, we identified Saint Louis County residents who were diagnosed with chlamydial or gonorrhea in 2017. For each disease, we compared the age, sex, race, and sub-county region of residence between singly infected and re-infected people. We used t-tests and chi-square tests for univariate comparisons and logistic regression for multivariate comparisons.

Results: In 2017, 464 people were re-infected with chlamydia, and 5,199 people were singly infected (6,175 total cases). For gonorrhea, 170 people were re-infected and 2,233 people were singly infected (2,609 total cases). In univariate analyses, re-infected people were significantly younger (p<0.01) and more likely to have had intercourse with a new partner in the same time period the proportion of GC cases among women under 25 years was 41% while in 2016 men under 25 years accounted for 22%.

Conclusion: In 2017, 8% of Saint Louis County residents diagnosed with chlamydia or gonorrhea were infected more than once. Re-infection risk was highest among young black men and women for chlamydia and young men (black and white) for gonorrhea. These represent important groups to target with STI prevention efforts.

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POS 44 - T
FINDINGS FROM A RIGOROUS EVALUATION OF A CHICAGO SCHOOL BASED STD PROGRAM
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Background: In 2009, the Chicago Department of Public Health (CDPH) and Chicago Public Schools (CPS) developed a school based intervention, now known as Chicago Healthy Adolescents and Teens (CHAT), to address rising rates of Chlamydia among Chicago teens. CHAT is an annual “workshop,” including a brief presentation, followed by no cost, confidential, and optional STD testing; reaching over 13,000 youth per year. The aim of this study is to present preliminary findings from a DHHS funded, rigorous evaluation assessing the long term impact of CHAT on sexual health knowledge, behaviors, and outcomes.

Methods: For this quasi-experimental study, ninth grade students were recruited in the 2016-2017 school year from 16 schools matched by school size, proportion of economically disadvantaged students, racial/ethnic makeup of student body, and dropout rate. They completed surveys at baseline and six months and will complete another at 24 months. The intervention group received CHAT programming shortly after baseline, and chi squared tests of proportion were used to determine bivariate differences between groups at baseline and six months.

Results: Of the 1197 students with complete data, there were no significant differences in knowledge, behavior, or outcomes at baseline. By six months, CHAT students were significantly (p<0.05) more likely than comparison students to report STD testing (29 vs 11%), and significantly less likely to report vaginal sex in the past three months (49 vs 59%). They were also significantly more likely to accurately identify minor consent laws (55 vs 36%), and there was a trend towards significantly higher treatment rates among CHAT students (3 vs 1 %; p=0.068).

Conclusion: The CHAT Program successfully improved knowledge and STI testing in this cohort. These findings suggest that CHAT may hold promise as an evidence based strategy to facilitate the Healthy People 2020 objectives for STDs among youth.

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POS 45 - T
AN EDUCATIONAL INTERVENTION TO INCREASE KNOWLEDGE ABOUT SPREAD, SYMPTOMS, COMPLICATIONS AND PREVENTIVE STRATEGIES ASSOCIATED WITH GONORRHEA/CHLAMYDIA AMONG TEEN AND YOUNG ADULT FEMALES IN NEWARK, NJ

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Background: In a given year, over half of all pregnancies in the United States are unintended. Currently, Philadelphia does not provide family planning services at the City’s designated STD Clinics. The vast majority of women of childbearing potential attending these clinics do not use a highly effective method of birth control (LARC or oral contraceptive pills). This gap in services is an opportunity to provide family planning to an underserved at-risk population. This study analyzes STD risk, gravidity, as well as method of birth control for women attending these clinics.

Methods: Between 2014-2016, over 9,000 women had at least one STD Clinic visit where sexual history was recorded. In addition, the cohort was limited to women of child bearing potential (aged 15-45 years). The women are separated into four birth control methods: 1) Nothing, 2) Oral Contraceptive Pills (Pills) /LARC Only, 3) Condoms Only, 4) Pills/LARC and Condoms. These groups were then compared by gravidity and Chlamydia/ Gonorrhea (CT/GC) risk.

Results: This population includes mostly black women (72%) under age 30 (77%). Approximately 36% reported no gravidia ever, with 46% of women reporting condoms only as their method of birth control. Nearly 80% of women do not use LARC/pills. Preliminary results show women who used LARC/pills, had the highest rates of CT/GC positivity at 16.5% and 6.99%, respectively; compared to women who reported no birth control use, with a CT/GC positivity rate of 12.98% and 5.25%.

Conclusion: The vast majority of women in this cohort do not use an effective method of birth control. Additionally, women who use LARC/pills experience the highest rates of CT/GC, showing the need for additional education beyond risk of unplanned pregnancy. Further research needs to be done to understand why a lack of contraception appears protective against STDs and to provide additional family planning education.

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Background: There is a continuous rise of Gonococcal Neisseria (GC) and Chlamydia trachomatis (CT) among the adolescents and young adults in the United States, despite advance treatment and management guidelines in place. A total number of 1,598,354 cases of CT, and 468,514 cases of GC were reported in 2016, rates increase from 251.4 to 497.3 per 100,000 people between 2010 to 2016. Evidence suggests that risky sexual behaviors and lack of knowledge contribute to this problem; targeted educational and behavioral counseling could help in reducing the incidence and reinfection rates among adolescents and young adults.

Methods: This DNP project was developed to test the feasibility of an educational and behavioral counseling intervention about the spread, symptoms and complications of GC/CT among adolescent and young adult female in Newark New Jersey. The participants (12 adolescents and young adult females ages 13 to 24 years) received a total of three sessions of educational and behavioral counseling on GC and CT in three days, each session lasted about 40-60. At the completion of the sessions participants took the posttest and a satisfaction (evaluation) survey.

Results: The results indicated that all participants (n=12) improved in their knowledge about STDs especially GC/CT with p value = .016. While most of the participants (n= 11) improved in their knowledge of the symptoms associated with GC/CT identifying correctly that most women will not have symptoms when infected with GC/CT (p = .002). Knowledge about the precautions of the complications associated with GC/CT was also tested among the participants, and the results indicated that almost all the participants (n=11) had improved knowledge as indicated by the posttest scores and p value =.004 and .039 respectively.

Conclusion: Educational/behavioral-counseling program on GC/CT in a local community as Newark had a positive impact on the adolescent and the young adult females who participated.

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Background: Assessment of the acceptability of rapid STI tests has been largely based on measured intentions in hypothetical situations. We sought to understand the real-world acceptability of using a rapid test in an urban college student health clinic.

Methods: Participants self-collected specimens during registration. Samples were run on the experimental io CT/NG (Atlas Genetics, Trowbridge UK) with results available within 30 minutes. Participants were told the time remained on their test after completion of the routine clinical process and asked if they would be willing to wait. Results weren’t provided since the assay does not have FDA clearance. Satisfaction data were captured as was input from the clinic staff regarding any disruption of clinic flow associated with sample collection and on-site testing.

Results: 108 participants were enrolled. The time to results remaining at the conclusion of the routine visit ranged from 0-60 minutes. Longer wait times were rare and occurred when multiple participants came into clinic simultaneously. All participants were willing to wait if the time was ≤10 minutes, which occurred for 90% of participants. 89.4% of students were willing to wait 10-20 minutes; the time required for 68.5% of results. The odds of waiting were reduced by 7.3% for each additional minute of wait time. Although satisfaction with clinical services was universally high, participants expressed interest in having access to rapid STI results. Staff were comfortable with the work flow changes and the lab staff was eager to have a test of this type. Multiple instruments would have alleviated the limited number of extended wait times.

Conclusion: By changing clinic flow to allow collection of samples prior to engagement with a clinician, the wait times were predominately in this acceptable range. Consideration needs to be given to changing clinical paradigms in order to accommodate newer test technologies to facilitate test-and-treat.

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POSTERS

POS 49 - T
UTILIZING QUALITY IMPROVEMENT METHODS IN AN STD CLINIC TO TRACK NEISSERIA GONORRHOEAE TIME-TO-TREATMENT IMPROVEMENT EFFORTS
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Background: The Denver Metro Health Clinic, a large, urban STD clinic, aims to treat patients with Neisseria gonorrhoeae (Ng) as quickly as possible to prevent the spread of this pathogen to others. The clinic utilizes Quality Improvement (QI) to systematically improve quality of care. We describe the use of QI methods, including detailed reporting of time-to-treatment (TTT) metrics and use of Visual Management Boards, to monitor improvement of Ng TTT.

Methods: Since 2013, the clinic has tracked the percent of Ng cases receiving therapy within 14 days of test results, with a goal of 80% of cases meeting this metric. In 2016, the clinic decided this metric was not a good measurement for an acute disease and shortened it to 7 days. This change allowed the clinic to better measure the effectiveness of two subsequent interventions: an active biweekly phone call notification policy for all Ng positive tests and patient education efforts to optimize client use of a new patient portal to view test results.

Results: Between 2015 and 2017, the percent of cases with pharyngeal Ng (N=880) treated within 7 days increased from 63.1% (n=128) to 79.4% (n=313). Seven-day TTT for rectal Ng (N=823) increased from 72.2% (n=155) to 81.5% (n=291). And 7-day TTT for urethral Ng (N=1,549) increased from 82.4% (n=346) to 90.9% (n=580). Also, during this timeframe, only 6.2% of cases were treated within 8-14 days, making the 7-day metric more accurate and sensitive than the previous metric.

Conclusion: QI methods enabled the clinic to track the effectiveness of efforts to make a positive impact on transmission dynamics. They allowed the clinic to focus efforts on reaching their goal of 80% treated within 7 days, which was met for rectal and urethral Ng, and gains were made towards this goal for pharyngeal Ng.

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POS 50 - T
AMPHORA GEL DOES NOT INTERFERE WITH NUCLEIC ACID AMPLIFICATION TESTS (NAATS) DETECTION OF CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE
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Background: Chlamydia and gonorrhea are the two most commonly reported bacterial sexually transmitted infections (STIs) worldwide. AMPHORA gel, currently under clinical evaluation, has shown promise as a drug to prevent the urogenital acquisition of Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (Ng). However, little is known about the possible inhibitory effects of the gel on the NAAT-based detection of CT and Ng. We investigated the in vitro effect of AMPHORA gel on detection of CT and Ng using NAATs.

Methods: Serially-diluted CT and Ng samples (10^-3 ~ 10^0 organisms/mL) spiked with the AMPHORA gel or Universal HEC placebo gel (0.1, 1, and 10% (v/v)), were tested by NAAT on the GeneXpert® platform. Detection of CT and Ng from experimental samples was compared to control samples (no gel added).

Results: NAAT-based detection of all CT dilutions was not inhibited by AMPHORA gel regardless of gel concentration. Detection of NG at 10^-3 ~ 10^-1 organisms/mL was not inhibited by AMPHORA gel at any of the gel concentrations tested. However, at the lowest NG concentration (10%) and highest gel concentration (10%) tested, NG detection was completely inhibited. The HEC placebo, at the concentrations tested, did not inhibit CT or NG detection.

Conclusion: AMPHORA gel did not interfere with NAAT-based detection on NG or CT at clinically-relevant concentrations. Caution is warranted when using NAATs for detection of NG in the setting of high gel concentration and low bacterial load. Additional studies evaluating inhibitory effects with spiked clinical samples are warranted.

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POS 51 - T
PARTICIPATORY APPROACH TO INCREASING CHLAMYDIA SCREENING RATES IN TITLE X FAMILY PLANNING CLINICS: A DOUBLE DIGIT IMPROVEMENT
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Background: Family Planning Title X Clinics are committed to the sexual health of young women, including annual chlamydia screening for sexually active females younger than 25 years old. Yet, Michigan Title X provider screening rates were 20 percentage points behind other Michigan Medicaid providers. The Michigan Department of Health and Human Services, STD Section and Reproductive Health Unit partnered to answer the following questions: 1) what is the effect of select interventions on annual chlamydia screening in Title X Family Planning Clinics, and 2) what are the barriers and facilitators to implementation and sustainability of the tested interventions?

Methods: Three interventions to increase screening coverage were tested across 13 sites; sites selected the intervention most relevant to their clinic. Screening rates were assessed using 2015 and 2016 site-specific Family Planning Annual Report (FPAR) data in 6-month and 12-month intervals, and screening acceptance or refusal for eligible patients was provided by each site. To assess barriers, facilitators and sustainability questions, phone focus groups (by intervention) were conducted at 3-months, and an on-line survey was administered at 6-months.

Results: In 2015, prior to the intervention, 45% of young females were screened for chlamydia at the intervention sites. Based on review of logs, at 3-months, 85% (N=741) of young females presenting to the clinic were screened, and at 6-months 88% (N=612). Reported challenges to implementation included increased work load, modifying clinic procedures, staff resistance to change, and increased data collection. Over 90% of sites reported an intention to continue with their new practices following the study period.

Conclusions: Each of the three tested interventions resulted in increased screening. Routine screening of patients presenting for pregnancy test only and emergency contraception had the greatest impact. The benefits of the new practices outweighed challenges and sites expressed commitment to sustain their new practices.

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POS 52 - T
THE STD SURVEILLANCE NETWORK AND ELECTRONIC CASE REPORTING IN UTAH
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Background: Utah Department of Health (UDOH) received STD Surveillance Network (SSuN) funding to develop an electronic case reporting (eCR) process to automatically receive and import clinical data from a provider’s electronic health record (EHR) into UDOH’s disease surveillance system, EpiTrax. Throughout the project, UDOH developed a process that successfully transfers clinical data elements from STD cases directly into EpiTrax investigation fields. Here we describe the automated process of receiving clinical data from consolidated clinical document architecture (C-CDAs) exports and lessons learned.

Methods: UDOH collaborated with Planned Parenthood Association of Utah (PPAU) and their EHR vendor to implement a process where reportable conditions trigger codes at PPAU send C-CDAs to UDOH for STD cases. The C-CDAs were parsed into individual patient encounters, compared to existing records for deduplication, and processed through UDOH’s rules engine for condition assignment. Clinical data elements were then transferred directly to EpiTrax investigations fields or the notes section for a case.

Results: From October 2017 to January 2018, UDOH received 8,307 C-CDAs from PPAU for STD cases of which 4,724 were usable and imported. UDOH has successfully expanded this work to other conditions that may require clinical symptom observation and/or diagnosis for case classification. However, issues with code triggering, usage of EHRs, multiple patient encounters, and ICD coding can
delay the cCR process or render the messages only partly useful. The cCR process at UDOH continues to be refined.

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POS S3 - T
FACTORS IMPACTING NEISSIERIA GONORRHOEAE CULTURE SENSITIVITY
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Background: Neisseria gonorrhoeae (Ng) culture and antimicrobial susceptibility testing (AST) have been the foundation of national treatment recommendations. Recently U.S. Ng AST surveillance has expanded to include extragenital sites of infection. The sensitivity of Ng culture at genital and extragenital sites may impact the efficacy of surveillance systems.

Methods: We conducted a retrospective analysis from 4/17/2017 to 12/31/2017 of Ng culture sensitivity (TEMBCR system) compared to nucleic acid amplification test (NAAT) (Aptima Combo 2) at the male urethra, pharynx, and rectum. Cultures were obtained from zero to 29 days after a positive Ng NAAT. Ng culture sensitivity was evaluated by site of culture and time to culture acquisition.

Results: The overall sensitivity of Ng culture compared to NAAT was 68.5% (n=619). Extragenital cultures were less sensitive than urethral cultures (urethral 75.8% (n=635); pharyngeal 25.7% (n=152); rectal 42.6% (n=115), p<0.0001). Ng cultures from the urethra and pharynx collected on the same day as a positive NAAT had a higher sensitivity than those collected one or more days later (delayed) (urethral same day 98.1% (n=314) versus delayed 73.7% (n=38), p<0.0001; pharyngeal same day 43.8% (n=32) versus delayed 20.8% (n=120), p=0.008). Conversely, rectal culture sensitivity was not significantly associated with same day collection. Urethral cultures obtained the same day as a positive NAAT were more sensitive than extragenital cultures obtained the same day (urethral 98.1% (n=314); pharyngeal 43.8% (n=32), p<0.0001) and rectal 44.4% (n=27), p<0.0001).

Conclusion: The sensitivity of Ng culture at extragenital sites is low compared to urethral culture. Surveillance protocols that obtain Ng culture after identification of a positive Ng NAAT will delay culture acquisition. Our data suggests that a delay in pharyngeal culture collection will further decrease already low culture sensitivity and raises the possibility of spontaneous clearance of disease at the pharynx. Further evaluation is needed to optimize Ng culture surveillance protocols.

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POS S4 - T
IMPROVING STD TREATMENT DATA THROUGH THE USE OF ELECTRONIC HEALTH RECORDS
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Background: Louisiana has direct access to STD testing and treatment records available through the Electronic Health Records (EHRs) of the state’s public health clinics (PHUs), yet PHUs send paper treatment records to be hand-entered into the state’s database, PRISM, by data entry personnel. One of the AAPPs goals is to improve the quality of case-based data collection by routinely obtaining information on treatment given.

Methods: All treatment for 2016 gonorrhea diagnoses was extracted from the PHU EHRs. Completeness of EHR data was validated by matching and comparing it to a sample of hand entered treatment records. Following validation, all treatment that matched 2016 case records was imported into PRISM. Treatment completeness for 2016 gonorrhea diagnoses from PHUs was compared to 2015, which only had paper reporting. Appropriateness of treatment was assessed from EHR records following the import process.

Results: The validation of EHR data quality found that no hand entered treatment records were missing from the EHR. In 2015, the year before the import began, 1,779 gonorrhea cases were reported by PHUs, with treatment on 59.2%. In 2016, following the implementation of the import, 1,928 gonorrhea cases were reported by PHUs with treatment on 92.9%. In 2016, 1.4% of individuals were diagnosed and treated for gonorrhea by PHUs were found to have insufficient or inappropriate treatment.

Conclusion: By utilizing the treatment data available to the state electronically, Louisiana increased the completeness of gonorrhea treatment by 56.9%. The process improved timeliness caused by reporting delays and reduced the burden on the providers responsible for reporting and on data entry staff. Finding inappropriate treatment makes it possible to quickly report issues back to the PHUs. This can reduce inappropriate treatment by staff and notify PHUs of clients in need of follow-up. By doing so, incidences of treatment failure and drug resistance can be prevented.

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POS S5 - T
“CHECK IT”: A COMMUNITY BASED STI SCREENING AND EXPEDITED INDEX AND PARTNER TREATMENT INTERVENTION FOR YOUNG AFRICAN AMERICAN MEN WHO HAVE SEX WITH WOMEN
Patricia Kissinger, PhD, MPH, BSN1, Norine Schmidt, MPH,2 Gerard Gomes, BS1, Nikkita Wel, 45 (84.9%) were contacted. 40 (75.5%) chose expedited pharmacy treatment and 5 (9.4%) opted to go their own provider. Contacted index men gave authorization for disease intervention specialists to contact and provided valid contact information for 16 of 73 (21.9%) partners named: 14/16 (87.5%) of contactable partners received expedited pharmacy treatment.

Conclusion: In this community screening and treatment program for mostly asymptomatic AA young heterosexual men, there was a high rates of Ct but a low rate of GC. Most index men received expedited pharmacy treatment, but far fewer partners were treated. The biggest barrier to treating partners was the lack of contact information given by index men. Interventions to improve contact naming among young AA men with Ct or GC are needed.

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POS S6 - T
EVALUATION OF NEISSIERIA GONORRHOEAE INTERVIEW AND PARTNER FOLLOW-UP IN DOUGLAS COUNTY: A 2016 AND 2017 COMPARISON
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Background: On January 1, 2017, DCHD made it their goal to interview all gonorrhea cases that came into the department and obtain risk factor information. The objective is to compare 2016 and 2017 data and determine how well DCHD is following up on gonorrhea cases and partners while getting a better understanding of the risks associated with this disease.

Methods: This evaluation focused on interview completion and partner follow-up rates. Interview completion was determined by patients who completed full interviews and provided risk factor information. Partner follow-up focused on two main groups—new partners examined and new partners not examined— to see how effective DCHD is at getting partners tested and treated for gonorrhea. Evaluation rates followed the NEDSS Base System Reporting Specification STD Program Activity Report: PA01 Case Management, Version 1.3. SAS statistical software was used for data analysis in this evaluation.

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Results: Of the total 1406 gonorrhea cases reported in between January 1, 2016 and December 31, 2016, 304 (21.6%) gonorrhea cases were interviewed. Of those interviewed cases, 182 (59.9%) completed full interviews. Between January 1, 2017 and December 31, 2017, there were a total of 1603 gonorrhea cases reported with 901 (56.2%) cases being interviewed. Of those interviewed cases, 878 (97.4%) completed full interviews. Condom usage, drug use, and incarceration were notable risk factors for both years. Although partner follow-up showed partner initiation increasing by 6.4%, the rate of getting partners examined, among those initiated, decreased by 8.1%. There was a 14.4% increase in new partners examined that were preventatively treated. Among new partners not examined, partners that were unable to be located increased by 7.6%.

Conclusion: Drastically increasing interview completion rates in 2017 provides DCHD with the opportunity to collect more information on cases and partners, which helps to prevent the spread of gonorrhea.

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POS 57 - T
BIG CHANGES IN SMALL PACKAGES - IMPLEMENTATION OF EXPEDITED PARTNER TREATMENT IN OKLAHOMA DEPARTMENTS
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Background: EPT has proven to be a successful public health strategy to enhance timely treatment of partners of clients diagnosed with gonorrhea and chlamydia. “The Oklahoma Public Health Delivery Act of 2012” allows RNs in county health departments (CHD) to issue packaged medications; as a result, the Oklahoma State Department of Health (OSDH) implemented EPT in the state’s 78 rural CHDs and 8 autonomous city county health departments. Provisions were made in Public Health Investigation and Disease Detection system of Oklahoma (PHIDDO) to track EPT uptake among eligible clients per Centers for Disease Control and Prevention eligibility.

Methods: In collaboration with the Denver Prevention Training Center, the OSDH HIV/STD service provided training by webinar and in-person presentations at CHD nurse manager meetings. EPT questions were added to PHIDDO to track issuance and reasons EPT was not offered. STD medication inventory history for 2015 was reviewed to estimate the amount of EPT medication needed to stock 86 facilities. In August 2016, EPT starter kits were mailed to all CHDs.

Results: From September 2016 through August 2017, there were 9,228 cases that were EPT eligible, of which 16.2% received EPT. EPT was received among 1,160/6,133 (18.9%) chlamydia cases and 335/3,095 (10.8%) gonorrhea cases (p <.0001). Among chlamydia cases, 892/3,442 (25.9%) of women received EPT and 78/1,680 (4.7%) of men (p<.0001). Among gonorrhea cases, 257/1,415 (18.2%) of women received EPT and 268/2,691 (10.0%) of men (p<.0001). Among EPT eligible clients, of which 16.2% received EPT. EPT was requested among 1,160/6,133 (18.9%) chlamydia cases and 335/3,095 (10.8%) gonorrhea cases (p <.0001). Among chlamydia cases, 892/3,442 (25.9%) of women received EPT and 78/1,680 (4.7%) of men (p<.0001). Among gonorrhea cases, 257/1,415 (18.2%) of women received EPT and 268/2,691 (10.0%) of men (p<.0001). EPT was issued to 18.6% patients in rural CHDs, 15.3% patients at Tulsa CHD, and 4.9% patients at Oklahoma County CHD (p<.0001).

Conclusion: EPT issuance varied statistically by pathogen, sex, and facility. Tracking EPT documentation in PHIDDO is beneficial for developing strategies to promote EPT use throughout the state.

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POS 58 - T
POTENTIAL BENEFITS OF SCREENING FOR GONORRHEA IN TWO URBAN CENTERS: EXPLORATORY MATHEMATICAL MODELING ANALYSIS
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Background: Sexually transmitted infections (STIs) and other conditions can be spread by sexual contact and the introduction and/or transfer of pathogens from other sources. In order to reduce STI transmission, targeted screening strategies could be implemented. The purpose of this study is to mathematically model the impact of Check it on the prevalence of gonorrhea and Chlamydia trachomatis (Ct) rates in San Francisco and Baltimore. The model was calibrated in a Bayesian framework to city-level gonorrhea and Chlamydia trachomatis case report data for 2010-2016 (by age, sex, and race/ethnicity). We compared adding targeted screening strategies to the calibrated status quo levels of testing.

Results: Estimated screening benefits were expressed as average percentage reduction in gonorrhea prevalence. The calibrated model produced 2016 prevalence estimates of 0.8% (95% credible interval 0.5-1.1%) for Baltimore and 0.4% (0.3-0.5%) for San Francisco. The model was able to reproduce the high share of infections among MSM in San Francisco and among heterosexual black women in Baltimore. Annual screening of young people (all men and women <25y) for 2017-2021 resulted in an average 69% prevalence reduction in Baltimore. The same intervention in San Francisco was estimated to reduce prevalence by 17%, and a higher screening frequency among young people (4x per year) was needed to reduce prevalence by 39%. Likewise, screening all MSM twice a year resulted in an average 44% prevalence reduction in San Francisco. The same intervention in Baltimore was estimated to reduce prevalence by 14%, and a higher screening frequency among MSM (4x per year) reduced prevalence by 17%.

Conclusion: This study highlights the differences in MSM and heterosexual epidemics and suggests a limited spillover potential for interventions.

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POS 59 - T
MODELLING THE IMPACT OF CHLAMYDIA SCREENING OF YOUNG AFRICAN AMERICAN MEN AND EXPEDITED INDEX AND PARTNER TREATMENT ON THE RATES AMONG WOMEN
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Background: Despite decades of screening women for Chlamydia trachomatis (Ct) rates continue to increase and Ct rates are disproportionately higher among African Americans (AA) compared to other groups. Presently recommendations for Ct screening of men are limited to high risk men attending clinics, thus men could be serving as reservoir of infection for women. The “Check it Program” is community-based screening of young AA men (aged 15-24) with the provision of expedited index treatment of Ct+ men (EIT) and expedited partner treatment (EPT) at community pharmacies. The purpose of this study is to mathematically model the impact of Check it on the Ct rates among women (aged 15-24) in the community.

Methods: We created and analyzed a stochastic individual-based heterosexual bipartite network model for the spread of Ct among AA men and women aged 15-24 that captures the complex heterogeneous sexual mixing network between men and women. We used the model to compare the effectiveness of the Check it Program on rates among women. Inputs came from the literature, the census, and from the ongoing Check it Program.

Results: Simulations predict that for every additional 10% of the men screened and treated during a year (EIT), the prevalence among women decreased by 1%. But combining screening and EIT with EPT, the model predicts that the prevalence will decrease by 7% for every 10% increment in the fraction of EPT provided to partners of infected men.

Conclusion: While community-based screening and EIT of men alone is likely to have a modest impact on women's Ct rates, male screening with EIT in conjunction with EPT has a far greater impact.

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POS 60 - T
THE EFFECT OF CONDOM MAILING DISTRIBUTION ON CHLAMYDIA AND GONORRHEA INFECTION RATES AMONG TEENS IN PHILADELPHIA, PENNSYLVANIA
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Background: In 2010, chlamydia (CT) and gonorrhea (GC) rates among teens aged 15–19 years in Philadelphia were more than triple the US national rate.
average. In response, the Philadelphia Department of Public Health (PDPH) began a citywide, free condom mailing program targeting the teen population. PDPH staff analyzed the number of condoms distributed by zip code and compared the data with teen CT and GC rates from 2011 through 2016 to determine if distributing condoms via mail is an effective intervention.

Methods: The number of condoms distributed to each zip code was determined using mailing order data from takecontrolphilly.com, a PDPH website. CT and GC rates for teens aged 15–19 years were collected using surveillance data from PDPH. Both the sets of data were evaluated by zip code across 6 years (2011–2016). A mixed-model longitudinal analysis was used to test for the relationship between the rate of condoms distributed and rate of CT and GC infections among teens over time.

Results: Chlamydia and gonorrhea steadily decreased for teens aged 15–19 years in Philadelphia, from 75.06/1000 to 53.94/1000 for CT and 19.21/1000 to 12.44/1000 for GC between 2010 and 2016. This trend is reflected in the mixed model. Annually, for every 1,000 persons, the rate of CT/GC declined by 4.62 (p < .0001, β = -4.62). For every 100 condoms distributed per 1,000 persons, the rate of CT/GC declined by 1.5 CT/GC infections (p < .015, β = -1.5).

Conclusion: Nationally, teen CT/GC rates have decreased since 2010. However, Philadelphia rates have decreased even more and did not increase during any year. The distribution of free condoms to teens contributes to this decline and proves to be an effective intervention in decreasing CT/GC infections.

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POS 61 - T
POTENTIAL IMPACT OF CHLAMYDIA POINT-OF-CARE TESTING ON CHLAMYDIA PREVALENCE IN THE UNITED STATES: MATHEMATICAL MODELING ANALYSIS

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Background: We examine how point-of-care testing (POCT) would impact US chlamydia prevalence through its expected ability to shorten time to treatment, decrease loss to follow-up (LTFU), and expand screening beyond the usual population presenting for clinical evaluations.

Methods: We used a deterministic heterosexual pair formation model of chlamydia transmission in the US heterosexual population aged 15–54 years stratified by age, risk, and relationship type. It was calibrated using a Bayesian approach to age- and sex-specific national case report rates (2000–2015, 15–54y), prevalence estimates from NHANS (1999–2014, 15–39y), and proportion sexually experienced from the Youth Risk Behavior Survey (1999–2015, 15–18y). We report posterior prevalence estimates using median, 95% credible interval (95%CrI), and percentage reduction. We used a literature-based average LTFU between testing and treatment as 0.5–3% and 1-2 weeks delay to treatment among asymptomatic patients. We examined introduction of a hypothetical POCT with a high sensitivity implemented nationally in the US. POCT was assumed to be ready in immediate treatment and no LTFU.

Results: If existing prevention efforts remain in place, estimated chlamydia prevalence in 2030 would be 2.7% (95%CrI 2.0–3.3%) for women and 2.3% (95%CrI 1.8–2.6%) for men aged 15–24y. Assuming upper end of estimates (average 3% LTFU, 2 weeks delay until treated), introducing POCT with 99% sensitivity results in a prevalence estimate of 2.6% (1.9–3.2%) for women and 2.3% (1.8–2.6%) for men if coverage remains unchanged. If coverage increased (e.g., by self-testing kits), a POCT implemented annually among women <25y, and every other year among men <25y could result in percentage reduction of 47.4% (35.7–55.5%) in women and 47.2% (38.8–56.8%) in men.

Conclusion: Our study estimates the benefit of POCT while accounting for current prevention efforts. With high sensitivity, POCT has the potential to reduce chlamydia prevalence if we project increased screening coverage in addition to removing LTFU and treatment delays.

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POS 62 - T
INCIDENCE AND CHARACTERISTICS OF NEONATAL HERPES SIMPLEX VIRUS INFECTIONS: COMPARISON OF ROUTINE SURVEILLANCE DATA AND ADMINISTRATIVE HOSPITAL DISCHARGE DATA, NEW YORK CITY, 2006-2015

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Background: Neonatal herpes (nHSV) infection is a potentially fatal disease caused by herpes simplex virus (HSV) infection in utero or during the neonatal period. nHSV infections are not nationally notifiable, and varying incidence rates have been reported. Beginning in 2006, New York City (NYC) required reporting of nHSV infections and conducted detailed case investigations. We compared incidence of nHSV infection measured using NYC surveillance data to that measured using administrative hospital discharge data, to examine the feasibility of using widely-available administrative data to monitor trends in nHSV infection.

Methods: During 2006-2015, surveillance cases were defined as laboratory-confirmed HSV infections in NYC-resident infants aged ≤60 days at diagnosis. Administrative cases were defined as NYC-resident infants aged ≤60 days at hospital admission whose discharge records included a HSV diagnosis (based on International Classification of Diseases codes). nHSV cases following ritual Jewish circumcision identified through surveillance (n=13) were matched to administrative cases and excluded from each data source. Incidence was calculated using the number of live births as the denominator. Characteristics of surveillance and administrative cases were compared.

Results: During 2006-2015, there were 107 laboratory-confirmed nHSV cases identified by surveillance (9.9/100,000 live births) and 131 nHSV cases identified using administrative data (12.1/100,000 live births). Incidence was higher in infants born to non-Hispanic black women in both data sources (surveillance: 14.8/100,000 live births; administrative data: 10.6/100,000 live births). Temporal trends in incidence were similar across data sources. Surveillance cases had a younger mean age at hospitalization (10.7 versus 16.7 days for administrative cases, p<0.01), and a higher case-fatality rate (18.7% versus 8.4% for administrative cases, p=0.02).

Conclusion: Administrative hospital discharge data are a reasonable source for measuring incidence of nHSV infection and describing disease burden across population subgroups in jurisdictions where nHSV reporting is not required. However, administrative data may under-ascertain nHSV case fatality.

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POS 63 - T
RECLASSIFICATION OF REPORTED NEONATAL ALLHERPES SIMPLEX VIRUS (HSV) INFECTION IN FLORIDA, 2007 – 2015

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Background: Neonatal herpes infection (nHSV) (in infants ≤60 days) has been reportable by providers in Florida since 2007. However, reported cases have not been reviewed to see if they meet case definitions. We performed a retrospective review of the quality of the reports.

Methods: Provider-reported data pertaining to NHIs from 2007 – 2015 were extracted and examined regardless of existing case classification as case or non-case. Electronic laboratory reporting (ELR) results for herpes simplex virus (HSV) for infants ≤ age 60 days were extracted from a separate database and matched to reported NHIs. NHIs were classified as: confirmed cases (documentation of herpes simplex virus (HSV) detected by DNA/RNA nucleic acid amplification test or culture) or non-cases (did not meet above classifications). Chapman’s capture-recapture sampling method was used to estimate the amount of potentially missed by these reporting systems.

Results: Before review, 52% (123/236) NHI reports were classified as cases. After review, 60.2% (142/236) were classified as confirmed cases. Among confirmed cases, 35.2% (50/142) were not initially classified as cases. Moreover, 25.2% (31/123) of cases upon review were classified non-cases. ELR identified 183 laboratory-confirmed cases; of which only 38 matched provider-reported cases. The 38 matched cases, 104 unmatched provider-reported cases, and 145 unmatched ELR reports yielded a capture-recapture sampling estimate of the total population of NHIs to be ((142+1)/(183+1))=((183-1)/183) = 674 (95% CI = 516, 832).

Conclusion: This case review and classification provides the first systematic measure of laboratory-confirmed NHIs reported in Florida. These data can be used for measures of incidence and case characterization. Standardized case review of Florida’s NHIs is warranted to ensure accurate classification of

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POSS 66 - T
SEROPREVALENCE OF HERPES SIMPLEX VIRUS TYPE 1 AND TYPE 2 INFECTIONS AMONG ADULTS DIAGNOSED WITH GENITAL HERPES: UNITED STATES, 1999-2016
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Background: Genital herpes simplex virus (HSV) infections can be caused by HSV type 1 (HSV-1) or 2 (HSV-2). In the United States (U.S.), most HSV-2 infections are genit al and orolabial and acquired in childhood. Estimates from the 1999-2010 National Health and Nutrition Examination Surveys (NHANES) showed decreasing HSV-1 seropositivity among seropositive females; this is concerning because HSV-naivity among women of childbearing age increases risk of primary genital HSV infection during pregnancy and neonatal transmission. U.S. population-level estimates of genital HSV-1 infections have not been available.

Methods: We examined trends in HSV serostatus among U.S. adults aged 20-49 years who reported a diagnosis of genital HSV, using 1999-2016 NHANES data. HSV serostatus was classified as HSV-1 and HSV-2 negative; HSV-1 positive and HSV-2 negative; HSV-1 positive and HSV-2 positive. HSV-1 serostatus, and assessed by time period (1999-2010 versus 2011-2016), gender and 10-year age groups. Nationally representative prevalence estimates and 95% confidence limits (CI) are presented.

Results: Among men diagnosed with genital HSV, 25.2% (95% CI: 16.9%, 35.7%) were HSV-1 positive and HSV-2 negative during 1999-2010; this percentage did not change significantly during 2011-2016. In contrast, the percentage of diagnosed women who were HSV-1 positive and HSV-2 negative significantly increased from 16.5% (95% CI: 12.4%, 21.8%) during 1999-2010 to 31.6% (95% CI: 23.1%, 41.4%) during 2011-2016. HSV-2 seropositivity in women decreased from 77.6% (95% CI: 71.7%, 82.6%) during 1999-2010 to 63.3% (95% CI: 52.9%, 72.6%) during 2011-2016. Although the percentages of HSV-1 positive and HSV-2 negative women in each age group increased from 1999-2010 to 2011-2016, these changes were not significant.

Conclusion: These findings indicate the percentage of genital HSV infections associated with HSV-1 has increased among U.S. women since 2010. Continued U.S. surveillance of HSV-1 and HSV-2 prevalence, with information regarding anatomic site of infection, is needed.

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POSS 67 - T
PREVALENCE OF GENITAL HERPES DIAGNOSIS AMONG PERSONS AGED 18-49 YEARS WITH SEROLOGIC EVIDENCE OF HSV-2 INFECTION — UNITED STATES, 2013–2016
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Background: Antiviral therapy can suppress symptoms of genital herpes simplex virus (HSV) infection and may reduce sexual transmission; however, treatment is dictated by diagnosis. Most genital infections are caused by HSV type 2 (HSV-2), and diagnoses are usually limited to patients with symptomatic infections.

Methods: During 2013–2016, sera from persons aged 18–49 years participating in the National Health and Nutrition Examination Survey were tested for HSV-2 antibodies using a type-specific immunodot assay. Sexually-experienced participants were asked, “Has a doctor or other health-care professional ever told you that you had genital herpes?” Among HSV-2 seropositive participants, we estimated weighted, nationally representative prevalence and 95% confidence intervals (CI) of those who reported a genital herpes diagnosis. Estimates were stratified by participant demographics.

Results: Prevalence of HSV-2 infection among persons aged 18–49 years was 13.7% (95% CI: 12.1, 15.6). Of the approximately 17 million persons with serologic evidence of HSV-2 infection, only 14.5% (95% CI: 11.2, 18.6) reported that they had been diagnosed with genital herpes. HSV-2 seropositive females were more likely to report a diagnosis than seropositive males: 17.7% vs 8.0%, respectively; prevalence ratio (PR): 2.2 (95% CI: 1.3, 3.9). Compared to seropositive non-Hispanic white females, seropositive non-Hispanic black females were less likely to report a diagnosis (13.3% vs 25.7%; PR: 0.5 (95% CI: 0.3, 0.9)). There was no difference in prevalence of self-reported genital herpes diagnosis by age group.

Conclusion: Over 80% of sexually-experienced HSV-2 seropositive adults aged 18-49 (approximately 12.8 million people) reported that they have not been diagnosed with genital herpes, possibly due to absence of clinical symp-
toms, failure to recognize symptoms, or decreased access to quality sexual healthcare. Further research is needed to investigate the benefits of HSV-2 screening and increased symptom detection, and subsequent linkage to suppressive treatment in populations with elevated transmission risk.

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POS 68 - T
PAKISTAN’S NATIONAL HEPATITIS STRATEGIC FRAMEWORK (2017-21)
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Background: Pakistan has the second highest prevalence (5%) of hepatitis C virus (HCV) in the world, and a 2.5% prevalence of Hepatitis B Virus (HBV) affecting almost 12 million people in the country.

To address this huge public health issue, Pakistan has developed its first ever National Hepatitis Strategic Framework (NHSF) 2017-21. The framework is aligned with the World Health Organization (WHO) Global Health Sector Strategy on Viral Hepatitis to eliminate viral hepatitis as a major public health threat by 2030. To determine how Pakistan can achieve WHO targets (90% reduction in new cases of chronic HCV infection, and a mortality target of 65% reduction in HCV-related deaths by 2030), international modelers conducted HCV modeling and the results were used to set targets and prioritize key actions in the NHSF.

Methods: The NHSF was developed with inputs from National and Provincial Health Departments of the country; and technical assistance of Subject Matter Experts (SME) from Pakistan Health Research Council (PHRC), Division of Viral Hepatitis (DVH) - Centers for Disease Control and Prevention (CDC) and WHO.

Results: The NHSF emphasizes optimizing access to new HCV treatment regimens, recognizing the wide distribution throughout Pakistan. Another key element of the NHSF, prevention, is focused on interventions to reduce the use of therapeutic injections, improve blood safety, ensure proper sterilization of invasive medical devices, and hepatitis B vaccination of infants, children and high risk groups. Increasing access to screening and harm reduction services for people who inject drugs (PWID) is another focus of the NHSF. The NHSF enables decision makers to make informed decisions in directing resources towards effective prevention and treatment strategies.

Conclusion: Effective implementation of NHSF depends on Federal and Provincial ownership and actions from all stakeholders to respond to viral hepatitis.

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POS 69 - T
RAPID HEPATITIS C TESTING IN LOCAL HEALTH DEPARTMENT (LHD) SEXUALLY TRANSMITTED DISEASE (STD) CLINICS IN ILLINOIS (EXCLUDING CHICAGO), 2015-2017
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Background: Hepatitis C Virus (HCV) is a growing public health concern with infection rates predicted by the Centers for Disease Control and Prevention (CDC) to peak in the year 2033. CDC estimates that 75% of persons with HCV infection remain unaware of their status. Effective screening programs are urgently needed to provide undiagnosed HCV infected individuals with therapy. With the introduction of direct-acting antiviral (DAA) therapy, there are now even greater opportunities for widespread treatment and cure for patients with chronic HCV infection. On January 1, 2015 IDPH began supporting rapid HCV testing in select STD clinic sites.

Methods: HCV rapid antibody screening at select STD clinics was supported (12 in 2015, 13 in 2016, and 16 in 2017). Participating clinics are geographically distributed across all regions of the state and offered HCV screening to clients seeking STD services. Any clients testing antibody positive were offered educational information and referred to a clinician to receive follow-up testing and treatment as needed. Descriptive statistics of clients consenting for HCV screening including risk and positivity rates of those screened were performed.

Results: In 2015, 12.0% (808) of STD clients at participating sites were screened for HCV with a 4.5% (36) positivity rate. In 2016, 12.4% (690) were screened with a 6.2% (43) positivity rate. In 2017, 17.0% (752) were screened with a 9.5% (72) positivity rate.

Conclusion: LHD STD clinic sites offer extremely effective HCV screening opportunities. Over the project period, both the number of clinics participating and the overall positivity rate increased, demonstrating HCV screening offered in STD clinics can provide for otherwise missed opportunities among clients seeking STD services. This resulted in Illinois residents previously unaware of their HCV antibody positive status referred for clinical follow-up testing and treatment if appropriate.

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POS 70 - T
ESTABLISHING ACCESS TO HEPATITIS C TREATMENT IN A NURSE PRACTITIONER-LED COMMUNITY-BASED SYRINGE ACCESS CENTER IN SAN FRANCISCO
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Background: In San Francisco, 12,000 people are living with Hepatitis C (HCV). While treatment has greatly improved over the years, access has not. Substantial barriers remain, including lack of treatment awareness, availability of culturally competent providers, and care settings appropriate for clients with impacted lives. San Francisco AIDS Foundation (SAF) launched a HCV Treatment Program in 2017 located in a syringe access center to address these barriers, increase access to direct-acting antivirals, and thus impact HCV disease in hard-to-reach communities with little access to primary care.

Methods: SAF’s Harm Reduction Center provides clean syringes/injection equipment, naloxone, HIV/HCV testing, and mental health/substance use counseling. HCV navigators perform street outreach and refer clients to a Nurse Practitioner (NP) at the center for a medical evaluation. Clients return within 7-14 days to initiate treatment and participate in a case management program with access to free communal breakfast, lockers for medication storage, and individual and group counseling. Laboratory and medication costs are paid by insurance. NP and HCV case management effort is funded through grants and donations.

Results: Between August 2017 and January 2018, 11 clients initiated treatment. Mean client age was 42.4 years (range 29-60); 8 were men, 2 women, and 1 transfeminine. Eight were white, 2 black, and 1 multiracial. All 11 had health insurance. Four were on opioid substitution and all 11 were actively injecting substances. Seven of 7 clients who completed week 4 had a suppressed viral response. Two of the 2 completing treatment had a sustained viral response after 12 weeks of treatment. None discontinued therapy.

Conclusion: Led by trained NPs and HCV Navigators, a community-based organization providing syringe access was positioned to bridge barriers to HCV treatment, determine clinical eligibility, and monitor successful therapy to achieve virologic cure, and decrease community HCV prevalence. Replication of these innovations in additional communities is needed.

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POS 71 - T
HEPATITIS B VACCINATION PROJECT AMONG JAIL INMATES IN TENNESSEE
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Background: Tennessee consistently ranks among states with the highest rates of acute Hepatitis B (HBV) in the nation, with some of the highest case rates demonstrated in counties in Eastern Tennessee. The Advisory Committee on Immunization Practices (ACIP) has recommended routine childhood HBV vaccination since 1991 and currently advises HBV vaccination for at-risk unvaccinated adults, specifically in settings in which a high proportion of individuals have risk factors for HBV. The objective of this project was to reduce case rates of acute HBV infection in Tennessee by providing HBV vaccination to at-risk, previously unvaccinated adults incarcerated in county jails in Eastern Tennessee.

Methods: In 2012, the Tennessee Department of Health (TDH) launched a jail HBV vaccination program in regions with high rates of reported acute HBV. Based on surveillance data, TDH partnered with health departments in four regions in Eastern Tennessee to provide viral hepatitis education and three-dose HBV vaccination to inmates.

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POS 72 - T
SEXUAL RISK BEHAVIOR AND VACCINATION FOR HEPATITIS A IN SEXUALLY COMPULSIVE INDIVIDUALS, 2010-2017 SAO PAULO, BRAZIL
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Background: Hepatitis A (HA) is transmitted by contaminated food/water and eventually by sexual risk behavior (SRB), specially through anilingus practice. As sexually compulsive (SC) individuals exhibit more SRB, we investigated the prevalence of HA in this segment as well as the associated factors and offered vaccination.
Methods: Individuals who sought for treatment for SC behavior and reached diagnostic criteria of excessive sexual drive were enrolled, since they were 18 years or older; literate; did not have paraphilic, gender identity disorder, schizophrenia, and other mental disorders due to brain or physical disease. 
Results: Of the 149 participants, 137 (92%) were male, 59 (39.6%) homosexual/bisexual (H/B) and 90 (60.4%) heterosexual (Ht). The mean was 38 years (SD=9.9) of age and 15 years (SD=4.2) of education. The sexual compulsivity scale mean was 30.8 (SD=6.6), 78(53.3%) reached criteria for hypersexual disorder, 116(84.7%) presented two or more types of SC behaviors (e.g. excessive casual sex). Subjects reported the mean of 11.7 (SD=32) of casual partners in the last 6 months, whereas 65 (68.4%) engaged in anal intercourse; and among male 72(51.4%) reported fellation practice. The prevalence of IgGHA positive(+) was 81(54.4%) (97.5%) female, 72(52.6%) male, 21(60%) H, 11(46%) B and 49(54.5%) Ht. Those IgGHA(+) presented mean 40.8 (SD=10.2) years old, while those IgGHA(−) negative showed mean age of 34.7(SD=8.4). Multivariate analyses showed that individuals younger than 35 years old presented greater susceptibility to HA (p<0.01). None patient presented IgMHA(+). Vaccination to hepatitis A was offered for susceptible individuals.
Conclusion: Because of the higher frequency of SRB among SC individuals, the vaccination to HA is recommended to the young group, who is more susceptible.
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POS 73 - T
EVALUATION OF USING CLINICAL DECISION SUPPORT TO INCREASE HEPATITIS C SCREENING IN A CORRECTIONAL FACILITY
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Background: MetroHealth Medical Center (MHMC) provides medical care to the Cuyahoga Corrections Center (CCC). An estimated 150 inmates are processed each day; previously, hepatitis C (HCV) testing was done only for indication, not for screening. In March 2017, MHMC implemented clinical decision support (CDS) within its Electronic Health Record (EHR) to identify eligible inmates for routine HCV screening.
Methods: CDS was implemented to screen inmates upon intake in 2 at risk populations: birth cohort (1945-1965) and non-birth cohort (self-reported people who inject drugs (PWID)). For PWID, screening was offered to those without history of HCV who had not been tested in the past year. For the birth cohort, screening was offered if no prior test was recorded. Data from 13,798 inmates between 3/1/2016 ~ 1/31/2017 (Pre-CDS) was compared to data from 13,495 inmates between 3/1/2017-1/31/18 (Post-CDS). We describe testing history, number of HCV tests conducted, and clinical decision support usage.
Results: Pre-CDS saw 1533 eligible encounters among the birth cohort with 8 screening HCV tests completed during encounter, while there were 55 eligible encounters among PWID with only 2 HCV screening tests completed during encounter. For both populations, all tests were antibody negative. Post-CDS saw 1232 eligible encounters among the birth cohort with 46 tests on encounter. 13/46 tests were Ab+ and 10/13 were RNA+. Non-birth cohort PWID had 386 eligible encounters with 62 tested upon encounter. 38/62 tests were Ab+ and 29/38 were RNA+.
Conclusion: Upon implementation of a protocol CDS at intake, birth cohort screening tests increased by over 475% and 3000% for PWID. The number of tests not linked to CDS could indicate increased testing due to more awareness of HCV because of the intervention.
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POS 74 - T
COPING WITH PELVIC INFLAMMATORY DISEASE: PERCEIVED SOCIAL SUPPORT INFLUENCES SELF-MANAGEMENT AMONG URBAN ADOLESCENTS AND YOUNG ADULT WOMEN
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Background: Non-adherence to pelvic inflammatory disease (PID) treatment recommendations may increase risk for adverse outcomes among adolescents and young adults (AYA) women. Psychosocial factors such as coping and social support may influence PID self-management. We examined social support and coping strategies utilized by AYA women during the PID treatment period, and relationships between PID self-management and social support and coping.
Methods: AYA women 13-25 years old diagnosed with PID at a large academic health center in Baltimore, Maryland were recruited to participate in a randomized controlled trial (RCT) of an intervention designed to reduce adverse outcomes after PID. Between June 2015 and December 2016, a subsample of enrolled participants (n=90) completed surveys to assess perceived social support (Social Provisions Scale) at enrollment, and post-diagnosis coping strategies (Brief COPE), social support received from parents, and PID self-management (completion of 14-day medication regimen, clinical follow-up visit attendance, partner notification, and sexual abstinence) at follow-up. Multiple logistic regression modeling was used to analyze associations of social support and coping with PID self-management.
Results: Most participants were African American (94.4%), had health insurance (92.3%), and had a primary care provider (68.9%). Mean age was 19.2 years (SD=2.9). The highest perceived social support was guidance (receiving advice) (M=12.3, SD=2.4). Medication reminders were the most commonly received social support (48.9%). The most frequently used coping strategy was active coping (taking steps to ameliorate a stressor) (M=3.5, SD=0.72). The social provision of opportunity for nurturance (perceived social support for opportunities) was associated with medication completion (AOR=1.26, 95% CI: 1.00-1.59, p=0.05) and clinical visit attendance (AOR=2.43, 95% CI: 1.19-4.93, p=0.01).
Conclusion: Although no single coping strategy or type of received support was associated with self-management by AYA women with PID, feeling a sense of responsibility for others was more likely to be associated with improved self-management after a PID diagnosis.
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POS 75 - T
IDENTIFYING PELVIC INFLAMMATORY DISEASE AMONG OREGON WOMEN USING CLAIMS DATA
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Background: Pelvic inflammatory Disease (PID) is a serious consequence of untreated chlamydia and gonorrhea infections that can lead to infertility and...
A cross-sectional analysis was conducted using several databases. The cost-effectiveness ratios we estimated are not so favorable, Liana Cernov, MSc (biology), Lic (nursing), Seghen Haile, MHIT, Bella Siangonya, MPH, Harrell Chesson / hbc7@cdc.gov. We conducted a longitudinal assessment of PID diagnoses among women in Oregon. Only a small sub portion of PID diagnoses happened in emergency or inpatient settings, indicating that other analyses using these data sources will be vastly underestimating the burden of PID. Claims data is a useful tool to track pelvic inflammatory disease in the absence of reporting laws. Contact: Breanna McArdle / breanna.mcardle@state.or.us.

POS 76 - T SEX EDUCATION LEGISLATION AND HPV VACCINATION RATES AMONG ADOLESCENTS IN THE UNITED STATES Sarah Fagan, MPH, Lisa Gallicchio, PhD National Cancer Institute, MD, USA. Background: Research has shown that school-based, comprehensive sexual education is correlated with uptake of the HPV vaccine. However, just 27 states in the U.S. mandate sexual education, only 35 require HIV education, and laws surrounding sexual education differ. Some states require more abstinence-stressed curriculum, which often exclude other strategies for prevention of sexually transmitted diseases like HPV. While the relationship between abstinence-stressed sexual education programs and outcomes like teenage pregnancy have been examined, no study has investigated the association between abstinence-based education and HPV vaccination rates. The purpose of this study was to determine if HPV vaccination rates are associated with level of abstinence focus in state sexual education laws and policies. Methods: A cross-sectional analysis was conducted using several databases including the National 2016 Immunization Survey, the 2016 U.S. Census, and the Center for Disease Control’s School Health Profiles. The association between level of abstinence focus in the 2016 state education legislation and HPV vaccination rates in adolescents (age 13-17y) was examined using multiple linear regression, adjusting for insurance coverage and real median household income. The relationship between sex and HPV education state legislation and teachers’ report of content and requirements within their schools was also examined. Results: In the confounder-adjusted model, HPV vaccination rate was not significantly associated with level of abstinence education (p>0.05). However, having a higher percent of individuals uninsured was significantly and negatively associated with HPV vaccination rate. Five states (California, Florida, Georgia, Hawaii, and Kentucky) had less than 80% of teachers report health education as a requirement, despite being required by state law. Conclusion: The analysis results suggest that HPV vaccination rates are associated with insurance coverage, but not with the amount sexual education laws and policies emphasize abstinence. Despite differing laws on the state level, teachers’ report of health education content does not differ significantly between states. Contact: Sarah Fagan / sarah.fagan@nih.gov

POS 77 - T SHOCKING PREVALENCE OF HUMAN PAPILLOMAVIRUS INFECTION UNAWARENESS AMONG WOMEN IN THE UNITED STATES: FINDINGS FROM THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 2009 – 2014 Jaclyn Perlman, MPH, Seghen Haile, MHIT, Bella Siangonya, MPH, Emeka Oraka, MPH ICE, GA, USA. Background: The human papillomavirus (HPV) is the most common sexually transmitted infection in the United States. An estimated 79 million persons are currently infected with HPV and 14 million new HPV infections are diagnosed each year. High-risk HPV can cause various types of cancers and low-risk HPV may cause genital warts. Although there is national guidance on HPV testing, awareness of HPV infection among women is alarmingly low. We examined the prevalence and associated factors of being “unaware” of HPV status among a nationally representative sample of HPV-infected women. Methods: We analyzed pooled data from the National Health and Nutrition Examination Survey (NHANES) from 2009–2014 and limited the analysis to women aged 18–59 years who tested positive for HPV using the Roche Cobas HPV test (N=2,195). Prevalence of women who were aware of their infection was calculated by demographic and behavioral characteristics (age, race/ethnicity, country of birth, poverty status, health insurance status, and number of lifetime opposite sex partners). Chi-square and prevalence ratios based on logistic regression models were used to determine statistical significance (p<0.05). Results: An estimated 85.6% of women (n = 1,934) were unaware of their HPV infection. After controlling for significant covariates, HPV-infected women who were non-Hispanic Black (1.11; 95%CI: 1.07–1.16), did not have health insurance (1.08; 95%CI: 1.04–1.13), and reported less than 15 lifetime opposite sex partners (1.14; 95%CI: 1.04–1.25) were more likely to be unaware of their HPV status than their respective counterparts. Women aged 26–34 were less likely (0.90; 95%CI: 0.84–0.96) to be unaware of their HPV infection compared to women aged 18–25. Conclusion: Over 5 out of 6 HPV-infected women are unaware of their infection. Additional prevention strategies are needed to ensure that HPV infections are detected early and treated to prevent adverse health outcomes. Contact: Seghen Haile / emailsghen@gmail.com

POS 78 - T COST-EFFECTIVENESS OF NONAVALIENT HPV VACCINATION AMONG MALES AGED 22 THROUGH 26 YEARS IN THE UNITED STATES Harrell Chesson, PhD, Elissa Meites, MD, MPH, Donatus Ekwueme, PhD, Mona Saraiya, MD, MPH, Laura Markowitz, MD Centers for Disease Control and Prevention, GA, USA. Background: In the United States, routine human papillomavirus (HPV) vaccination is recommended for females and males at age 11 or 12 years; the series can be started at age 9 years. Vaccination is also recommended for females through age 26 years and males through age 21 years. The objective of this study was to assess the health impact and cost-effectiveness of harmonizing male and female vaccination recommendations by increasing the upper recommended catch-up age of HPV vaccination for males from age 21 to age 26 years. Methods: We updated a previously published model of the health impact and cost-effectiveness of 9-valent human papillomavirus vaccine (9vHPV). Using this dynamic transmission model, we examined the cost-effectiveness of (1) 9vHPV for females aged 12 through 26 years and males aged 12 through 21 years, and (2) an expanded program including males through age 26 years. Results: Our model projected that, compared to no vaccination, providing 9vHPV for females aged 12 through 26 years and males aged 12 through 21 years cost $16,600 (in 2016 US dollars) per quality-adjusted life year (QALY) gained. The cost per QALY gained by expanding male vaccination through age 26 years was $228,800 and ranged from $138,000 to $367,000 in multi-way sensitivity analyses. Conclusion: The cost-effectiveness ratios we estimated are not so favorable as to make a strong economic case for recommending expanding male vaccination, yet are not so unfavorable as to preclude consideration of expanding male vaccination, particularly in light of the wide range of plausible results we obtained. Further, this range of results may underestimate the true degree of uncertainty, due to model limitations. For example, the cost per QALY might be less than our lower bound estimate of $138,000 had our model allowed for vaccine protection against re-infection. Contact: Harrell Chesson / hbc7@cdc.gov

POS 79 - T SINGLE COHORT VACCINATION AGAINST HPV CAN BE COST-EFFECTIVE: MODEL FOR MOLDOVA Andrzej Jarynowski, CP-MS(math), MSc(math), OCDT-OR3(epi), Lic(sociology)1, Lianna Cernov, MSc (biology), Lic(nursing)2. 1 Interdisciplinary Research Institute, Warsaw, Poland. 2 EcoVisio, Kishinev, Republic of Moldova.
Background: Human papillomavirus, or HPV, is a sexually transmissible virus infection, which is necessary risk factor for developing cervical cancer, most common type of cancer in working age women in Moldova. We observe both behavioural change (increase in sexual partner acquisition rates) and demographical change (population ageing and massive emigration, but still very young), which both correspond to second demographic transition since Soviet Union collapse (early expenditure on health limited to 200USD-per-capita). Moldova will spend around 500,000USD on ‘single cohort’ vaccination in 2018, which cost effectiveness is questionable, because vaccinating a single cohort may not have a substantial effect in other countries. Thus we examine such a single vaccination scenario to show its conditional cost-effectiveness.

Methods: We have run computer simulation to prepare cost-benefit/effectiveness analysis for different vaccination strategies, various screening programs and preventive programs for Moldova in low resource settings, based on its own demography and sexual behaviour. We used data since 1998 to 2017 to adjust model parameter and we project till around 2038. Model aggregated the most important paths of infection, cancer development, uncertainty in healthcare capacity and sexuality and prevention scenarios with 100 differential equations (stochasticity introduced in sexual partner change rates).

Results: Single cohort vaccination could be both cost-beneficial (total cost reduction balance intervention cost before 2037) and cost-effective (with incremental impact in 20 years perspective on the level of 2700USD/QALY).

Conclusion: The possible explanation of this nonintuitive behaviour is transitional situation in Moldova (R – 1), still small change of conditions could cause strong effect in epidemiology. Main effect of intervention is via men, which avoid infection and will not infect other women. This can have effect probably while changing partners is still not as common as in other countries. However, even slight change in initial conditions and parameter values could diminish possible effect (e.g. faster partner acquisition rate increase).

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POS 80 - T

HUMAN PAPILLOMAVIRUS PREVALENCE AMONG WOMEN FOLLOWING HPV VACCINE INTRODUCTION: A SYSTEMATIC REVIEW

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Background: Worldwide efforts have been made by some countries to offer HPV vaccination since its introduction in 2006. Population effectiveness of HPV vaccines is presently an active area of research. We review available evidence on the effectiveness of HPV vaccine uptake among young women to prevent HPV infection.

Methods: A comprehensive search of published and grey literature was conducted in a number of electronic databases using a pre-defined search strategy related to HPV prevalence following vaccination. Data were extracted onto a purpose-designed data extraction form, pooled in a meta-analysis and stratified by continent.

Results: Of the 13 studies which met our inclusion criteria, 8332 women were vaccinated aged 12 to 34 years from across the world. The pooled HPV (comprising types 6, 11, 16 and 18) prevalence among young vaccinated women was 7% (95% Confidence Interval (CI): 5% to 9%). The 13 studies were conducted across 3 continents: HPV prevalence for North America was 5% (95% CI: 3% to 7%); Europe, 14% (95% CI: 9% to 18%) and Australia 5% (95% CI: 3% to 8%). Of the studies which reported the effect of vaccination on another non-vaccine HPV type prevalence (known as cross protective types) HPV (31, 33, 45, 51 & 58), the overall pooled cross protective HPV prevalence was 9% (95% CI: 6% to 12%), by continent North America had 14% (95% CI: 12 to 17%), Europe 7% (95% CI: 6 to 8%) and Australia with 8% (95% CI: 5% to 11%).

Conclusion: This study showed an HPV prevalence of 7% in women vaccinated against HPV types 6,11,16 and 18, which represents a substantial difference to the 22% HPV prevalence in non-vaccinated women. There is however, still a dearth of information on vaccinated women and HPV prevalence, highlighting the need for further studies in this area.

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POS 81 - T

AWARENESS OF HUMAN PAPILLOMA VIRUS (HPV) EDUCATION AMONG PREGNANT WOMEN IN PUERTO RICO

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Background: Human Papillomavirus (HPV) is the most commonly diagnosed sexually transmitted infection in adults, especially in young women of reproductive age. There is no data from Puerto Rico regarding knowledge and attitude of pregnant women towards HPV infection, its relation with cancer and prevention. The aim of this study is to evaluate what pregnant women understand regarding HPV, existence of a vaccine and willingness to vaccinate their children in the future. The lack of information among pregnant women about HPV may contribute to a low vaccination rate of future generations in Puerto Rico.

Methods: A questionnaire based on various studies was created. Cross-sectional study of randomly selected 102 pregnant women, between ages 21 to 38 was conducted in Obstetrics/Gynecologic (Ob/Gyns) clinics in the municipalities of Caguas and San Juan. Data was collected via administered face to face surveys assessing parameters such as socioeconomic status, overall HPV knowledge, knowledge of vaccine existence, and willingness to vaccinate. Univariate analyses were done.

Results: The majority (72.55%) of participants demonstrated having overall knowledge about HPV, of those 60.81% are willing to administer the vaccine to their children, 16.22% are not willing to administer the vaccine to their children and 22.97% do not know whether to vaccinate or not. On the other hand, 27.45% of participants do not have overall HPV knowledge and willingness to vaccinate about 50% are willing to administer the vaccine, 14.29% are not willing to administer the vaccine and 35.71% do not know whether to vaccinate or not.

Conclusion: Based on our findings, even though awareness of HPV infection and vaccine are relatively high among pregnant women, gaps in their knowledge should be addressed by OBGyns and pediatricians through continuous education, since several studies have proven that mothers with more knowledge about HPV and the vaccine are more willing to vaccinate their children.

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POS 82 - T

MOLECULAR DETECTION OF HUMAN PAPILLOMAVIRUS (HPV) IN LIQUID-BASED ANAL CYTOLOGY SPECIMENS ON THE COBAS® 4800 SYSTEM

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Background: HPV is the most common sexually transmitted infection worldwide and is linked to cervical, anal, and oropharyngeal cancers. Men who have sex with men (MSM) have a 15 to 35-fold increased risk of developing anal cancer compared to the general population. Although no definitive screening guidelines for anal carcinoma exist in the US, cytologic screening for precancerous lesions is performed but is characterized by considerable inter-observer variability in interpretation. Due to the large MSM population seeking care in New Orleans, we sought to implement high risk HPV (HRHPB) testing from anal cytology specimens for more comprehensive patient management.

Methods: A total of 41 anal cytology samples were obtained from patients attending a local HIV Outpatient Clinic in New Orleans, LA. Using a direct method-comparison approach with a national reference laboratory, our validation was performed using the Roche cobas® HPV test. HPV spiking experiments were performed to further assess analytical performance. Results were analyzed using Cohen’s kappa statistics.

Results: Compared with the reference laboratory, also running the cobas’ HPV test, HPV spiking experiments were performed to further assess analytical performance. Results were analyzed using Cohen’s kappa statistics.

Results: Compared with the reference laboratory, also running the cobas HPV test, the observed sensitivity and specificity were 100% and 94.1%, respectively, for all HRHPV types combined (HPV16: 100% and 94.1%; HPV18: 100% and 100%; OHR: 100% and 88.9%). A single specimen was reported HPV-negative by the reference laboratory and HPV16 and OHR positive in our testing. Two specimens were both HPV16 positive by the reference laboratory whereas both HPV16 and OHR positive in our testing. Five specimens (12.2%) were excluded due to an inability of the reference or our facility to obtain valid results. HPV spiking experiments showed excellent inter-assay reproducibility with 100% agreement between expected and observed results.
tained results. Kappa coefficients were classified as good to excellent for all comparisons.

Conclusion: This study confirms that the cobas® 4800 HPV test performed on the cobas® 4800 System can successfully detect HR-HPV from liquid-based anal cytology specimens.

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POS 83 - T

MOLECULAR DETECTION AND GENOTYPING OF RECTAL LGV STRAINS USING A CONVENIENCE SAMPLE FROM 7 SITES IN THE UNITED STATES

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Background: Lymphogranuloma venereum (LGV) is a sexually transmitted disease caused by invasive Chlamydia trachomatis (CT) serovars L1, L2, and L3. The prevalence of LGV in the United States is unknown because diagnostic tests to detect LGV from non-LGV CT are not widely available. We sought to estimate the prevalence of LGV among CT-positive rectal specimens using real-time PCR and to determine the genotypes of CT strains.

Methods: A total of 172 rectal swab specimens that tested positive for CT by the Hologic APTIMA CT/NG nucleic acid amplification test between September 2015 and February 2017 were received from public health labs in 7 states: Alabama, Indiana, Massachusetts, Nevada, New Jersey, Michigan, and Tennessee. Two DNA-based real-time duplex PCR assays were run on each sample: (1) to detect CT DNA and (2) to differentiate between LGV and non-LGV strains. Genotyping was performed by nested PCR and sequencing of the outer membrane protein A gene.

Results: Of the 172 CT-positive rectal swabs received, 37 (21.5%) tested negative for CT using the real-time duplex PCR assays, and 3 (1.7%) were invalid (due to PCR inhibition or no human DNA detected). Of the remaining 132 samples, 18 (13.6%) were positive for LGV and 114 (86.4%) were non-LGV. The highest LGV PCR-positivity rate among CT-positive samples was seen in Nevada (21%; 8/38). No LGV was found in samples from Massachusetts and Indiana. Sequencing results showed that all LGV strains belonged to the L2 genotype, whereas genovars D, E, E G, I, and J were identified among the non-LGV strains. In addition, two novel L2 variants were identified in specimens from Nevada.

Conclusion: Using a convenience sample, we found that 13.6% of CT-positive rectal swab specimens were positive for LGV by real-time duplex PCR assays, and all LGV strains had the L2 genotype.

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POS 84 - T

MACRODILATE-RESISTANCE-MEDIATING MUTATIONS CONFER CLINICAL TREATMENT FAILURE TO AZITHROMYCIN IN MEN WITH MYCOPLASMA GENITALIUM-ASSOCIATED NONGONOCOCCAL URETHRITIS

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Background: Mycoplasma genitalium (MG) is the second most common cause of nongonococcal urethritis (NGU) in men and the macrolide azithromycin remains the treatment of choice for MG-associated NGU (MG-NGU). Recently, an increase in macrolide-resistant MG isolates has been reported and remains the treatment of choice for MG-NGU (MG-NGU). Recently, an increase in macrolide-resistant MG isolates has been reported and may comprise up to 60% of MG-NGU cases. In vitro, macrolide resistance is associated with single nucleotide polymorphisms termed macrolide resistance-mediating mutations (MRM). Whether MRM-containing MG alleles confer clinical NGU treatment failure with azithromycin remains unclear.

Methods: The Idiopathic Urethritis Men's Project (IUMP) is a longitudinal study of men with and without NGU. NGU is diagnosed in men without Gram-negative intracellular diplococci seen on microscopic examination of a urethral Gram stain, ≤5 polymorphonuclear leukocytes per high power field, and urethritis symptoms. A first-void urine specimen is also obtained for MG testing. Men with NGU are treated with azithromycin and scheduled for a 21-day test-of-cure visit. The presence of MRM-containing MG alleles was determined by PCR and Sanger sequencing of all MG isolates.

Results: In 224 men enrolled to date, MG was identified in 30 men with NGU. All men were treated with azithromycin and 23 men returned for a 1-month test-of-cure visit. MRM-allele testing has been completed for 49 MG isolates: 30 from the enrollment visit and 19 from the test-of-cure visit. MRM-containing MG alleles were identified in 67% (N = 20) of men prior to treatment. Clinical cure occurred in 83% of men with wild type (N = 6); one man acquired MRM-containing MG between treatment and followup. All men with MG-containing MG alleles (N = 13) remained infected at follow up (RR 6.9 (95% CI 1.0–36, P = 0.0497).

Conclusion: The presence of an MRM-containing MG allele is associated with clinical treatment failure to azithromycin in men with MG-NGU.

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POS 85 - T

SYMPTOM RESOLUTION AND SEX RESUMPTION AMONG MEN WHO HAVE SEX WITH MEN (MSM) AFTER NONGONOCOCCAL URETHRITIS (NGU) DIAGNOSIS

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Background: Standard counseling for men diagnosed with NGU includes advice to abstain from sex for 7 days and until symptoms resolve. Time to symptom resolution is poorly defined, although assumed to be ~7 days.

Methods: Between 02/10/2015-11/07/2017, we enrolled MSM with NGU attending an STD clinic in Seattle, Washington. Men attended visits every 3 weeks for 3 months and completed weekly web-based diaries, reporting daily urethral symptoms and sexual behavior. NGU was defined as symptoms or visible discharge plus ≥5 PMNs/HPF. Symptom resolution was defined as the first of 5 consecutive asymptomatic days. Urethral exposures included insertive oral or condomless insertive anal sex. We estimated median time-to-event after NGU using the Kaplan-Meier method and tested for group differences using log-rank tests.

Results: Of 93 MSM with NGU, 84 (90%) completed ≥1 visit. At enrollment, Chlamydia trachomatis (CT) and Mycoplasma genitalium (MG) were detected in 28 (33%) and 21 (25%), respectively. Men reported symptoms and sexual behavior over a median of 88 days (interquartile range=85-93). Among 63 men reporting urethral symptoms at enrollment, median time to symptom resolution was 7 days (range=1-39). All but 3 received azithromycin Ig. Thirty men (48%) had symptoms lasting >7 days following initiation of treatment. For men with CT only, MG only, and idiopathic NGU, median time to symptom resolution was 3 (range=1-23, 21% >7 days), 10 (range=1-27, 69% >7 days), and 10 (range=1-39, 52% >7 days) days, respectively (P=0.02). Median time to urethral exposure after treatment failure was 14 days (range=1-85), and 15 (18%) reported exposure within 1-7 days.

Conclusion: NGU symptoms often persist for >7 days following therapy, particularly in men with MG or idiopathic NGU. One-in-6 men reported urethral sexual exposure during the recommended 7 day period of abstinence. Standard counseling at NGU diagnosis should be modified to educate men that symptoms may persist for >7 days.

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POS 86 - T

UNDERSTANDING PUERTO RICAN MEN’S KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING THE PREVENTION OF SEXUALLY TRANSMITTED ZIKA

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Background: Zika is the first mosquito borne virus known to be both sexually transmitted and linked to birth defects. Puerto Rico (PR) was particularly impacted with over 3000 cases among pregnant women. Although pregnant women are the priority population, more efforts targeting their male sex partners are needed to reduce sexually transmitted Zika (STZ). Abstinence or condoms reduce risk of STZ from a man to his pregnant partner, but it is unknown if men are aware of, or practicing, critical prevention behaviors.

Methods: Six in-person, semi-structured focus groups (n=41) were held with men, 18 years and older, who had pregnant partners in three regions of Puerto Rico in February 2017. A qualitative content analysis identified themes about STZ knowledge, awareness, beliefs, and behaviors.
POSTERS

Results: General knowledge about Zika symptoms, transmission, effects, and prevention was high among men. Whereas most men had heard that sex with their partners increased the risk of Zika transmission and birth defects to their baby and that condoms could reduce the risk of transmission, they expressed distrust in the information and skepticism about the actual severity of Zika for themselves, their partners and their future children. Specifically, men wondered why other mosquito-borne viruses, such as dengue, didn’t spread sexually or why neighboring countries weren’t experiencing high rates of Zika. Many men weren’t aware of recommended guidance to prevent STZ and falsely believed that testing was widely available and could be used to assess transmission risk. Condom use was considered more feasible than abstinence, but few men reported consistently using condoms throughout their partner’s pregnancy.

Conclusion: With continued risk of Zika in PR, engagement and outreach with men who have pregnant partners is needed to improve their understanding and belief in Zika risks, address concerns and skepticism, and provide support for protective behaviors.

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POSS 87 - T
NEISSERIA Meningitidis URETHRITIS, COLUMBUS, OHIO AND PHILADELPHIA, PENNSYLVANIA, 2017
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Background: Reports of Neisseria meningitidis (Nm) strains associated with a specific phylotyping group causing urethritis (US_NmUC clade) have been increasing in the U.S. since 2015. Clinically, Nm urethritis presents similarly to Neisseria gonorrhoeae (GC); both pathogens are gram-negative diplococci.

There is no routine surveillance for Nm urethritis; thus, prevalence of and risk factors for Nm urethritis are unknown. Our objective was to describe Nm urethritis cases and isolates from two STD clinics.

Methods: Males presenting with symptomatic urethritis at two clinics (Columbus, Ohio and Philadelphia, Pennsylvania) during April–December 2017 had urethral specimens collected; some also had oropharyngeal specimens collected. Men with presumed Nm urethritis, defined as positive culture for Neisseria species, with negative GC nucleic acid (NAAT) testing, were interviewed, providing information on sexual behaviors and potential risk factors. Presumptive Nm isolates were sent to CDC for confirmation using whole genome sequencing.

Results: Overall, 37 men were diagnosed with Nm urethritis, representing 2.7% of GC NAAT tests administered. Fourteen interviews were completed; mean patient age was 28 years (range: 20–51 years). None of the men reported HIV-infection; Twelve (86%) men reported sex with females only, one (7%) reported sex with males and females, and one (7%) reported sex with males only. All men reported receiving oral sex; eight (57%) reported using saliva as a lubricant during sex. All 19 available urethral isolates were non-groupable Nm, of the US_NmUC clade. One oral isolate, from the patient reporting sex with males only, also belonged to the US_NmUC clade.

Conclusion: In this population, all Nm urethritis patients interviewed reported receiving oral sex, and saliva was frequently used during sex, suggesting transmission may be related to oro-genital contact. All urethral isolates and a paired oral isolate, were associated with the urethritis clade. Ongoing surveillance is needed to characterize Nm urethritis burden and epidemiology.

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POSS 88 - W
GRASPING THE DREAM: FACILITATING THE ADOPTION OF “UNDETECTABLE = UNTRANSMITTABLE” IN PHILOSOPHY AND PRACTICE
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Background: In June 2016, the Prevention Access Campaign issued a consensus statement, “People living with HIV on ART with an undetectable viral load…have a negligible risk of sexual transmission of HIV,” and in September 2017, the CDC endorsed the science as well. The following month, the Michigan Department of Health and Human Services (MDHHS) released an official statement supporting the Undetectable = Untransmittable (U=U) campaign. This concept is a major paradigm shift, given that HIV has been synonymous with “death sentence,” and “vector of disease” for several decades. We aimed to create and disseminate accurate, hopeful, and trustwor-thy messaging while also incorporating this new information into policy and practice at all levels.

Methods: A training approach was taken to allow state health department participants to explore feelings and beliefs about the science, in addition to facts. Exercises highlighted the importance of this paradigm shift, and explored how and where this information can be integrated into their work. We ensured all Division of HIV & STD Program staff were accurately informed and on-message through a required U=U training. Additional audiences for training and discussion in the coming months include local health departments, funded CBOs, FQHC staff, Community Advisory Boards, Michigan’s Community Planning body, and the community at large via regional forums and an awareness campaign.

Results: Eighty-five percent (N=68) of participants attending the MDHHS workshops agreed they were able to comfortably discuss U=U following the training, and 87% agreed that they felt able to integrate U=U into their work.

Conclusion: Moving internal and external partners to understand, internalize, and apply the science behind U = U is a process, not a singular event. MDHHS is utilizing a training approach, understanding that to embrace this change we must change people’s hearts as well as minds.

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POSS 89 - W
PEP: ELIMINATING BARRIERS AT ALL COSTS
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Background: In August 2015, Health Center One (HC#1) implemented a HIV pre-exposure prophylaxis (PrEP) clinic to patients 18 years or older determined to be at high risk for HIV. PrEP costs an uninsured patient approximately $1300 per year plus additional expenses of office visits and lab work. Identifying these potential barriers, HC#1 developed a PrEP program with no current capacity for third-party billing.

Methods: Prior to implementation, HC#1 social work staff were provided trainings on the Affordable Care Act, Insurance Market Place, Medicaid and Medicare. During the initial PrEP visit patients were interviewed by social work staff to identify opportunities and barriers with insured, uninsured and underinsured access to PrEP Medical records, social work process notes and patient interviews were analyzed to determine best practices to decrease clinical barriers to retention and health disparities in PrEP access.

Results: From March 16, 2016 to December 31, 2017, 159 patients initiated PrEP services. Out of 159 patients enrolled, 18% reside outside of Philadelphia county and 16% left their PCP to enroll in HC#1 PrEP clinic. Patients without insurance (49%) needed assistance with obtaining Medicaid, Market Place Insurance and Place patient assistance programs. Patients with private insurance (48%) off of pocket costs ranged from $20-$1700. The average patient retention to care (102) was 6-9 months with no out of pocket expenses to the patient. The retention rate continues to increase since the implementation 2015 (5%), 2016 (37%) and 2017 (58%).

Conclusion: As a Sexual Health Clinic providing full PrEP services in the absence of third party billing, HC#1 greatly limits financial barriers to treatment. Assisting uninsured or underinsured patients in one location can both increase initiation and retention to PrEP care.

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POSS 90 - W
MAXIMIZING THE DISEASE INTERVENTION SPECIALIST (DIS) WORKFORCE TO IMPROVE LINKAGE AND RETENTION IN HIV SERVICES
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Background: DIS have historically notified and linked clients for STD diagnosis/treatment, and have conducted HIV testing and partner services since

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the early days of the epidemic, but tend to be underutilized in supporting linkage to/engagement in care, and viral suppression. DIS possess skills that naturally lend themselves to these services and already work with many patients who are co-infected. Incorporating linkage activities into their existing work duties maximizes opportunities for both STD and HIV prevention, particularly among co-infected clients.

Methods: A DIS Linkage to HIV Care training was developed and delivered 5 times over a 2-year period for health department or CBO staff in 3 states. Quantitative and qualitative data was collected from participants. Utilizing adult learning theories, content included describing how linkage and reten- tion support high-importance prevention, incorporating linkage work and messaging into partner services practices and identifying core components of HIV Linkage programs.

Results: Ninety-five participants from STD or HIV programs attended the 5 trainings. Analysis of course data (using a 5 point Likert scale) indicated mean increases from +86 to +91 for measuring understanding of linkage reporting high-importance prevention, ability to describe the core components of Linkage to care programs and, incorporate HIV linkage to care work and messaging into partner services practices.

Conclusion: The DIS Linkage to Care course increased knowledge and skills towards linking persons with HIV into medical care. With these additional skills, DIS can integrate linkage activities into their current work and in- crease collaboration between linkage to care and disease intervention pro- grams. Optimizing different skill sets allows programs to more effectively link or re-engage clients into care.

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POS 91 - W
HUMAN IMMUNODEFICIENCY VIRUS INFECTIOUS PROFILE CHANGE IN MALI: A LITERATURE REVIEW
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Background: West Africa is reputed as epicenter of HIV-2 infection. Studies undertaken in Mali suspected HIV-1 more prevalent. Our study aims to document HIV infectious profiles in Mali and analyze HIV-1 dominance.

Methods: We documented HIV studies undertaken in Mali from 1985 to 2010. We proceeded to a bibliographic search focused on theses from Medic- ince Pharmacy Odontostomatologie Faculty of Bamako, survey reports and abstracts or papers published in reviews with reading committee. Documents were physically and virtually (via website) consulted and exploited. We gave preference to studies which discriminated HIV serotypes. The data was ana- lyzed according to study population/publication, representativeness, infec- tious profiles reporting, socio-demographic and clinical characteristics. HIV profiles variation in space and time was analyzed by using linear regression model. Calculations were done using Excel software.

Results: Out of 17 studies which reported HIV profiles, 9 documented in full the serotype profiles. They mainly concerned health care patients and prosti- tutes, as they are likely more exposed to HIV infection. Preliminary studies were weakly represented. The sexual route was mostly described. In prostitu- tutes group, significant regression of HIV-2 was observed between 1987–1995 and 1995 (65/517 vs 7/176) (p = 0.001) while HIV-1 increased (36/517 vs 65/178) (p <0.000). As for overall population, there was significant increase in HIV-1 while HIV-2 regressed (Y = 8.48x + 16.38; R² = 0.666) vs (Y = 5.626x + 55.82; R² = 0.332). The chronology of events showed prior exist- ence of both infectious profiles, but with an initial dominance of HIV-2 and change toward HIV-1 probably occurred between 1990 and 1994.

Conclusion: The study surprisingly highlighted HIV-1 profile dominance in Mali, whereas West Africa reputed as HIV-2 epicenter. However, it suffered of lack representativeness of preliminary studies. HIV profile change and propa- gation seems essentially due to sexual route in this country.

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POS 92 - W
PREDICTING HIV RISK MULTIPLEXITY: A SOCIAL NETWORK ANALYSIS
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Background: Multiplexity represents the overlap in types of relationships (i.e., drug use with sex partners), and is a known risk factor for HIV. Little is known about predictors of multiplexity. Thus, the aim of the present study is to identify multi-level predictors of multiplexity.

Methods: Egocentric data from Project 90, a prospective study of the influence of network structure on HIV transmission among 595 heterosexuals at risk for HIV, collected between 1981-1992 in Colorado Springs, CO. Descriptive statistics were used to describe socio-demographics, HIV risk behaviors and social network summary variables. Differences between those who did and did not have multiplex ties were tested using chi-square and t-tests. Unadjusted odds ratios and 95% confidence intervals were estimated to examine the effects of each predictor on the outcome variable. Variables significant in the bivariate analysis model were entered into a multivariate regression model to estimate the odds of having multiplex ties.

Results: 17% (101 out of 595) of respondents had multiplex ties. Compared to Whites, Hispanics were significantly more likely engage in risk multiplexity (AOR=1.84; 95% CI=0.963-3.52), and Blacks less so (AOR: 0.47; 95% CI=0.216-1.035). Respondents who were similar to each other (e.g., in terms of race) had significantly higher odds of having multiplex ties (AOR: 2.1; 95% CI=1.233-3.606). We examined the interaction between a participant know- ing their HIV status and knowing someone who has HIV/AIDS. The interac- tion effect was negative and significant (AOR: 0.36; 95% CI=0.128-1.006).

Conclusion: The high overlap in drug and sex-related HIV risk behavior suggests that no single behavioral HIV prevention strategy will effectively reduce HIV risk among people who engage in risk multiplexity. Furthermore, socio-demographics, HIV behaviors and network factors impact engagement in multiplex risk behaviors, highlighting the need for multi-level interven- tions to reduce HIV risk behavior.

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POS 93 - W
USING HIV PARTNER SERVICES DATA TO EVALUATE HIV CASE FINDING STRATEGIES AT THE POPULATION LEVEL
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Background: Little data exist on how much different HIV case finding strategies contribute to identification of new cases at the population level.

Methods: Starting in 2016, Disease Intervention Specialists (DIS) in King County, WA began routinely ascertaining the reason for HIV testing among persons newly diagnosed with HIV. Reason for testing was defined using a standard question in partner services (PS) interviews, supplemented by information from patient medical records. We analyzed data on cases diagnosed 1/1/2016-6/30/2017 to define the proportion of diagnoses resulting from different rea- sons for testing, and we calculated the median time from last negative to first positive HIV test (i.e., interest interval, ITI) by reason for testing.

Results: From 1/1/2016-6/30/2017, 195 persons newly diagnosed with HIV in King County completed PS interviews. Eighty-seven percent were male and 74% were men who have sex with men (MSM). Among all new di- agnoses, the top reasons for testing were patient-initiated screening (28%), provider-initiated screening (19%), and testing prompted by HIV-related symptoms (excluding acute HIV; 13%). Compared to non-MSM, MSM were more likely to be diagnosed due to patient-initiated screening (33% vs. 14%; p=0.016), symptoms of acute HIV (14% vs. 2%; p=0.036), and because of a suspected STI (16% vs. 4%; p=0.049). Non-MSM were more likely than MSM to test because of provider-initiated screening (29% vs. 15%; p=0.033) and HIV-related symptoms (24% vs. 10%; p=0.024). The median ITI varied from 99 days in persons with acute HIV to 1,934 days in persons with HIV-related symptoms and was lower in MSM than non-MSM (294 vs. 744 days; p=0.001).

Conclusion: The HIV testing strategies that lead to new diagnoses vary dra- matically between MSM and non-MSM, highlighting the importance of a multifaceted HIV testing strategy. Integrating data collection on reasons for testing into PS interviews is an efficient means for assessing case finding strate- gies at the population level.

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POS 94 - W
AWARENESS OF AND WILLINGNESS TO TAKE PREP AMONG YOUNG MINORITY URBAN MALES AND ASSOCIATED PROVIDER- PATIENT ENCOUNTER AND CLINIC-PATIENT EXPERIENCE FACTORS

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Background: Several studies have explored individual-level characteristics that affect awareness of and willingness to take PrEP among priority populations. This study's objective was to identify provider-patient encounter and clinic-patient experience factors that are associated with awareness of and willingness to take PrEP among young urban minority males, a priority population for HIV prevention and control.

Methods: Two cross-sectional surveys following clinical visits were conducted between July 2016 and October 2017 among a convenience sample of young minority males aged 15-24 years in six urban clinics in Baltimore City. Multivariable logistic regression was used to identify provider-patient encounter and clinic-patient experience factors associated with awareness of and willingness to take PrEP.

Results: A total of 168 individuals were surveyed, 48% reported currently being on PrEP, 36.1% were aware of PrEP, and 47% were willing to take PrEP daily to prevent HIV acquisition. Provider-patient encounter characteristics associated with willingness to take PrEP included the provider having asked about the patient's sexual behavior (OR 2.48, 95% CI: 1.2 – 5.0), number of partners (OR 2.64, 95% CI: 1.3 – 5.4), sexual orientation (OR 2.16, 95% CI: 1.1 – 4.2), and whether they had been hurt by a partner (OR 2.33, 95% CI: 1.1 – 4.9), as well as the provider discussing risk reduction (OR 2.27, 95% CI: 1.2 – 4.9); these provider-patient encounter characteristics were not associated with PrEP awareness. The clinic-patient experience factor, satisfaction with overall clinic services, was significantly associated with PrEP awareness (OR 2.58, 95% CI: 1.2 – 5.4), but not with willingness to take PrEP.

Conclusion: We identified aspects of the provider-patient encounter and clinic-patient experience associated with awareness of and willingness to take PrEP among young, minority urban males. These may yield new targets for provider- and practice-level interventions aimed to increase PrEP uptake.

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POS 96 - W FACTORS ASSOCIATED WITH PRE-EXPOSURE PROPHYLAXIS UPTAKE AMONG TRANSGENDER INDIVIDUALS: A SYSTEMATIC REVIEW
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Background: Pre-exposure prophylaxis (PrEP) has demonstrated efficacy among populations at heightened risk of acquiring HIV. Despite this new promising biomedical intervention, uptake of PrEP has been stagnant and noteworthy gaps remain in understanding the factors that influence successful uptake of PrEP.

Methods: A systematic review was conducted by searching five databases (Medline, Embase, Global Health, PsycInfo and CINAHL) for studies that explored the factors that influence and impede engagement in PrEP utilization among transgender communities. A search of the included articles’ references was also conducted.

Results: Of 257 articles retrieved, 8 met pre-determined inclusion criteria. Four were quantitative, 3 were qualitative and one employed mixed methodology. Study locations were evenly distributed in the United States and internationally. The review revealed a lack of consistency and use of validated measures used to characterize PrEP uptake. A major outcome of this review was that no quantitative United States-based studies have been conducted since the approval of PrEP by the Food and Drug Administration in 2012. At an individual level, the most cited barriers to PrEP uptake were linked to PrEP knowledge, attitudes and expectations including side effects and interactions with other medications. Fear of stigma and being perceived as HIV positive were among the barriers on the social level. Community level barriers hindering PrEP uptake included access, affordability and incompetent health professionals.

Conclusion: Nearly six years after PrEP’s approval and the promising evidence that PrEP can curtail the HIV epidemic, there is a dearth of research aimed at exploring factors related to PrEP uptake among transgender populations. Categorizing and addressing these factors have significant implications to developing empirically driven interventions.

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were more likely to anticipate more sexual partnerships. Qualitative data sug-
gest PrEP may not impact women's condom-use due to ongoing pregnancy
concerns. However, men reported decreased HIV risk might change their
sexual behavior.

Conclusion: We found evidence to suggest heterosexuals might engage in
risk compensatory behaviors after initiating PrEP. Research is needed to better
understand how risk compensation unfolds among heterosexuals who initiate
PrEP, and how/why it may differ between men and women.

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POS 98 - W
TRENDS IN HIV TESTING AMONG WOMEN AND MEN ATTENDING TITLE X-FUNDED FAMILY PLANNING CLINICS, 2005 - 2016

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Background: The federal Title X Family Planning Program provides acces-
sible and low-cost family planning services, including HIV testing, to family-
planning clients in the 50 states, District of Columbia, U.S Territories, and
Pacific Basin Jurisdictions. This study assesses trends in HIV testing and test
positivity among Title X family planning clients.

Methods: Administrative data from the Title X Family Planning Annual Re-
port (PPAR) data system were used to describe HIV testing trends among
clients who had at least one clinical encounter during 2005 – 2016. HIV test-
ing was calculated as number of tests performed per 10 clients served for males and females separately. HIV test positivity was calculated as number
of positive tests per 1,000 total tests performed.

Results: From 2005–2016, the number of HIV tests performed by Title X-
funded clinics rose 91%, from 607,974 (2005) to 1,163,883 (2016), while the
number of clients seen annually decreased from approximately 5 to 4 million. The number of tests per 10 female clients increased from 1.1 (2005) to
2.5 (2016), while the number of tests per 10 male clients increased from 3.4 (2005) to 5.7 (2016). The positivity rate for all tests performed increased from
1.8 (2005; n=1,114) to 2.4 (2016; n=2,824) positive tests per 1,000 tests per-
formed.

Conclusion: During 2005 – 2016 the number of HIV tests performed by the
Title X program has almost doubled, despite a decline in overall client
volume. Although testing rates for both female and male clients increased
during this period, in all years the testing rate for males was two to three times
higher than the rate for females. The increase in HIV test positivity suggests
that Title X providers are helping persons living with HIV know their serosta-
tus, allowing for treatment options.

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POS 99 - W
STREET-CONNECTED YOUTH: A PRIORITY FOR GLOBAL HIV PREVENTION

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Background: Globally, adolescents and young people experience high levels of
HIV vulnerability and risk. HIV/AIDS is currently the sixth leading cause of
death in people aged 10-24 years. Among young people, street connected
youth are clearly distinguished as being among the most at risk for HIV infec-
tion. The present study recognizes the urgent need to scale up effective HIV
responses that are tailored to the unique needs of street connected youth for
the global HIV agenda and especially, the former Soviet Union Countries -
e.g. Georgia, where "street kids" are a new phenomena, estimated to be about
2,500 and is constantly growing.

Methods: During two months trained interviewers conducted individual
semi-structured qualitative interviews with 20 key informants from the loc-
ral community, including individuals from governmental institutions, law
enforcement and service organizations. Informants discussed social network
characteristics influencing street connected youth's sexual risk behaviors. Data
were analyzed using NVivo10.

Results: It was revealed that there are four types of homogenous networks of
street connected youth aged 10-19 based on ethnic background: (1) Geor-
gians; (2) migrant kids of Azeri-Kurdish origin; (3) local Roma kids of Mol-
davian origin and (4) mixed groups. These networks are distinguished with
various HIV risk through both risky sexual and drug-related behaviors. The
highest risks are spread among kids who are run away from their families
and largely involved in commercial sex work. In addition, there are several cases
of HIV infection identified.

Conclusion: Retaining patients in a PrEP program can be challenging. Im-
proving our understanding of the barriers is the next logical step in develop-
ing strategies that assist PrEP retention. Common barriers such as medication
access and perceived risk are issues that could be feasibly addressed when
developing strategies to improve program retention.

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POS 100 - W
PRIP DROPOUTS: IDENTIFYING THE BARRIERS TO RETENTION IN A PREP PROGRAM IMPLEMENTED IN AN STI CLINIC SETTING

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Background: Implementing a successful Pre-Exposure Prophylaxis (PrEP)
program includes not only engaging those at the highest risk of acquiring
HIV but maintaining them on PrEP. In order to develop strategies that im-
prove PrEP retention, issues related to program disengagement must be iden-
tified.

Methods: A database was created to capture key elements in PrEP case man-
agement, using information extracted from clinic records electronically and
by chart review. SAS 9.4 was used for data analysis. Program administrators
established standardized criterion for enrollment status and a code system
indicating reason for disengagement. This database was matched to an HIV
surveillance database to determine outcome.

Results: 319 patients were enrolled from September 2015 through January
2018. Half (159) were still engaged in the program at the time of analysis.
There was no significant difference in gender, race or age of those engaged
vs. disengaged. Among the 160 patients who disengaged from PrEP, 116 had
at least one follow up visit and 64% (102) were retained for more than 6
months. The majority of those disengaged gave no reason for stopping (55%) and
most were unresponsive to contact attempts. Additional reasons identi-
fied were: patient relocated (11%), side effects (8%), change in perceived risk
(8%) and barriers to coverage (7%).

Three patients were discharged from the program secondary to HIV sero-
conversion, all encountering some barrier to accessing medication. Another
5 disengaged patients seroconverted within 7 months (range 2-7) of stopping
medication. Barriers to medication access and perceived risk were among the
reasons identified for disengagement.

Conclusion: Retaining patients in a PrEP program can be challenging. Im-
proving our understanding of the barriers is the next logical step in develop-
ing strategies that assist PrEP retention. Common barriers such as medication
access and perceived risk are issues that could be feasibly addressed when
developing strategies to improve program retention.

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POS 101 - W
FACTORs ASSOCIATED WITH AWARENESS OF PRE-EXPOSURE PROPHYLAXIS (PrEP) FOR HIV AMONG PERSONS WHO INJECT
DRUGS IN PHILADELPHIA

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Background: PrEP is a biomedical HIV prevention tool that has been un-
derutilized among people who inject drugs (PWID), who stand to benefit
from this prevention strategy. Though studies demonstrate PWID find PrEP
acceptable, awareness and uptake remain low.

Methods: We analyzed interview data from the 2015 NHBS Philadelphia
IDU cycle (n=612), which included questions on socio-demographics, HIV-
related risk, and preventive behavior within 12 months. Data were analyzed
using x2 tests. Fisher’s Exact tests and multivariable logistic regression to un-
derstand how socio-demographic/behavioral factors impact PrEP awareness,
discussing PrEP with a healthcare provider, and receiving a PrEP prescription
among PrEP-aware PWID.
Results: Of 612 PWID, 12.4% were PrEP-aware; of those, 18.4% indicated they had discussed PrEP with a healthcare provider and 2.6% reported receiving a prescription. Condomless (77.0%), transactional sex (25.8%), as well as syringe and/or paraphernalia sharing (64.9%) were common in our study population. After adjusting for gender, significant predictors of PrEP awareness included: at least some college (adjusted odds ratio [aOR] = 2.13; 95% confidence interval [CI]: 1.93, 4.43), having received an STI test (aOR = 1.71; 95% CI: 1.01, 2.89), sharing only paraphernalia (aOR = 2.0; 95% CI: 1.35, 3.87), obtaining syringes/needles primarily from a syringe exchange program (SEP) (aOR = 2.28; 95% CI: 1.35, 3.87), and participating in drug treatment (aOR = 2.81; 95% CI: 1.62, 4.87).

Conclusion: PrEP awareness among PWID was low. However, PWID who accessed health and prevention programs such as SEPs, drug treatment, and sexual health providers had greater PrEP awareness. Thus, increasing access to such programs for PWID and utilizing such programs to provide PrEP education to PWID is a logical next step to increasing PrEP awareness and uptake among PWID.

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POS 102 - W
FACTORS ASSOCIATED WITH ART ADHERENCE AMONG MSM IN HIV CARE
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Background: Adherence to antiretroviral therapy (ART) is essential for achieving viral suppression and preventing HIV transmission. Despite widespread use of ART among men who have sex with men (MSM), disparities exist in levels of viral suppression, which are lower in Black men and youth. This study examines patterns of ART adherence among MSM in care.

Methods: We examined data between 2009 and 2014 from interviews and medical record abstractions of 1,617 MSM living with HIV infection from the Texas Medical Monitoring Project Survey. ART Adherence was defined as taking medication as directed within the past three days. Associations between ART adherence and sociodemographic information, risk behavior, mental health, and unmet needs for medical and support services were assessed using Rao-Scott chi-square tests. The odds of ART adherence were calculated using multivariable logistic regression models.

Results: While only 14% of all MSM were non-adherent to ART, higher levels of non-adherence were seen in Black men (21%) and in those under 29 years of age (25%). When controlling for sociodemographic characteristics, binge drinking (aOR = 2.4, p < .001), injection drug use (aOR = 2.3, p < .05), homelessness (aOR = 1.7, p < .05), and depression (aOR = 1.9, p < .001) was also positively associated with non-adherence. When controlling for sociodemographic characteristics, risk behavior, and mental health, having ≥2 unmet needs is positively associated with ART non-adherence (aOR = 2.3, p < .001) compared to those with no unmet needs.

Conclusion: Our study shows that ART adherence in general is high among HIV-positive MSM in care. To reduce disparities in health outcomes, barriers to ART adherence related to risk behavior, mental health, and unmet needs should be routinely addressed with MSM in HIV care.

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POS 103 - W
A COMPARISON OF HIV RELINKAGE CASELOADS USING HIV SURVEILLANCE DATA VS. STD SURVEILLANCE AND PARTNER SERVICES DATA
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Background: Relinkage of persons living with HIV back into care has been identified as a public health intervention for reducing community viral load and further transmission. Using surveillance data to identify persons out-of-care has been of limited success, mainly due to the large number of persons identified, many of whom are deceased, out-of-jurisdiction, or not locatable. We compared the number of out-of-care persons identified from HIV surveillance data to the number identified from STD surveillance and Partner Services data.

Methods: Persons in Texas’ enhanced HIV/AIDS reporting system (hHARS) as of December 31, 2017 were considered out-of-care if their HIV diagnosis date 1) was 6-12 months prior with no record of CD4 or viral load labs or 2) was >12 months prior with no record of CD4 or viral load labs in the 12 months. The same criteria was applied to persons living with HIV reported to Texas’ STD Surveillance with a bacterial STD diagnosis, named as a sex or needle sharing partner or cluster to Texas Partner Services programs between Jan 1 2017 – Dec 31 2017. HIV serostatus and laboratory records were determined through a link to Texas’ enhanced HIV/AIDS surveillance system and persons identified as out-of-care were de-duplicated.

Results: We identified 33,919 persons out of HIV care using HIV surveillance data. We identified 411 unique persons out-of-care from STD surveillance and 588 unique persons out-of-care from partner services; between these two sources, 921 unique persons were identified as out-of-care.

Conclusion: Identifying persons out of care identified via partner services and STD surveillance is a more focused and potentially effective approach to engaging persons out of HIV care. These persons are likely currently living in Texas and at risk of transmitting HIV as evidenced by recent sexual activity and/or recent sexually transmitted disease, and thus should be higher priority for relinkage.

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POS 104 - W
WHO REFUSES?: CORRELATES OF OPT-OUT HIV TEST REFUSAL AT AN URBAN, COMMUNITY-BASED HEALTH CLINIC IN CHICAGO
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Background: In 2006 the CDC recommended opt-out screening for HIV in all healthcare settings. In 2014 Howard Brown Health (HBH), an urban, LGBTQ-focused community-based health organization in Chicago, implemented medical assistant driven, opt-out, HIV screening at all primary care visits. We analyzed demographic differences between patients who refused testing and patients who were simply untested.

Methods: Patient data were collected from the HBH electronic health record system, Centricity Practice Solution 12, and analyzed with SAS 9.4 Software. Patient characteristics were assessed with the use of X2 tests and logistic modelling.

Results: Between 2016 and 2017 HBH’s primary care clinics saw 14,541 unique patients over 32,116 visits. Of the 24,918 eligible visits without a resultant HIV test, 6,618 gave a refusal reason. In the fully adjusted model, controlling for clinical site and year, public vs. private insurance [adjusted odds ratio (aOR) 0.89, 95% CI (0.82-0.96)], uninsured vs. private insurance [0.893, (0.82-0.98)], being homeless [0.74, (0.58-0.94)], being MSM [0.59, (0.53-0.65)], living in Illinois [0.78, (0.70-0.88)], age 55 and greater versus ≤25 [0.81, (0.72-0.92)], and Non-Hispanic (NH) Black [0.70, (0.63-0.77)], Hispanic [0.74, (0.68-0.82)], and NH Asian [0.84, (0.82-0.97)] vs. NH White were associated with lower odds of refusing an opt-out HIV test. Identifying as a transgender man vs. a cisgender man [1.17, (1.04-1.31)] was associated with a greater odds of refusing an HIV test. The most common refusal categories were “No Risky Behaviors” (53.3%), “Other” (27.6%), and “Monogamous Relationship” (8.0%).

Conclusion: It is encouraging that patients who are MSM, homeless, or non-white show lower odds of test refusal given disproportionate prevalence of HIV in their communities. Older adults also seem willing to test. Transgender men might not see themselves as “at-risk” given their higher odds of refusal. Income-based, “sliding-scale” pricing at HBH may eliminate other analyses’ conclusions that cost or underinsurance is prohibitive to opt-out HIV screening.

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POS 105 - W
REAL-TIME MEASUREMENT OF ALCOHOL USE AMONG INDIVIDUALS WITH HIV AND ITS RELATIONSHIP WITH MEDICATION ADHERENCE
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Background: Alcohol use interrupts medication adherence and incites poor health outcomes., thus identifying needed attention. Methods to collect alcohol use data leave researchers with limited data to better inform interventions.
The purpose of this study was to examine intraday patterns of alcohol use among individuals with HIV.

Methods: Participants were recruited from an outpatient HIV clinic (> 21 years of age, HIV diagnosis, and recent reports of alcohol use). Real-time data were collected using a smartphone app among 29 participants for 28 days. Participants reported drinks each time they consumed alcohol; additionally, randomly-timed assessments occurred 3 times throughout the day. The date/time stamp of HIV medication use was collected via MEMSCaps. Alcohol episode was measured by initial drink and follow up reports every 30 minutes. Descriptive statistics were conducted to assess patterns of alcohol use.

Results: The majority of the sample was African American (n=25), male (n=26), unemployed (n=19), and had a mean age of 37.0 years. Participants reported drinking 4.83 days during the study period (SD=3.51), and having 4.28 drinks per episode (SD=5.24), with a median of 3 drinks (1-29). There was a mean of 3.5 (SD=1.2) missed doses (6-6 hours late) of HIV medication throughout the study period, with a mean of 5.1 (SD=1.4) of delayed doses (6 hours late). Participants who drank more than their average amount took their medication 16 minutes late for each additional drink they had during the previous day. Participants who drank than the average study participant took their medication 1 hour and 12 minutes later for each additional drink they consumed.

Conclusion: These findings suggest that there are alcohol use patterns that may be pinpointed to have a detrimental impact on medication adherence. Developing interventions based on these type of data are likely to result in more positive health outcomes.

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POS 106 - W
BACK TO THE BASICS: ASSESSING KNOWLEDGE OF HIV TRANSMISSION RISK AMONG HIV-INFECTED MEN WHO HAVE SEX WITH MEN
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Background: A mainstay of sexual health promotion is risk-reduction messaging at-risk individuals, including education about behaviors that increase HIV transmission risk.

Methods: From March 2015 – February 2016, we conducted a cross-sectional study of 157 HIV-positive men who have sex with men (MSM). Participants self-administered a survey capturing demographic and sexual behavior data. Using a prompted list, men were asked to select five sexual behaviors that they thought were most likely to transmit HIV. Surveyed behaviors included practices that are a) known to increase HIV transmission; b) not known to increase HIV transmission; and c) have an unknown association with HIV transmission.

Results: The sample was largely white (67%), and 80% of participants had attended at least some college. Median age was 44 years. More than half (58%) had a main partner: 42% of those had an HIV-positive main partner, 55% had an HIV-negative partner, and 2% did not know their partner’s status. The behaviors identified as most likely to transmit HIV included anal sex without a condom (‘barebacking’, selected by 89% of participants), sharing sex toys (55%), felching (44%), oral sex (39%), snowballing (38%), fisting (33%), rimming (32%), scatology (31%), anal fingering (11%), and anal sex with a condom (10%), among other choices. For certain behaviors, knowledge was somewhat lower among men with HIV-positive partners than for those with HIV-negative partners (e.g., 42% vs. 28% selected oral sex, p<0.01).

Conclusion: There was near-universal knowledge about the HIV risk of barebacking. However, regardless of their partners’ HIV status, most men failed to select other behaviors that likely increase HIV transmission (e.g., fisting), and a significant minority selected behaviors that carry very low risk of transmission (e.g., oral sex). Despite tremendous progress resulting from biomedical approaches to HIV prevention like PrEP and treatment-as-prevention, lower-than-expected knowledge about behavioral risks may contribute to continued HIV transmission.

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POS 107 - W
DATA TO CARE PROGRAMS INCORRECTLY ASSUME PERSONS LIVING WITH HIV/AIDS WITH VIRAL LOAD OR CD4 TESTS REPORTED BY EMERGENCY DEPARTMENTS AND HOSPITAL SETTINGS ARE IN-CARE

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Background: Data to Care programs use HIV surveillance data to identify persons living with HIV (PLWH) who are not in-care in order to relink them to care. Because HIV primary care best practices include routine HIV viral load (VL) and CD4 laboratory testing and test results are reported to health departments, these programs define in-care status based on recently reported ≤12 months) VL or CD4 test results. Emergency Departments (EDs) and hospitals, which conduct and report VL/CD4 tests, do not provide HIV primary care. These reports, therefore, may not indicate true HIV in-care status. Our objective was to determine whether VL/CD4 tests reported by an ED/Hospital was an indicator of in-care status among PLWH in Baltimore City, Maryland.

Methods: Using HIV surveillance data, we created a retrospective cohort of PLWH diagnosed as of December 31, 2015 and whose last known VL/CD4 test result was reported by an ED/Hospital in 2016. In-care status was defined as a second VL/CD4 test result reported within the 6 months following the last known VL/CD4 test report in 2016.

Results: There were 10,234 PLWH in Baltimore City as of December 2015; 77% (7,921/10,234) had VL/CD4 test reported in 2016. Of these, 39% (3,089/7,921) had a VL/CD4 test reported by an ED/Hospital, and compared the analytic cohort. The majority of the cohort (n=3,089) were male (57%), Black/African-American (86%), and mean age was 50.9 years (SD: 12.3). About half (53%) were virally suppressed (≤200 copies/mL) and 44% had CD4 counts < 500. Within 6 months, 57% (1,753/3,089) were not in-care.

Conclusion: Engagement of PLWH in HIV care is critical to prevent ongoing HIV transmission. Current Data to Care programs may incorrectly assume that the majority of persons VL/CD4 tested in ED/Hospital settings are in-care. ED/Hospitals also may be important settings for linkage to care interventions.

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POS 108 - W
PRE-EXPOSURE PROPHYLAXIS (PrEP) WITH EMTRICITABINE/TENOFOVIR DF IN HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN ACROSS THE OCHSNER HEALTH SYSTEM
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Background: Evidence from the past decade supports the use of Pre-exposure Prophylaxis (PrEP) with Emtricitabine/Tenofovir DF as an effective means of HIV prevention in men who have sex with men (MSM). Despite Louisiana having one of the highest incidence rates of HIV diagnoses in the US, prescription rates of PrEP among MSM remain low. Objectives of this study were to evaluate patient and provider factors associated with PrEP discussion between providers and HIV-negative MSM across the largest health system in Louisiana.

Methods: Investigators downloaded EMR information on 360 HIV-negative MSM age 18 and older with at least two face-to-face clinic encounters between July 1, 2012 and July 1, 2016. Included subjects had at least one negative HIV test and no positive HIV tests during the study period. Further data was gathered through manual chart review.

Results: There was no definitive documentation of MSM status in 245 subjects. The remaining 115 subjects were mostly Caucasian (76%); mean age of 37.6 years. PrEP was discussed with 34 (29.6%) patients; twenty (17.4%) patients received a PrEP prescription. Race and inconsistent condom use were not associated with receiving a PrEP discussion. In multivariate modeling, the only two significant associations with having a PrEP discussion were having an STI at some point in the past (OR 6.64, 95% CI 2.21-19.91; p=0.001) and being assigned to one of the primary care MSM specialists (OR 4.27; 95% CI 1.69-10.82; p=0.002).

Conclusion: Despite evidence that PrEP reduces sexual transmission of HIV dramatically, PrEP discussion and prescription with MSM in this health system were uncommon. However, a small subset of primary care physicians more frequently discussed PrEP with their MSM patients. To increase pre-
scription rates of PrEP, all providers should be comfortable implementing PrEP guidelines.

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**POS 109 - W**  
**KEY INFORMANT (KI) PERCEPTIONS OF THE EFFECTIVENESS OF RESPONDENT-DRIVEN SAMPLING (RDS) TO REACH YOUNG BLACK AND LATINO GAY AND BISEXUAL MEN (YBLGBM) AND TRANSGENDER WOMEN (YBLTW)**

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**Background:** YBLGBM and YBLTW disproportionately account for HIV diagnoses. Methods are lacking to effectively recruit and engage this hard-to-reach population. RDS may be an effective strategy for YBLGBM and YBLTW at-risk and living with HIV. We sought to explore potential benefits, and barriers of RDS to for YBLGBM and YBLTW living in Baltimore, MD, Philadelphia, PA, and Washington, DC (BPW).

**Methods:** KI interviews were conducted across BPW with 17 YBLGBM and YBLTW youth aged 15-26. Participants were identified through service agencies as being a key community leader, and completed a 45-minute interview on RDS as a method to recruit and engage YBLGBM and YBLTW youth. Two independent researchers coded transcribed interviews using categorical and contextualized categorical methods until agreement between coders (Kappa >0.80).

**Results:** Mean age 22 years (SD=2.56). Most (n=10, 59%) worked either at or provided services to youth. 7 (41%) had received HIV or preventive services. Most (n=12, 70%) believed that RDS would be an effective strategy for engaging youth because: 1) youth are more likely to listen to peers, 2) word of mouth is already in use within communities, 3) RDS is a good way to share information. However, (n=5) participants had concerns that RDS would not be effective due to individual and structural barriers. Individual low perception of individual benefits; potential HIV stigma associated with coupons; limited “outness” in networks with friends being “discrete” and unlikely to redistribute coupons. Structural: Spatial stigma – coupons redeemed in spaces with HIV/STI services implied diagnosis.

**Conclusion:** Most KIs believed that RDS would be an effective strategy for reaching YBLGBM and YBLTW. However, potential barriers that impact the effectiveness of RDS in YBLGBM and YBLTW were also described. A more engaged youth because: 1) youth are more likely to listen to peers, 2) word of mouth is already in use within communities, 3) RDS is a good way to share information. However, (n=5) participants had concerns that RDS would not be effective due to individual and structural barriers. Individual low perception of individual benefits; potential HIV stigma associated with coupons; limited “outness” in networks with friends being “discrete” and unlikely to redistribute coupons. Structural: Spatial stigma – coupons redeemed in spaces with HIV/STI services implied diagnosis.

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**POS 110 - W**  
**FEASIBILITY OF ASSESSING ECONOMIC AND SEXUAL RISK BEHAVIORS USING LONGITUDINAL TEXT MESSAGE SURVEYS IN AFRICAN-AMERICAN HOMELESS YOUNG ADULTS**

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**Background:** The EMERGE project aims to reduce economic drivers of HIV risk in African-American homeless young adults. As part of the design, we conducted a single-group study to examine the feasibility of assessing economic and sexual risk behaviors using text message surveys. Text messages offer the potential of better evaluating HIV behavioral interventions using repeated longitudinal measures at lower cost and research burden.

**Methods:** We enrolled 17 young adults, aged 18 to 24, who were African-American, homeless, out-of-school, and un/under-employed. Eligible participants reported at least one episode of unprotected sex. Participants were invited to respond to a text message survey once each week for 5 weeks. The survey contained 14 questions with yes-no and numeric responses on sexual risk behaviors (such as condomless sex or sex exchange) and economic behaviors (such as employment or money spent on HIV prevention). We measured the number of participants who responded to the survey, the number of questions to which they responded in each survey, and the number of hours from sending a survey to receiving participant responses.

**Results:** Eleven participants responded to at least one text message survey (65%). The average response rate each week was 73% (8 out of 11 active participants). The average number of questions responded to was 9, ranging from 6 to 14. On average, participants responded within 11 hours. Participants were most responsive to questions on number of sexual partners, frequency of condomless sex, sex while drunk or high, and receipt of HIV testing. Non-response rates were highest for sex exchange and money spent on HIV services. Observed strengths of the text message survey were readability and convenience. Observed weaknesses were redundancy, stigma, and non-participation.

**Conclusion:** Text message surveys may be a valuable tool for assessing sexual risk behaviors, including economic drivers of HIV, among high-risk urban youth.

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**POS 111 - W**  
**WHEN WILL WE SEE A PRE-EXPOSURE PROPHYLAXIS (PrEP) EFFECT? MODELLING THE PRE-IMPACT OF PREP ON HIV DIAGNOSES IN MEN WHO HAVE SEX WITH MEN (MSM)**

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**Background:** Although PrEP is expected to decrease HIV incidence, infected persons are often diagnosed months to years after infection. Because HIV surveillance monitors new diagnoses, PrEP’s impact may not be immediately apparent. We estimated when the impact of PrEp would be reflected in HIV surveillance data.

**Methods:** We used Microsoft Excel to create a monthly time-step linear model of HIV incidence and diagnosis among MSM in King County, WA, which we parameterized using local survey data on PrEP use and surveillance data on HIV testing and risk among persons with newly diagnosed HIV. The model stratified MSM into three risk groups [high (15% of MSM, incidence 1.7%/year), intermediate (25% of MSM, incidence 1.0%/year), low (60% of MSM, incidence 0.15%/year)] and three HIV testing frequency categories (every 6, 9 and 36 months). We compared a scenario without PrEP to a scenario grounded in local data where PrEP use started in 2014 and increased to 18% among all HIV-negative MSM and 39% among high-risk MSM by 2017.

**Results:** The model estimated that PrEP would decrease HIV incidence by 4%, 12%, 18%, and 23% in each year 2014-2017, and new diagnoses would decrease 1%, 6%, 11% and 15%. The percent of the PrEp-attributable decline in incidence reflected in new diagnoses was 13%, 46%, 57% and 68% in each year 2014-2017. In sensitivity analyses, with 30% of biannual HIV testers shifted to later testing categories, 56% of the PrEp-attributable decline would be reflected in surveillance data by 2017.

**Conclusion:** Given patterns of PrEP use and HIV testing in King County, our model suggests that the effect of PrEP on new HIV diagnoses is evident within 2-3 years of the intervention's initial uptake. The observable impact of PrEP will likely increase over time as use rises and as diagnoses reflect more of the underlying changes in incidence.

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**POS 112 - W**  
**ASSESSING THE UTILITY OF HIV PARTNER SERVICES IN THE AGE OF PRE-EXPOSURE PROPHYLAXIS**

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**Background:** Pre-exposure prophylaxis (PrEP) for HIV-negative persons is an important HIV prevention strategy. Further, populations with high HIV acquisition risk, e.g., black/Hispanic race/ethnicity may have poor knowledge and use of PrEP. Disease Intervention Specialists (DIS) assist newly HIV-diagnosed persons with partner services (PS). PS entails the elicitation, notification and HIV-testing of exposed partners with negative/unknown HIV serostatus, and linkage-to-care of newly HIV-diagnosed persons. We examined New York City (NYC) PS data to quantify opportunities to promote PrEP during PS.

**Methods:** We analyzed PS data from January 2007-June 2017 for 14,562 persons elicited from 16,212 interviewed index cases. HIV-related test reports in the NYC HIV surveillance registry were examined to ascertain the HIV serostatus (diagnostic tests) of elicited partners prior to PS. We examined PS outcomes, including tracing, notification, HIV testing and serostatus.
Results: Sixty-eight percent (9,860/14,562) of elicited partners were traced. Sixty-three percent (6,261/9,860) of the HIV-negative/unknown partners were notified and tested, of whom 13.0% (819/6,261) were newly diagnosed. Of the 819 newly diagnosed, 36.7% (301/819) were female. Of all patients evaluated by a clinician are assessed for PrEP eligibility, 12% (109/902) were not eligible based on CDC guidelines. The objective of this study was to describe the characteristics of patients receiving PrEP at the Sexual Health Clinics, including baseline STI rates, and the association between STIs and retention in PrEP.

Methods: All patients evaluated by a clinician are assessed for PrEP eligibility based on CDC guidelines and offered referral to a PrEP patient navigator if indicated. We conducted a retrospective study of patients enrolled in the PrEP program between December 15, 2016 and October 7, 2017 to evaluate baseline STI rates and association between STI within two weeks prior to enrollment and retention in PrEP care.

Results: 170 patients were enrolled in PrEP and received a prescription for tenofovir/emtricitabine during the study period. The majority of patients were African American or Hispanic/Latina (47.9% vs. 32.8%) and men who have sex with men (MSM) (124, 72.9%). 19.4% (33) of PrEP patients were 24 years old or younger, and 16.5% (28) were female. 35.3% (60) of PrEP patients did not return to refill their medication after one month, and during the study period, 52.4% (90) took PrEP for at least 6 months and 28.9% (49) for more than 12 months. 38% (22.4%) patients had GC in the two weeks prior to PrEP initiation, and 15.8% (34) primary or secondary syphilis. MSM had a higher prevalence of baseline STI compared to non-MSM (38.7% vs. 15.0%, p < 0.01). STI at baseline was not associated with retention in PrEP for at least 6 months.

Conclusion: Baseline STI rate at the time of PrEP enrollment was high, particularly among MSM, but was not associated with retention in the PrEP program.

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POS 115 - W

REFERRAL SOURCE FOR PATIENTS ENROLLED IN PREP SERVICES AT THE BALTIMORE CITY SEXUAL HEALTH CLINICS

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Background: The Baltimore City Health Department (BCHD) Sexual Health Clinics offer pre-exposure prophylaxis (PrEP) to patients at risk of HIV based on CDC guidelines. The objective of this study was to assess sources of referral for PrEP patients and identify missed opportunities for engagement.

Methods: The PrEP program is staffed by clinicians, a nurse case manager, and two peer navigators. Based on CDC guidelines for PrEP eligibility, patients can be referred to the program in three ways: 1) by BCHD Sexual Health clinicians during routine STI care, 2) Disease Intervention Specialists (DIS) who conduct HIV and syphilis contact investigations, or 3) self-referral. We conducted a retrospective study of patients enrolled in PrEP between January 1, 2016 and December 31, 2016. We also evaluated the number of patients seen at the BCHD Sexual Health Clinic and by DIS who were potentially eligible for PrEP based on bacterial STI diagnosis or sexual contact with patients diagnosed with HIV.

Results: 85 patients enrolled in PrEP during the study period (73% African American, 74% MSM, 13% female). 59 (69%) patients were referred to PrEP from the BCHD sexual health clinic, 12 (14%) by DIS, and 14 (16%) self-referred. During the study period, there were 1,942 HIV uninfected patients diagnosed with at least one the following: gonorrhea, chlamydia, primary or secondary syphilis, or nongonococcal urethritis. In addition, DIS also conducted contact investigations on 98 HIV-negative patients with early syphilis and 210 patients with HIV who were diagnosed in other settings.

Conclusion: The majority of patients diagnosed at the BCHD sexual health clinics with a bacterial STI or with HIV-infected partners do not enroll in the BCHD PrEP program. Increasing patient interest in PrEP and strengthening linkage to PrEP within BCHD Sexual Health Clinic is critical to reap the benefits of this HIV prevention strategy.

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POS 116 - W

BIOMEDICAL PREVENTION INTEGRATED INTO ROUTINE CARE VIA RAPID HIV TESTING

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Background: After becoming a Federally Qualified Health Center we integrated free rapid third- and fourth-generation HIV testing into routine care appointments: Aiming to reduce stigma and increase screening and viral suppression among positive individuals.

Contact: N/A

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POSTERS
Methods: New Orleans has the 3rd highest case rate of HIV in the country. In response to this epidemic our Federally Qualified Health Center began offering free routine rapid HIV testing as part of primary care appointments. Clinics operate a rapid/rapid screening model; if both rapid tests are reactive, the client is assisted with same day linkage to HIV care and 30 day supply of antiretroviral medication with first dose directly observed.

Results: Within 22 months of implementation our clinics served 5,359 clients. Overall 3,515 clients accepted the offer for a free rapid HIV test and 41 clients tested positive for HIV; an overall positivity rate of 1.2%. Of the 41 clients who tested positive, 38 are male and 30 identify as men who have sex with men. Of the 41 HIV-positive clients, 29 are Black, 9 are White, and 3 identify as "other". Of the 41 positive clients, 39 were linked-to-care in under 30 days; a linkage rate of 95%. We currently have 2,142 positive clients receiving primary medical care; 80% have been retained in care; of those 79% have been prescribed antiretroviral treatments. Of clients retained-in-care a total of 91% have achieved viral suppression.

Conclusion: The rationale for providing free rapid routine testing is to offer HIV screening services to individuals who, while healthcare seeking, have not considered HIV screening specifically. With testing taking place within routine care we saw high linkage, retention, medication adherence, and viral suppression for clients testing positive. Strategically using resources for rapid HIV testing in tandem with local clinics and provide routine screening may be a worthwhile endeavor especially in high-risk geographical areas.

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POS 117 - W
IDENTIFYING COMMUNITY INFORMED LANGUAGE TO PROMOTE PREP IN RACIAL/ETHNIC MINORITY LGBT COMMUNITIES IN BALTIMORE
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Background: Significant HIV disparities affect LGBT populations, particularly racial/ethnic minority MSM and transgender persons. Public health messages directed at reducing disparities and specifically the language used in these messages, may inadvertently stigmatize LGBT populations. The overall goal was to identify important qualities of engaging and acceptable language for LGBT persons of color for a public health department PrEP campaign to reduce HIV transmission.

Methods: Unstructured focus groups designed to be participant-driven discussions were conducted among racial/ethnic minority LGBT persons and allies. Participants were recruited via health department social media and events. Discussions were audio-recorded, transcribed and analyzed in NVivo using categorical analysis and double coding until there was group consensus.

Results: 43 individuals participated in 8 focus groups; 89% (38) identified as sexual or gender minorities and 86% (37) as racial/ethnic minorities. Four themes for engaging and acceptable language emerged. 1) Participants suggested that culturally competent, community-informed and locally relevant language be utilized - "that's the problem with efforts...developed by often well-meaning people, who aren't part of the communities...anybody who is going to decide what populations should be served and what messages, should be here in Baltimore." 2) Participants suggested messages avoid language that stigmatizes behaviors or conditions. 3) They also recommend clinical language be made accessible to lay audiences — "define undetectable for them...people who are newly diagnosed are not going to know what that means." 4)Finally, include identity labels that are used by priority populations and acknowledge diversity of LGBT communities.

Conclusion: Our findings suggest that a PrEP campaign to reduce HIV transmission among LGBT persons of color needs to be developed through a community -informed process to avoid stigmatizing or presenting messages that do not resonate with this population. Ongoing engagement and partnership between public health and LGBT communities can facilitate the development of campaigns with engaging and acceptable language.

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POS 118 - W
#PROJECTPRESENCE: HIGHLIGHTING RACIAL/ETHNIC MINORITY LGBT COMMUNITIES TO REDUCE STIGMA
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Background: Etiologies of HIV disparities are multifaceted; anti-LGBT stigma is an important contributory factor. The Baltimore City Health Department developed a photo exhibit campaign, #ProjectPresence, highlighting LGBT racial/ethnic minorities in public spaces. We aimed to explore the impact of #ProjectPresence on anti-LGBT stigma and visibility of racial/ethnic minority LGBT persons.

Methods: Brief surveys and 60-90 minute in-depth interviews with LGBT #ProjectPresence models (n=15) were conducted. Interviews focused on personal and community level experiences related to identity, stigma and visibility before, during, and after #ProjectPresence. Interviews were audio-recorded, transcribed and analyzed in NVivo10 using categorical analysis and double coding until there was group consensus.

Results: 40% of participants reported being called names or insulted in the past year because of their sexual/gender identity and 87% felt that people in Baltimore did not accept LGBT people. Interviews suggested that #ProjectPresence affected positive changes in three important ways. The models reported that perceptions of LGBT communities in Baltimore improved because of #Project Presence - "you had trans people...black gay...positive and openly gay pastors on there. When people see it, they were just like, ‘Damn, wow…’ …so I think it really inspired a lot of people." Models also described personal growth and feeling empowered from participation - "once I got into #ProjectPresence, everything just came together and my life changed. I got my house, sort of everything on my own, then I just started doing more for the community." "Sub-populations within LGBT communities developed new ties and opportunities to support one another - ‘the sub-communities…, who would have never under any other circumstance, have come together.’

Conclusion: Our findings suggest the #ProjectPresence program may increase LGBT visibility, curb stigma, foster growth of those involved and help to bring LGBT sub-populations together. Programs like this may be key to reducing stigma and anti-LGBT discrimination.

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POS 119 - W
BARRIERS AND FACILITATORS OF UPTAKE OF MINIMUM PREVENTION PACKAGE INTERVENTION (MPPI) BY MEN WHO HAVE SEX WITH MEN (MSM) IN NIGERIA
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Background: Nigeria has the second largest HIV burden in the world with an estimated 3.4 million people living with HIV. Key populations like MSM contribute significantly to this burden. Nigerian Government introduced the Minimum Prevention Package Intervention (MPPI) to promotes access of key populations to behavioral, biomedical and structural preventions. Unfortunately, there is no formal evaluation of this prevention model. This study determined barriers and facilitators of uptake of this program among MSM in Nigeria.

Methods: A mixed methods approach was used. This involved qualitative methods (interviews and focus group discussions). The quantitative method was a cross-sectional study design using interviewer-administered structured questionnaire among 300 MSM from urban and rural areas of Rivers and Kaduna States, Nigeria, from July-December 2015. Content analysis, univariate and bivariate analyses were done for this study.

Results: The mean age of MSM was 31.1±3.5years and mean age at first sexual debut was 17.1±4.7years. About 67.6% lived in the urban area and 91.3% had both primary and secondary education. Identified barriers to service uptake include: stigma and discrimination by providers (p=0.001); inability to address police harassment (p=0.01); and high cost of services. On facilitators of uptake of MPPI, 79.7% were willing to access services in peer-led facilities in comparison to only 50.3% and 61.1% that were willing to access in public and private hospitals respectively. They indicated that MPPI program needs to be complimented with training of their members to acquire skills for income generation and provision of legal services.
POS 120 - W
HIV SEROCONVERSION AMONG PARTNER SERVICES (PS) CONTACTS PREVIOUSLY TESTING NEGATIVE
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Background: Since 2009, DIS have offered PS to patients newly diagnosed with HIV and to patients with new STD infections and a prior HIV diagnosis. The Philadelphia Department of Public Health sought to describe the seroconversion rate among partners named by patients with an HIV diagnosis who had a negative HIV test at the time of investigation to determine the percentage who seroconverted and the timing of seroconversion.

Methods: Contacts to index cases with HIV diagnoses between 2014-2016 with baseline negative HIV test results were matched to the HIV surveillance database to determine if they subsequently were diagnosed with HIV. Attributes, such as Pre-Exposure Prophylaxis (PrEP) use and referral and number of times named by index cases, were compared among those who seroconverted for HIV compared to those who did not.

Results: Between 2014-2016, 671 individuals that were named a total of 726 times from PS interviews, tested negative for HIV. Among the 671 individuals, 29 (4.3%) have since been diagnosed with HIV. The mean days to seroconversion was 393 days (range: 59-1166 days). Among those who seroconverted, none were documented to be on PrEP at time of being documented as a negative contact to HIV and 9 (14%) were referred to PrEP compared to 30 (5%) on PrEP and 124 (19%) referred to PrEP in the comparison arm, respectively. Of the 671 individuals named, 617 were named once with 19 (3%) seroconverting. In contrast, 54 individuals were named multiple times with 10 (19%) seroconverting (p<0.01).

Conclusion: Individuals identified as contacts to HIV during PS interviews were at high risk for subsequently acquiring HIV infection and PrEP uptake and referrals were low in these patients. Additional efforts are needed among those testing negative for HIV following documented HIV exposure to ensure linkage and retention to PrEP through PS.

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POS 121 - W
EARLY INTERVENTION INITIATIVE (EII): A RYAN WHITE-FUNDED HIV TREATMENT PROGRAM EMBEDDED IN THE BALTIMORE CITY HOSPITAL’S (BCHD) SEXUALLY TRANSMITTED DISEASES (STD) CLINICS
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Background: Early in the HIV epidemic, the BCHD began offering HIV continuity care embedded within the STD Clinics. This is a descriptive study of the EII Program.

Methods: The BCHD EII Program was established in 1991. It is currently staffed by a medical director, clinicians trained in HIV care, a program manager, nurse case managers, patient advocates, and a clinical social worker. Patients are linked to the EII Program through the STD walk-in clinics or through outside referrals. Free chronic continuity HIV care is offered to all patients regardless of insurance status. Patients are offered same day enrollment and intensive patient navigation and case management services in a safety-net clinic with an open door policy. The program works closely with the BCHD HIV linkage team to reengage patients who have fallen out of care. We conducted a retrospective study of patients enrolled in the EII program from January 2015 to December 2016 (the start of data availability from our current electronic medical record) to December 2016.

Results: Over an 11-year span from January 2005 to December 2016, 3482 unique patients living with HIV were ever enrolled in the EII Program. In cal-
end year 2016, 365 unique patients were enrolled, 262 (72%) patients were retained in care, 314 (86%) patients were prescribed antiretroviral therapy (ART), and 248 (68%) patients were virally suppressed. 84% were African American, 9% were Latinx, and 46% were men who have sex with men.

Conclusion: The long-standing experience of the BCHD EII Program demonstrates that integrating HIV continuity care within a public STD clinic is feasible and effective. The EII Program’s retention in care is comparable to and viral load suppression surpasses aggregate Baltimore City data compiled by the Maryland Department of Health, which shows 73% and 45% of those diagnosed with HIV retained in care and virally suppressed, respectively.

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POS 122 - W
#PROTEGEOLOQUEAMAS: EFFECTS OF A MULTIMEDIA CAMPAIGN TO RAISE AWARENESS OF PREP TREATMENT IN SAN JUAN (APRIL – AUGUST 2017)
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Background: General knowledge about Pre-Exposition Prophylaxis (PrEP) in Puerto Rico was limited to elites already educated about HIV prevention. This clinical approach was charged with stigma that associated the use of ‘Truvada®’ with promiscuity and unprotected sex.

There was no previous evidence of any campaign that focused on PrEP as an effective way to significantly reduce HIV infection in non-reactive patients (both FSM and MSM).

Methods: The core of this campaign was a pioneering effort that included a daring concept to destigmatize sexual contact by adding a sense of personal care and self-love. Under the slogan/hashtag #ProtegeLoQueAmas (#ProtectWhatYouLove), we emphasized on protecting ourselves and people who practice intimacy through sexual contact.

The executions were presented to a focus group that validated the objectives of the campaign. The strategy focused on various tactics: outreach in venues that might induce risk-high sexual behavior, educational workshops and advertising executions. The latter included a multimedia platform that combined traditional/digital media, bus shelters and billboards. The campaign was launched on April 2017 in the San Juan/Metro Area during Spring Break, with stronger efforts focused on Pride Month celebrations and National HIV Testing Day.

Results: The results surpassed our expectations: 67% more Facebook followers, a 52% raise in counseling appointments and 42% of new patients committed to start on PrEP. Nine out of ten patients who called for orientation made their appointments to initiate treatment. A significant 49% of patients who initiated PrEP approached our services as a direct result of contact with digital executions, 42% engaged per indirect contact with the campaign (through word of mouth, outreach, workshops and referrals) and 9% approached our services through traditional advertising.

Conclusion: Lessons learned from this effort included expanding our spectrum to include dating apps and potentialize outreach efforts. Forthcoming executions are already in plans to extend the campaign throughout the island.

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POS 123 - W
PREP UPTAKE: TRENDS AND DESCRIPTIVE STATISTICS FROM AN URBAN, COMMUNITY-BASED HEALTH CLINIC IN CHICAGO
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Background: PrEP, a once-daily pill that prevents HIV infection, has been FDA approved since 2012, yet uptake has been slow, especially among populations that experience disproportionate rates of HIV infection. Client-related barriers to PrEP uptake may include lack of awareness about PrEP or reluctance to discuss their sexual health with a medical provider. Provider-related barriers may include lack of knowledge about PrEP use and negative attitudes about PrEP. At an LGBTQ-focused community health center network in Chicago, PrEP has been routinely recommended to patients at risk for HIV infection. We assessed how PrEP uptake has differed over time between patients who seek PrEP for themselves and patients who take PrEP after being recommended to them by a provider.

Methods: Patient data were collected from the community health center’s electronic health record system, Centricty Practice Solution 12, and ana-
lyzed with SAS 9.4 Software. Population characteristics were tabulated by year and descriptive statistics were calculated. Temporal trends were graphed and compared.

**Results:** Between 2013 and 2017, PrEP uptake increases among each demographic group each year, with one exception: uptake decreased slightly among transgender men [-20%, 2016-2017]. The largest increases in uptake occur among patients aged 25-34 [average +260%], cisgender men [average +244%], and non-Hispanic White patients [average +188%]. More transgender patients initiated PrEP when referred by a provider compared to cisgender patients.

**Conclusion:** Provider-initiated discussions may promote PrEP uptake and are an important part of comprehensive medical care. Discussions must consider the cultural context of unique barriers that different demographic groups may face. More community-level intervention may also be necessary to address barriers for self-referring to PrEP, as the largest increases in uptake are not among the groups with highest rates of HIV infection. Culturally-relevant, provider-led discussion and community-level intervention may further improve PrEP uptake.

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**POS 124 - W**

**TRICHOMONAS INFECTION RATES IN MALES PRESENTING TO THE EMERGENCY DEPARTMENT FOR SEXUALLY TRANSMITTED INFECTION EVALUATION**

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**Background:** Trichomonas vaginalis (TV) is one of the most common sexually transmitted infections (STIs) in the world, with an estimated 248 million new cases annually. The overall prevalence is reported to be 3.1% with rates approaching 12.9-14.4% in high risk female populations. While there is a plethora of data on TV in females, the corresponding male data are limited. The new TV nucleic acid amplification test (NAAT) is highly sensitive and specific and can accurately detect TV in males. The goal of this study was to determine the TV infection rate in males seeking care for STIs in the emergency department (ED).

**Methods:** This was a retrospective study of males who present to the ED for an STI evaluation from January 2012 to July 2014. All males included in the study had NAAT TV testing done as part of standard STI evaluation.

**Results:** Of the 722 males seen, 711 (98.5%) had a TV NAAT preformed; of which 37/711 (5.2%) were positive. Mean age for all male patients was 30.6 years. Those who tested TV positive were significantly older (mean age 35.7) than males testing negative (mean age 30.3; p<0.05). There was no statistically significant difference in race, ethnicity or chlamydia and gonorrhea rates between those that tested TV positive or negative. Signs and symptoms of STIs, such as penile discharge, testicular pain, dysuria and rash, were not associated with male TV infection.

**Conclusion:** Our findings of ED TV testing in males is similar to previously published female TV rates. Similar to previous female TV data, we found higher TV rates among older males. TV among males is prevalent and TV infection should continue when evaluating males for STIs.

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**POS 125 - W**

**IMPLEMENTATION OF A LABORATORY-DEVELOPED NUCLEAR ACID AMPLIFICATION TEST (LDT) TO ASSESS THE PRENATAL PREVALENCE OF TRICHOMONAS VAGINALIS IN NEW ORLEANS WOMEN**

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**Background:** Trichomonas vaginalis is the most common curable sexually transmitted infection (STI) in women and is characterized primarily by signs and symptoms of vaginitis including purulent discharge and localized vulvar pruritus and erythema. Several FDA-cleared nucleic acid amplification tests (NAATs) are available for the diagnosis of T. vaginalis infections, but laboratory developed tests (LDTs) are widely utilized and cost-effective solutions in both the clinical research and diagnostic settings.

**Methods:** The objective of this study was to determine the prevalence of T. vaginalis at initial prenatal visits in our high-risk obstetric clinic population.

**Results:** Using the optimized LDT, the prevalence of T. vaginalis in this high-risk population of New Orleans women seeking prenatal care was 10.9%.

**Conclusion:** Collectively, this study highlights the abundance of undiagnosed T. vaginalis infections at initial obstetric visits, as well as the utility of our LDT for T. vaginalis diagnosis using the User Defined Workflow (UDF) software on the cobas® 4800 System.

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**POS 126 - W**

**REFLEX NUCLEAR ACID AMPLIFICATION TESTING FOR TRICHOMONAS VAGINALIS AMONG WOMEN WITH NEGATIVE WET MOUNT MICROSCOPY IN AN STI CLINIC**

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**Background:** Nucleic acid amplification tests (NAATs) have much higher sensitivities than wet mount (WM) microscopy for Trichomonas vaginalis (Tv) detection. However, the cost of NAATs may make them less feasible to perform in sexually transmitted infections (STI) clinics. We therefore evaluated the utilization of Tv NAAT as a reflex assay for WM negative women in an STI clinic.

**Methods:** Symptomatic women underwent routine evaluation in an STI clinic located in Durham, North Carolina. Beginning in July 2017, all women who underwent pelvic examinations had two vaginal swabs collected for WM microscopy and NAATs for Tv detection as part of routine care. Tv NAAT was performed at the on-site laboratory with the Aptima (Hologic, Inc.) assay using the Aptima unisex swab collection kit for endocervical swabs or the vaginal swab collection kit. We analyzed the prevalence of Tv and compared the cost of routine testing to identify an infected case using these diagnostic methods.

**Results:** Over a 6 month period, 619 symptomatic women underwent vaginal swab collection for WM microscopy and NAAT for Tv. Among the women screened, the majority were African-American (94%) and the median age was 31 (range: 16-63). The overall prevalence of Tv was 15% in this population. WM microscopy identified Tv in 71 women, while reflex NAAT identified another 21 women (23% of all cases) with trichomoniasis. Based on the cost of conducting the assays, testing with WM microscopy cost $38 to identify one infected woman with Tv while NAAT cost $166 to identify each additional case that would have been missed otherwise.

**Conclusion:** Tv NAAT can be conducted as a reflex test for women with negative WM microscopy, and can increase Tv detection in an STI clinic population. However, the higher costs associated with NAATs in order to identify additional infected women may be a consideration for clinical programs based on resources.

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**POS 127 - W**

**PREVALENCE OF SELF-REPORTED NEUROLOGIC AND OCULAR SYMPTOMS IN EARLY SYPHILIS CASES**

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**Background:** Neurosyphilis, a severe consequence of syphilis, can occur at any stage of infection. Measuring the prevalence of neurosyphilis is challenging and there are limited data on the prevalence of neurologic or ocular symptoms among patients with syphilis. We sought to describe the prevalence of neurologic and/or ocular symptoms among early syphilis (ES) cases and the clinical management of symptomatic cases enrolled in a pilot study in the STD Surveillance Network (SSuN).

**Methods:** Persons diagnosed with ES were selected for interviews based on current health department protocols in five participating SSuN state and local
Background: Syphilis rates among MSM are rising and new interventions are needed. Serological tests for syphilis are insensitive in early infection.

Methods: We used a research-use TMA NAAT targeting *T. pallidum* 23s rRNA (Hologic) to test consecutively-obtained rectal and pharyngeal specimens collected for routine clinical purposes from MSM patients at an STD clinic in King County, WA, September-November, 2017. We evaluated the sensitivity of TMA against a gold standard of clinical diagnosis (including interpretation of RPR and TPPA) and the sensitivity of clinical diagnosis plus TMA against a gold standard defined by either clinical diagnosis or TMA positivity.

Results: Of 965 specimens tested from 545 MSM, 904 (94.6%) had valid TMA results. Seventeen (1.9%) specimens tested TMA positive, including 7 (1.4%) of 507 pharyngeal and 10 (2.5%) of 406 rectal specimens. Twelve men had a positive TMA test, including 5 with pharyngeal and rectal positive specimens, 2 with pharyngeal-only positive specimens, 4 with rectal-only positive specimens and one who was rectal positive with no pharyngeal test. Based on clinical diagnosis (including serology), 21 patients (3.8%) had syphilis (3 primary, 8 secondary, 9 early latent and 1 late latent), of whom 9 (43%) were TMA positive (1 primary, 4 secondary, 3 early latent and 1 late latent). TMA was positive in 3 men who were not diagnosed with syphilis, 2 of whom had negative RPRs; 1 man with a negative RPR was a contact to syphilis. Among 466 men tested with both serology and TMA and assuming that all men with a clinical diagnosis of syphilis or positive TMA truly had syphilis, serological testing was 91% sensitive and serology plus TMA was 100% sensitive.

Conclusion: Testing with the combination of serology and TMA may improve the sensitivity of diagnostic testing and screening for syphilis. Mucosal TP shedding is common among all stages of early syphilis.
Background: Syphilis, particularly during pregnancy, causes preventable death and disability. Guidelines can help health practitioners manage syphilis and prevent adverse health outcomes. We assessed recommendations for treatment of syphilis during pregnancy in guidelines from countries around the world.

Methods: During 2017, we conducted internet searches and structured, systematic reviews of PubMed, Latin American and Caribbean Center on Health Sciences Information, Geneva Foundation for Medical Education and Research, Clinton Health Access Initiative and other databases to locate guidelines on management of syphilis during pregnancy, including all languages and time frames. For countries with ≥1 guideline, we used the most recently published document.

Results: We found 37 guidelines recommending management of syphilis during pregnancy, all published during 2004 – 2017. Among 33 national guidelines, 13 were from African nations, 4 from countries in the Americas, 4 from European countries, and 12 from countries in Asia or the Pacific. Four were global (e.g., World Health Organization) or regional guidelines. Of all 37, 30 (81%) recommended syphilis testing at the first antenatal care visit, and 19 (51%) recommended repeat testing during the third pregnancy trimester or at delivery, or both. Guidelines from countries with higher (>1%) maternal syphilis prevalence at delivery were more likely to recommend repeat testing prior to delivery from lower prevalence countries. Seventeen (49%) guidelines promoted on-site testing (e.g., stat RPR or rapid syphilis tests); 6 (16%) promoted on-site treatment. Thirty-six (97%) recommended benzathine penicillin G as the first line therapy for syphilis in pregnancy. Nineteen (51%) guidelines listed alternative regimens such as oral erythromycin, of which 8 did not specifically report that non-penicillin regimens are not proven-effective in treating the fetus.

Conclusion: Several national guidelines still include treatment regimens for syphilis in pregnancy that are not proven-effective in treating the fetus, and few promote on-site testing and treatment strategies that would minimize congenital syphilis.

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POS 132 - W
SYMPHILIS TESTING IN PREGNANCY
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Background: MDH formed a workgroup to update the syphilis testing recommendations of pregnant females in response to the 383% increase in cases of women within childbearing age from 2012-2016. In consultation with the CDC, MDH changed screening recommendations at the end of 2015 for testing of pregnant females to include receiving syphilis testing (regardless of risk) at three points in pregnancy: first prenatal visit, 28 weeks’ gestation (at minimum between 28-36 weeks), and at delivery.

Methods: The workgroup developed educational materials and health communications. An educational flyer for pregnant females was created to inform them of the new screening recommendations. Training, informational, and technical assistance to health care providers and health systems about the implementation of the new screening guidelines and general information on syphilis testing and treatment was provided. A perinatal guidance document was developed and the Section’s syphilis web pages updated.

Results: Minnesota reported seven Congenital Syphilis (CS) cases in 2016 compared to one in 2017. In 2016, 23 of the 34 cases of syphilis reported in pregnant women were found at the first two testing points resulting in only one case of CS, while four cases were found during delivery resulting in four cases of CS. In 2017, 28 of the 35 cases of syphilis reported in women were found at the first two testing points resulting in no cases of CS, while two cases were found at delivery resulting in one case of CS. All other cases in pregnancy had unknown points of testing and produced no cases of CS.

Conclusion: Cases of syphilis were found at all three points of testing. Thirty-five of the 69 cases in 2016/2017 were found during the second and third trimester of testing. The recommendations were closely followed and were consistent with the previous recommendation of testing once during pregnancy unless you identified risk.

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POS 133 - W
RECENT CHANGES IN STATE PRENATAL SYMPHYLIS SCREENING POLICIES IN THE UNITED STATES, 2012-2016
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Background: Reported cases of congenital syphilis in the U.S. have increased every year since 2012. With appropriate prenatal syphilis screening and treatment, congenital syphilis is preventable. Thus, it is important to examine efforts to increase prenatal syphilis screening. This study assesses U.S. state laws related to prenatal syphilis screening and examines recent legal changes.

Methods: We searched a legal research database for statutes and regulations regarding prenatal syphilis screening for all 50 U.S. states and the District of Columbia (DC) as of 2016, noting the law’s effective date. The timing of screening requirements were coded as: 1) first visit, 2) third trimester, and 3) delivery. For laws that changed from 2012-2016, we also coded the timing of the law’s screening requirements prior to the change. Finally, whether these laws include a punishment was coded (yes/no). Descriptive statistics were calculated to examine the number of states with each type of law.

Results: 45 states (88.2%) have screening laws; the majority of these (84.3%) require testing at first prenatal visit. Seventeen states (33.3%) require screening during the third trimester, and eight (15.7%) at delivery. Fourteen (27.5%) states include punishments for failing to screen. Seven states (13.7%) changed their screening laws from 2012-2016, although each had a law prior to 2012. Three of these states (42.9%) added third trimester testing requirements, two states (28.6%) added a requirement at delivery, one state (14.3%) removed a requirement at delivery, and two states’ (28.6%) changes were irrelevant to our coding.

Conclusion: Most states have prenatal syphilis screening laws. States vary in terms of when they require testing and whether failure to screen could result in punishment. Several states have recently changed their screening laws; recent changes would suggest that states are interested in providers doing more prenatal syphilis screening, particularly late in pregnancy and at delivery.

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POS 134 - W
PREVIOUS STI HISTORY AND SYMPHILIS PREVALENCE AMONG CONSCRIPTS IN THE BRAZILIAN ARMY, BRAZIL, 2016
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Background: In the period 2010 – 2016, in Brazil, we observed an increase of ~40.0% of acquired syphilis (AS) in the age group 13-19 years, whilst in the age group 20-29 years, the growth was ~14.0%. The aim of this study is to investigate AS prevalence according to previous manifestations of STI.

Methods: We conducted a descriptive study from secondary data from a national survey using a probabilistic sample of conscripts of the Brazilian Army. Participants referred previous symptoms / signs of STI. Serum tests (trepone- mic ELISA and FTA-ABS and VDRL) were used to estimate syphilis prevalence. Data were weighted to achieve national representativeness. Results herein are presented on frequencies with a 95% confidence interval (95IC%).

Results: Among 37,282 conscripts aged 17-22 years old, the national prevalence of syphilis was 1.1% (95IC% 0.9-1.4). Among them, 1,474 (3.9%) reported previous history of wart on penis, mouth or anus; 11,007 (29.5%) referred the past presence of any wound on penis, mouth or anus; 488 patients (1.3%) referred history of urethral discharge; 756 (2.0%) reported vesicles on penis; 2,685 (7.2%) have had pain or a burning sensation on urination. Within those symptom / sign groups, the AS prevalence were 4.1% (95IC% 1.5-10.9), 3.5% (95IC% 2.2-5.5), 2.8% (95IC% 1.7-4.7), 1.8% (95IC% 1.0-3.2) and 1.4% (95IC% 0.6-3.6), respectively. There were also 28,033 (75.2%) individuals who didn't report any sign or symptom of STI until the survey, and had a AS prevalence of 0.6% (95IC% 0.5-0.9).

Conclusion: Considering the high prevalence of syphilis in this population with self-reported history of STI manifestations, we recommend to investigate signs and symptoms of STI in young people. The facilitated access to laboratory diagnosis of syphilis associated with immediate treatment are essential for reducing morbidity and interrupting the chain of transmission of the disease.

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POS 135 - W
HEALTH CARE POLICIES USING SYMPHILIS RAPID TESTS: A KEY STRATEGY ON THE RESPONSE TO THE BRAZILIAN EPIDEMIC

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Background: In 2016 the Brazilian Ministry of Health (MoH) declared the epidemic setup and, hence, was able to promote improvements on public health actions, including rapid test (RT) use. This study aimed to evaluate RT-based actions in order to measure its impact on the national public health and ultimately to help other countries on RT usefulness. 

Methods: We identified and qualitatively evaluated the main public health actions currently being adopted by the MoH for the use of RT on the expansion of syphilis diagnosis in Brazil, highlighting the improvements on RT distribution, technical staff training, and adherence to the RT external quality assessment (RT-EQA).

Results: In 2016, the MoH launched the Technical Guidelines for the Diagnosis of Syphilis, regulating the use of RT as treponemal test on different diagnostic algorithms, embracing infrastructure pluralistic scenarios. RT use, which was implemented in 2012 as public health policy, was then decentralized to all primary health care facilities, especially in antenatal care. Greater impact was achieved with the Nurse Association support by allowing nursing technicians to perform RT. Additionally, the MoH distance-learning course for technical training on RT (Telelab) switched its platform from offline to online media, increasing fivefold the number of certifications. Indeed, motivating regular RT-EQA played a fundamental role on triplicating the number of RT-EQA participants in 2017 when compared to 2012, with 94% approval. The MoH also strengthened its relationship with health care professionals, by promoting videoconferences and workshops. Such actions corroborated to increase eightfold syphilis RT on-demand distribution by the MoH in 2017 (9,090,650 tests) when compared to 2012.

Conclusion: The use of RT requires systematically and regularly updates on concomitant actions in order to better support syphilis health care policies. Guaranteed national access by an efficient logistic system, appropriate technical training and quality evaluation are key steps towards a successful RT widely use.

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POS 137 - W
COSTS OF SEXUALLY TRANSMITTED DISEASE CASE IDENTIFICATION USING RAPID SYPHILIS TESTING IN MULTIPLE NON-CLINICAL SETTINGS
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Background: Screening hard to reach populations may be essential for addressing recent increases in reported syphilis cases. Rapid syphilis testing (RST) allows for quicker response time and may decrease the cost of identifying and treating syphilis cases for high-risk populations in non-clinical settings. San Joaquin County, California, has recently experienced increases in syphilis infections, and the homeless population there accounts for a significant proportion of cases.

Methods: Between May and October of 2017, 401 homeless individuals were tested at two homeless shelters and one street location with a high-unsheltered homeless population in San Joaquin County. RST allowed for easier sample collection and a quicker turnaround time. Follow up evaluation and treatment was offered to all persons testing positive. Detailed retrospective cost information, broken down by category and programmatic activity, was collected during and after the testing period.

Results: Twenty new cases of syphilis were identified. The average cost per syphilis case identified was $4,194, and costs ranged from $3,455 to $5,072 by location. Personnel costs accounted for 52% of total expenditures, followed by the use of supplies (18%) and buildings (15%). General administration was the most costly programmatic activity (44% of total expenditures), followed by screening and testing (21%), and monitoring and evaluation activities (23%). All else equal, increasing the number of individuals screened by 20% would decrease case identification costs by 11%.

Conclusion: Screening high-risk populations in non-clinical settings is costly but may be crucial for limiting the spread of sexually transmitted diseases. Testing costs varied between venues, reflecting differences in the methods used and intensity of services provided. While the costs of staff is the major driver, buildings and supplies costs are not insignificant. This study demonstrates that efficiency can be achieved if screening is targeted to increase the number of cases of syphilis identified.

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syphilis cases and focusing efforts on them could also aid in decreasing congenital syphilis cases in the state of Florida.

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**POS 139 - W**

**SYPHILIS REACTOR GRIDS FOR INCREASING CASES AND SHRINKING RESOURCES**

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**Background:** Reported syphilis cases are increasing, but most STD program budgets are not. Due to limited resources, health departments use reactor grids to prioritize investigations of reported syphilis tests and may not record search reactive tests from older patients with low titers whose results are more likely to be false-positive or represent previously treated infections. We studied how reactor grids were being used in different STD programs and the potential impact on case surveillance.

**Methods:** We reviewed reactor grids from a convenience sample of 13 jurisdictions. Trends in reported reactive nontreponemal and syphilis cases from 2006 to 2015 were examined. We evaluated nationally-reported primary and secondary syphilis cases (2013–2015) to assess the proportion of primary syphilis infections with low titers (<1:4) that grids might close without investigation, and estimated the number of potential missed primary syphilis cases by comparing ratios of primary-to-secondary syphilis cases among age groups.

**Results:** Most reactor grids from the 13 jurisdictions did not investigate tests with titers <1:4 from persons >30 years old. Between 2006 and 2015, the number of reactive tests reported in five jurisdictions increased by 37%–169% (2015 totals: 5,005–57,242). One in four primary syphilis cases reported in the U.S. had titers <1:4 that would be excluded by many reactor grids. Potentially missed primary syphilis cases were mostly among males 41–54 years old and females 31–40 years old.

**Conclusion:** Reactor grids that focus on high-titer tests may result in missed opportunities to investigate early primary syphilis cases for which intervention is warranted. Even after using grids, investigations of previously treated or in vivo asymptomatic syphilis infections and testing in males 41–54 years old and females 31–40 years old are recommended.

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**POS 140 - W**

**CLINICAL CHARACTERIZATION OF REPORTED CONGENITAL SYPHILIS CASES IN THE UNITED STATES, 2012–2016**

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**Background:** Diagnosing congenital syphilis (CS) can be challenging. Infected infants can be asymptomatic at birth, and current tests cannot reliably identify all infected infants. For this reason, the United States (US) CS surveillance case definition includes infants with physical signs or laboratory evidence of CS, as well as asymptomatic infants exposed to untreated or inadequately treated syphilitic infection in utero. We sought to describe the spectrum of clinical manifestations among reported CS cases.

**Methods:** We reviewed 2012–2016 US CS case data report. Cases with documented physical signs of CS, infant neurosyphilis, and/or CSF VDRL or x-rays consistent with CS were classified as “probable CS.” Cases without a documented CSF VDRL were classified as “possible CS.”

**Results:** Of 2,765 reported CS cases, 138 (6%) were syphilitic stillbirths, 26 (1%) were born alive but died, 8 (1%) had unknown vital status, and 2,104 (92%) were living. Among living cases, 201 (10%) were “proven/highly probable CS” based on physical signs (155, 7%), infant-mother titer comparison (70, 3%), or positive darkfield (3, ≤1%), and 196 (9%) were “probable CS” based on CSF VDRL (117, 6%) or x-rays (102, 5%). The majority of living cases (1,498, 71%) were “possible CS.” The remaining 209 (10%) living cases could not be classified because of incomplete information.

**Conclusion:** We classified the majority of living reported CS cases as “possible CS” cases, although 19% were “proven/highly probable” or “probable CS.” The data reveals that CS testing rates and existing data sources have implications for such assessment.

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**POS 141 - W**

**SYPHILIS TESTING RATES AMONG WOMEN WITH STILLBIRTH DELIVERIES DURING 2010-2016 IN INDIANA**

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**Background:** Effective prevention of congenital syphilis requires routine prenatal serologic screening of pregnant women, including syphilis testing for any women who deliver a stillbirth. Assessment of syphilis testing adherence among women who deliver a stillbirth is challenging because state STD surveillance does not include syphilis testing rates and existing data sources have limitations for such assessment.

**Methods:** We examined whether women with a stillbirth received syphilis testing during 2010–2016 in Indiana. Data were extracted from the Indiana Network for Patient Care (INPC), the nation’s largest inter-organizational clinical data repository. Stillbirths were identified using International Classification of Disease Clinical Modification codes from the 9th and 10th editions. Using the master person index for the INPC, we linked stillbirths with pregnancy encounters and laboratory testing data. We analyzed documentation of syphilis testing during pregnancy (≥270 days before delivery) and after delivery (≥30 days). The number of live births per year in Indiana was from the US Census Bureau.

**Results:** A total of 4,361 stillbirths among 4,265 unique women were identified during 2010–2016, resulting in 7.44 stillbirths per 1,000 births when we used 84,000 live births per year in Indiana. From 2010–2013, stillbirths decreased linearly from 694 to 275, but increased rapidly to 1328 by 2016. Among stillbirths, syphilis testing occurred in 2,494 (57.2%) cases. Highest testing rates occurred in 2010 (68.7%), but rates decreased on average by 2.7% per year after 2010.

**Conclusion:** We discovered that stillbirths occurred more frequently in this study than 4.09 reported through state reporting mechanisms for the same time. We further observed increasing rates of stillbirths in recent years. Observed syphilis testing rates for stillbirths were similar to or lower than those reported by the CDC using a national administrative dataset. Further analysis is warranted to explain the increasing stillbirth rates and limited testing in this population.

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**POS 142 - W**

**TRENDS IN DEATHS DUE TO SYPHILIS, UNITED STATES, 1968–2015**

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**Background:** Before antibiotics, 28% of adults with syphilis developed serious complications (often 10-30 years after infection) and the case-fatality rate was 10% within 40 years. When penicillin became available in the 1940s, the incidence of infection fell. Late complications, such as cardiovascular syphilis, were still common in the 1950s but now seem quite rare, though they are not easily quantified. We studied trends in syphilis mortality as an indicator of trends in severe complications of syphilis.

**Methods:** We assessed underlying cause of death from U.S. death certificates for 1968–2015 using CDC Wonder. ICD categories changed only slightly during this time. We examined death trends by type of syphilis (cardiovascular, neuro, congenital, other). We compared trends in deaths to trends in Primary and Secondary syphilis (P&SS) after stratification by type of syphilis and gender.

**Results:** Annual syphilis deaths decreased from 586 in 1968 to 94 in 1984, then leveled off at 24–46 since 1998. Since 1968, the decrease in annual cardiovascular syphilis deaths (from 338 to 3) exceeded the decrease in annual neurosyphilis deaths (from 191 to 33). Congenital syphilis deaths (which do...
not include stillbirths) decreased from 28 to 2. Congenital syphilis deaths increased from 9 in 1986 to 35 in 1990 when P&O among women also increased. Trends by gender showed no convincing decrease in male syphilis deaths when many men were dying from AIDS, and no increase in female syphilis deaths after the 4-fold increase in P&O’s in the late 1980s.

Conclusion: Adult deaths due to syphilis have decreased dramatically and are now rare. Adult deaths from syphilis did not increase despite the syphilis epidemic of the late 1980’s. In contrast, congenital syphilis deaths still increase when there are increases in syphilis among women.

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Results: Participants ranged from 19-63, with mean age of 33. Nineteen participants (53%) were HIV positive. Three participants (8%) were diagnosed with syphilis and 5 participants (14%) with any sexually transmitted disease in the last 12 months. Thematic analysis of interviews revealed that 1) Zero participants brought up syphilis organically as a sexual health issue; 2) When prompted about syphilis, participants believed black MSM are aware of syphilis, but are not talking about it; 3) HIV was prioritized as the important sexual health issue affecting black MSM; 4) Individuals engaged with health-related organizations or groups were more aware of rising rates of syphilis among black MSM; 5) General awareness or familiarity with syphilis often came from a personal diagnosis or conversation with one’s health provider; and 6) A general understanding about the symptoms and treatment of syphilis is lacking within the black MSM community.

Conclusion: 1) Outreach and communication strategies targeting black/African-American MSM for syphilis prevention should consider bundling syphilis with HIV prevention messaging. 2) Partnering with providers and organizations that serve black MSM may be an effective strategy for increasing awareness and disseminating syphilis prevention messaging.

Contact: Monique Carry / kjub@cdc.gov

Background: National trends in syphilis rates among women who deliver infants have not been described. We assessed trends in the number and rate of U.S. women with a syphilis diagnosis documented at delivery overall and by sociodemographic groups.

Methods: We analyzed 2010–2014 data from the National Inpatient Sample and identified delivery discharges and women with a syphilis diagnosis using ICD-9 codes. We used relative risks to assess the association of syphilis diagnosis at delivery with race/ethnicity, age, insurance status, annual household income (AHI), and census region. Quarterly trends in syphilis rates (per 100,000 deliveries) among those sociodemographic groups were determined using Joinpoint.

Results: The estimated number of delivery discharges with a syphilis diagnosis remained stable in 2010-2011 (1,523 and 1,401 women, respectively), and increased from 1,310 in 2012 to 1,830 in 2014. Estimated syphilis rates declined in 2010-2012 (2010, 1.71; 2011, 1.76; 2012, 1.39; 2013, 1.79; 2014, 0.88). For delivery discharges, the percentage change [QPC] was −5.4% in 2012 and increased afterwards (2012q4-2014q4, QPC=1.8%, p<0.001). During 2012-2014, there was significant increase in syphilis rates across all sociodemographic groups, with large increases found among white women (2014q1-2014q4, QPC=35.2%, p<0.001), women in the highest AHI quartiles (2012q4-2014q4, QPC=2.9%, p=0.001), and women in the Northeast (2011q4-2014q4, QPC=2.0%, p<0.001). In 2014, the risk of a syphilis diagnosis at delivery was greater among women who were black (crude relative risk [cRR]=1.30, 95% confidence interval [CI]=1.10-1.54), had the lowest AHI (cRR=5.3, 95% CI=3.6-7.9) compared to the highest AHI; and lived in the South (cRR=2.4, 95% CI=1.7-3.5) than in the West.

Conclusion: During 2012-2014, syphilis rates increased among all sociodemographic groups with large increases found among Whites or women with the highest AHI. However, in 2014 the risk of a syphilis diagnosis at delivery was higher among Blacks or women with the lowest AHI. Prenatal syphilis screening remains important for all pregnant women.

Contact: Maria Aslam / lfs6@cdc.gov

Background: Syphilis rates increased dramatically in the United States since 2000, with most of the increases among men who have sex with men (MSM). According to surveillance data, black/African-American MSM are disproportionately burdened, representing 29% of MSM syphilis cases (CDC 2016). Less is known about how, and if, syphilis is prioritized as a sexual health issue among black MSM.

Methods: From May-October 2017, 36 in-depth phone interviews were conducted with black MSM in New Orleans, LA (n=15) and Washington, D.C. (n=21). Participants were asked to provide their perceptions about the most important sexual health issue(s) in their communities. A three-person analysis team used NVivo 11 software to inductively code data, assess inter-coder agreement, and identify emergent themes.

Results: Participants brought up syphilis organically as a sexual health issue; 2) When prompted about syphilis, participants believed black MSM are aware of syphilis, but are not talking about it; 3) HIV was prioritized as the important sexual health issue affecting black MSM; 4) Individuals engaged with health-related organizations or groups were more aware of rising rates of syphilis among black MSM; 5) General awareness or familiarity with syphilis often came from a personal diagnosis or conversation with one’s health provider; and 6) A general understanding about the symptoms and treatment of syphilis is lacking within the black MSM community.

Conclusion: 1) Outreach and communication strategies targeting black/African-American MSM for syphilis prevention should consider bundling syphilis with HIV prevention messaging. 2) Partnering with providers and organizations that serve black MSM may be an effective strategy for increasing awareness and disseminating syphilis prevention messaging.

Contact: Monique Carry / kjub@cdc.gov

Background: In Brazil, the Carnival is associated to an increase of sexual behavior due to the its strong sex appeal and alcohol consume. For many people this data affects the annual numbers of STDs. This research aims to evaluate the possible relation between seasonality and temporal distribution for demand and positivity VDRL tests at Miguelete Viana P Vital Health Central Laboratory (MVPCHL), Niterói, Rio de Janeiro.

Methods: Temporal series analytical cross-sectional study. Data of demand, VDRL positivity and worked days were collected in database related to the period from January 2006 to December 2012 and from July to December 2013 and analyzed statistically through temporal series and hypothesis testing on tendency and seasonality. MVPCHL is reference of Niterói, city with 500,000 inhabitants of the metropolitan region of Rio de Janeiro. This is an important research, because syphilis remains a serious public health problem, and there are few articles about the subject. There is no disclosure of interest to declare.

Results: From January 2006 to December 2012 and from July to December 2013, 32,486 VDRL tests were registered. Annual positivity was in 2006: 5.82%, 2007: 5.26%, 2008: 5.61%; 2009: 4.94%; 2010: 5.22%; 2011: 4.98%; 2012: 5.18% and 2013: 8.40%. Monthly positivity was in January: 4.90%; February: 5.60%; March: 5.63%; April: 4.51%; May: 5.44%; June: 5.08%; July: 4.78%; August: 5.54%; September: 4.70%; October: 5.41%; November: 5.86% and December: 6.01%.

Conclusion: We observed no seasonal relation between demand and positivity of VDRL tests and no increase after Carnival. Risk situations for STDs occur throughout the year.

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Background: Syphilis is a major public health issue and screening may use treponemal-specific or non-specific tests. Ugandan national guidelines recommend non-treponemal (RPR) followed by treponemal testing. The RPR and identified delivery discharges and women with a syphilis diagnosis us
From January 2013 - December 2017, 22 congenital syphilis cases were reported in New York State. These data show substantial differences in the epidemiology of these cases, predominantly among women who have sex with men (MSM). While regional trends in syphilis have been described, our objective was to examine and describe US syphilis rates by level of rurality.

Methods: State- and county-level primary and secondary syphilis rates (2000–2015) were obtained from CDC AtlasPlus and matched with measures of rurality (9 rural-urban continuum code levels; RUCC). States were ranked according to syphilis burden (mean rank of state rate and cases) for both males and females (state-level data). Associations between rates and rurality (county-level) were examined by ANOVA.

Results: Six states were in the top 10 burden for both males and females (M&F; FL, GA, LA, MD, NC, TX). Four additional states in the top 10 for males only (M-O; AZ, CA, IL, NY) and females only (F-O; AL, AR, MS, TN). Male-to-female ratios increased for all state groups (range: 180-1195%), though the increase was greatest for F-O (mean increase of 775% for M&F, M-O, and F-O ranging from 1.75-3.74/100,000 vs 0.62-2.38/100,000 for M-O). M&F, M-O, and F-O had equivalent RPR titers. Labs C and D had different titers (p<0.001) and were in non-equivalence.

Conclusion: Difficulties in RPR testing may be exaggerated in resource-limited settings, leading to inter- and intra-laboratory discrepancies. Possible explanations for this include RPR test kit, endemic treponemal disease, HIV-status and laboratory variation. These data suggest the urgent need for a more reproducible quantitative treponemal test than the current RPR for diagnosing and follow-up of syphilis in Uganda.

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POS 149 - W

CONGENITAL SYPHILIS (CS) IN NEW YORK STATE: A FIVE-YEAR REVIEW
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Background: From January 2013 - December 2017, 22 congenital syphilis (CS) cases were reported in New York State excluding New York City (NYS). Following years of decline, the highest number of cases since 2007 was reported in NYS in 2017. NYS requires syphilis screening of all pregnant women at their first prenatal care (PNC) visit and newborns at delivery, and for high-risk women, recommends trimester screening. The goal is early identification of maternal infection to prevent CS.

Methods: Data for this case review were collected on CS investigation reports from 2013 - 2017, and STD surveillance data from the NYS Communicable Disease Electronic Surveillance System. Data included: mother’s race/ethnicity, HIV status, PNC adequacy (defined as at least one PNC visit >30 days prior to delivery), type of prenatal serologic screening, and stage of infection. Traditional serologic screening (TS) was defined as initial non-treponemal testing when positive, reflexed to treponemal testing. Reverse serologic screening (RS) starts with a treponemal test; when positive, a non-treponemal test is conducted and discordant results are resolved through another confirmatory treponemal test.

Results: During the evaluation period, 64% (14/22) of mothers were diagnosed with early syphilis and 36% (8/22) with latent infection; none were HIV co-infected. 77% (17/22) had adequate PNC, and Black non-Hispanic mothers accounted for the highest percentage (41%), followed by White non-Hispanics (27%). Among mothers with adequate PNC, 65% (11/17) received TS, 29% (5/17) received RS, and 6% (1/17) received a non-approved screening method.

Conclusion: Timely PNC screening, and treatment of maternal infection remain the best practices for CS prevention. It is vital to promote current screening recommendations and continue to monitor and assess morbidity trends. As RS has increased, additional research is needed to evaluate its possible impact on CS prevention.

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POS 150 - W

TRENDS AND CHARACTERISTICS OF PRIMARY, SECONDARY, AND EARLY LATENT SYphilis IN MISSISSIPPI, 2007-2016
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Background: From 2007 to 2016, the number of primary, secondary (P&S), and early latent syphilis cases is on continuous rise in Mississippi, having more than doubled
since 2007. As a result of this increase, Mississippi ranked 12th nationally for P&S syphilis in 2015. The objective of this study is to identify trends and characteristics of syphilis infection in Mississippi during 2007-2016.

Methods: The study was conducted using syphilis surveillance data from 2007-2016 that were reported to the Mississippi State Department of Health (MSDH) and maintained in the Patient Reporting Investigation Surveillance Manager (PRISM). We assessed overall trends in syphilis infections, and differential rates by sex, race, age, and risk factor (men who have sex with men [MSM] and co-infection with HIV). Data were analyzed using descriptive statistics.

Results: We identified 5,095 early syphilis infections (1,933 P&S and 3,162 early latent). Over the 10 year study period, diagnoses increased by 34% among Non-MSM males, 48% in females, 10% among African Americans, and 127% among Whites. The 15-24 age group had the largest increase (180%) in diagnoses. In reference to risk factors, MSM had a 264% increase and co-infection with HIV increased by 108%. These increases were driven by a series of outbreaks, the largest of which were seen in 2010, 2015, and 2016.

Conclusion: In Mississippi, syphilis has re-emerged as a significant public health problem, with a disproportionate burden among MSM and African Americans. Public health efforts to control and prevent syphilis outbreaks should focus on carefully screening at risk populations to detect syphilis at earlier stages, and design/implement testing activities and interventions that promote regular screenings and safe sex. In addition, public health professionals should partner with health care providers to offer resources on recognizing the signs and symptoms of syphilis, how to properly screen, interpret results, and diagnose and treat the disease.

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POS 151 - W
PRENATAL SYphilis SCREENING USING VITAL STATISTICS BIRTH CERTIFICATE DATA — COLORADO, 2009–2016
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Background: Congenital syphilis can cause severe congenital abnormalities or fetal demise if not treated during pregnancy. Syphilis screening is recommended at the first prenatal visit. During 2009–2016 in the United States, congenital syphilis increased from 10 cases/100,000 live births to 16 cases/100,000 live births. We sought to identify sociodemographic characteristics of pregnant women not receiving prenatal syphilis screening in Colorado.

Methods: Data from Colorado vital statistics for live births during 2009–2016 were analyzed. Prenatal syphilis screening was considered received when a maternal syphilis screening date was listed on the infant's birth certificate. Sociodemographic characteristics of pregnant women were described when data were available, stratified by receipt of prenatal syphilis screening.

Results: Of 529,185 Colorado birth certificates during 2009–2016, prenatal syphilis screening was received for 496,224 (94%) women, and was more common among women with prenatal care (491,512/512,349 [96%]) compared with women without prenatal care (4,712/16,096 [29%], P <.0001). Screening was received more often among women with private insurance (262,497/276,080 [95%], compared with women with Medicaid insurance (181,882/196,504 [93%], P <.0001) or without insurance (14,038/16,455 [85%], P <.0001). Screening occurred more often among women aged 220 years than women aged <20 years (464,593/494,807 [94%] versus 31,581/34,244 [92%], P <.0001); among non-Hispanic women than Hispanic women (353,605/374,437 [94%] versus 138,687/149,882 [93%], P <.0001); and among women who reported annual household income ≥$50,000, compared with women from lower household incomes (198,512/208,068 [95%] versus 249,261/267,332 [93%], P <.0001). Women giving birth in the hospital received screening more often than women intentionally giving birth at home (486,963/517,920 [94%] versus 5,931/6,591 [90%], P <.0001).

Conclusion: Prenatal syphilis screening in Colorado was suboptimal during 2009–2016. Targeted efforts are needed to improve prenatal care access and prenatal syphilis screening, particularly for women who are uninsured, young, Hispanic, less wealthy, or planning a home birth.

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POS 152 - W
PRIMARY AND SECONDARY SYphilis AND PRE EXPOSURE PROPHYLAXIS (PrEP), CHICAGO, IL, 2014-2016
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Background: In 2016, a total of 813 cases of Primary and Secondary (P&S) syphilis cases were reported to the Chicago Department of Public Health (CDPH)–highest number of reported cases since 1995. Objective was to evaluate recent trends of P&S syphilis among individuals receiving pre-exposure prophylaxis (PrEP) for HIV at Howard Brown Health (HBH).

Methods: Data were extracted from the HBH Electronic Medical Records (EMR). Syphilis surveillance data were matched to EMR data on patient name and birthdate. PrEP initiation was defined as receiving Truvada mono-therapy while HIV negative.

Results: Between September, 2014 - December, 2016, 2,981 individuals initiated PrEP at HBH. After PrEP initiation in total, 120(4%) of individuals were diagnosed with P&S Syphilis: 52% were NH whites (median age=32), 15% were NH Blacks (median age=27), 22% were Hispanic (median age=34), and 11% were other/unknown race/ethnicity (median age=29). The largest proportion (95%) of P&S syphilis were among cis-males (median age=32), followed by transwomen (3%) (median age=23), 1% were cis-females (median age=29) and 1% were transmen (median age=26).

Conclusion: Routine screening for bacterial sexually transmitted infections (STI) is an important element of care for patients using PrEP.

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POS 153 - W
INTEGRATING THE REVERSE ALGORITHM INTO A SYphilis REACTOR GRID: AN INITIAL EVALUATION OF BALTIMORE CITY HEALTH DEPARTMENT’S REVISED GRID
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Background: Health departments evaluate individuals with positive syphilis serologies with reactor grids according to age, sex, and titer to prioritize field investigations. Many laboratories now use the reverse screening algorithm for syphilis. By beginning with more sensitive treponemal tests, this algorithm can generate ‘discouraged’ results: reactive treponemal, non-reactive rapid plasma reagent (RPR), and second reactive treponemal test. In August 2017, given widespread adoption of the reverse algorithm in commercial and hospital laboratories, Baltimore City Health Department revised its reactor grid to take discouragement results into account; the original grid had not provided guidance. We evaluated if revising the reactor grid impacted Disease Intervention Specialist workload and reported morbidity.

Methods: We compared discouragement rates evaluated with the revised and original grids. Eligible records had 2 reactive treponemal tests, a non-reactive RPR, and were not named through partner services. Records evaluated between 8/1/2017 and 12/31/2017 (revised grid) were compared to records evaluated between 8/1/2016 and 12/31/2016 (original grid). Using Stata, we categorized records based upon whether field investigations were initiated and by investigation outcome (infected, uninfected).

Results: There were 155 discouragement records in the 2017 period and 269 in 2016. In 2017, 3.2% of discouragement records (n=5) had investigations initiated, compared to 2.6% (n=7) in 2016 (p-value = 0.7). Three of the 5 records investigated in 2017 (60%) were classified as syphilis, including a primary case and late latent case. In 2016, 5 of the 7 investigated records (71%) were classified as syphilis, all late latent. Based on age and sex, 6 of these 2016 records would not have been initiated under the revised grid.

Conclusion: The revised grid did not increase workload and selected a priority case (primary syphilis) while possibly excluding late latent cases. Integrating...
ing discordant records into the reactor grid did not lead to a greater propor-
tion of syphilis infections identified through field investigation.

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POS 154 - W
TRYING TO MAKE PARTNER SERVICES HAPPY (THE HONORING AND APPRECIATING PARTNER PARTICIPATION INITIATIVE): AN EVALUATION OF THE USE OF RECIPROCITY IN PARTNER SERVICES FOR SYPHILIS IN PHILADELPHIA, 2016-17
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Background: Partner services (PS) has not been fully able to reduce the syphilis epidemic in Philadelphia. The Philadelphia STD Control Program hypothesized that the marketing principle of reciprocity (forming a social obligation by giving something for nothing), might prompt patients receiving PS to name more sexual partners.

Methods: All patients interviewed in person between 11/4/2016-3/31/2017 with primary, secondary, or high-titer (RPR≥1:32) early latent syphilis were eligible. Disease investigators (DIS) were to give patients a $10 gift card prior to the beginning of the PS interview and use specific words and phrases such as grateful, glad you are here, appreciate, I know this may be difficult, acknowledge. Outcomes from those who received cards versus those who did not were compared.

Results: A total of 326 persons were interviewed; 153 received a gift card. Males > 25 years comprised the majority of cases (109/153, 71.2%) and controls (123/173, 71.1%). Comparing all cases to controls, there was a little difference in number of contacts elicited (207 vs. 185, respectively); contact index[PT1] (CI, 1.35 vs. 1.07); suspects/associates index (SA, 0.44 vs. 0.44), and disease intervention index (DI, 0.39 vs. 0.36). Compared to similar controls (C1), females > 25 years (n=120) had higher CI (1.58 vs. 0.87), SA (0.67 vs 0.27), and DI (0.5 vs 0.33), though numbers were small. Among males > 25 years, cases had higher CI (1.31 vs 1.10) but lower SA (0.34 vs 0.44) and similar DI (0.38 vs 0.36). DIS reported that some patients expressed the feeling that they were “selling out” their partners by accepting gift cards.

Conclusion: Reciprocity did not dramatically improve overall outcomes, and DIS staff did not report subjective change in receptivity to PS or amount of detail (unprompted) given; however, the technique may be useful in targeted populations that do not see it as overly transactional.

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POS 155 - W
EVALUATION OF SYPHILIS REACTOR GRID CHANGES IN GEORGIA, 2017
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Background: Syphilis reactor grids help prioritize the follow-up of reactive serologic tests to early syphilis cases, which are the most infectious. From 2007-2016, there was an 85% increase in syphilis cases in Georgia, necessitating an update of the reactor grid to further prioritize follow up. The updated reactor grid divides Georgia’s Public Health Districts into three tiers based on syphilis burden, and automatically determines when RPR/VDRL titers are lower than typically consistent with early syphilis and do not warrant further investigation, i.e. are closed.

Methods: To measure the effect of the new grid, we applied the updated grid to 2015-16 data and compared the number of early syphilis cases that would be missed with the new grid, stratifying by gender and morbidity titer. We also looked at investigations that were automatically closed after the implementation of the new grid to see if their RPR/VDRL titers showed a four-fold increase indicating a possible new infection.

Results: We found that the modified grid would have meant a loss of 2.21% early syphilis cases for males and 3.06% for females during 2015-16. When the morbidity tiers were evaluated separately, no group lost more than 5% of cases (1.8% for females). In January 2016, before implementation, 322 investigations were closed; following implementation, 3,609 were closed, 89% of which were automated closures. Based on the RPR/VDRL titer changes, there were just 22 cases that may have been new infections. Further investiga-
tion, including obtaining treatment and symptom information, would need to be done in order to determine if these new infections were early syphilis.

Conclusion: The initial analysis confirmed that the changes to the reactor grid would not greatly reduce the number of early syphilis cases found. Future plans include case reviews to find symptomatic cases with low titers and understanding district-level implementation practices.

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POS 156 - W
SOCIAL WORK INTERVENTION TO PREVENT CONGENITAL SYPHILIS: A PILOT PROJECT, NYC STD PROGRAM, 2017-2018
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Background: In utero transmission of Treponema pallidum can result in congenital syphilis (CS), causing miscarriage, stillbirth, and severe physical/neurological impairments in the infant. CS can be prevented by timely prenatal care (PNC) and treatment of patient and sex partners. Pregnant women with syphilis may benefit from social work (SW) support during pregnancy. The New York City (NYC) STD Program piloted an intervention to provide SW services to pregnant patients with syphilis to prevent CS.

Methods: Using locally-developed protocols for intervention, SW staff completed chart reviews for eligible patients, and offered support via phone. They connected patients to syphilis treatment, PNC, reminded them to get re-tested for syphilis at 28 weeks gestation, discussed new sex partners, provided intensive case management, and made field visits when appropriate.

Results: From June 2017–January 2018, follow up was attempted for all 58 eligible patients. Almost half (48.3%, 28/58) responded positively to SW outreach, 15 (25.8%) were unreachable, 2 (3.4%) refused, and 12 (21.4%) found ineligible (pregnancy terminated, or not a syphilis case). SW elicited 1 new sex partner who was referred for testing and treatment. As of January 2018, 19/28 (67.8%) patients reached their due date, with 15 confirmed deliveries. Most (89.4%, 17/19) were retested for syphilis at 28 weeks gestation. At 30 weeks gestation, 1 patient (of 17) was unable to re-test due to work and childcare issues. SW arranged a Saturday retesting appointment, and communicated results to the prenatal provider. SW also provided extensive services to a patient who was allergic to penicillin, not in PNC, and dealt with many psychosocial barriers. SW connected the patient to desensitization and treatment, and assisted with obtaining health insurance. No CS cases were diagnosed among the 15 deliveries.

Conclusion: NYC’s Health Department SWs provided pregnant syphilis patients with stopgap care critical to CS prevention.

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POS 157 - W
ANALYZING SYPHILIS PARTNER SERVICE DATA TO PRIORITIZE CASE INVESTIGATION RESOURCES, NEW YORK CITY, 2016
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Background: High syphilis rates and limited resources created a need for New York City to prioritize cases for partner services (PS) interviews. Cases are targeted for interview based on criteria including age/gender, pregnancy, syphilis stage, neuro/ocular involvement (NOI), sex of sex partner, diagnos-
ing provider, and titer. To ensure resources and efforts are appropriately dis-
tributed, we evaluated this priority categorization.

Methods: Syphilis cases reported in 2016 were grouped into seven mutually exclusive categories based on stage and patient characteristics. Cases among pregnant women were highest priority while males without female sex partners (MwoFSP) aged 20-44 years made up the largest (46%, N=1402). Overall CI was 0.7; 0.4 for NOI, 1.0 for female cases aged 20 to 44 years, and 0.7 for MwoFSP aged 20-44 years. CI was 0.7; 0.4 for NOI, 1.0 for female cases aged 20 to 44 years, and 0.7 for MwoFSP aged 20-44 years. When controlling for sex of sex partner, the technique may be useful in targeted populations that do not see it as overly transactional.

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Early syphilis cases continue to increase nationally and in Con-

Background: Syphilis cases in San Francisco have increased dramatically

POS 158 - W
RAPID IMPROVEMENT PDSA (PLAN, DO STUDY, ACT) CYCLES ENGAGE DISEASE INTRODUCTION SPECIALISTS (DIS) IN CONTINUOUS QUALITY IMPROVEMENT ACTIVITIES, SAN FRANCISCO 2017
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Background: Syphilis cases in San Francisco have increased dramatically since 1999, by almost 120% from 2016 to 2017. The proportion of early syphilis cases assigned for Partner Services (PS) has decreased in parallel be-
cause the number of the SF Department of Public Health STD disease in-

Methods: Prior to the workshop, DIS and managers mapped out the cur-
rent workflow from syphilis case assignment to case closure. The team iden-
tified inefficiencies and determined targets for the lean workshop. Led by lean-trained consultants, the team engaged in a 5-day workshop to identify
unnecessary process steps, develop new workflows, and run simulations to test new tools and standard work.

Results: Seven DIS, 4 managers and 1 epidemiologist participated in the workshop. Two target areas were identified: 1) reduce errors and time spent on data-entry and 2) decrease the number of steps involved from case assign-
ment to case closure. New workflows were developed and tested. New stand-
ards of work (protocols) were written. Some changes were implemented im-
mediately after returning from the workshop. We removed excessive process steps and decreased the number of pages printed per case from 34 to 2. DIS and manager satisfaction has improved in the thirty days since the workshop.

Conclusion: Rapid improvement PDSC cycles engaged DIS in continuous quality improvement activities, helped to reduce inefficiencies and standard-
ized work practices. Lean thinking is a systematic approach to identifying and eliminating obstacles in order to improve the quality of services offered to patients and their partners.

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POS 159 - W
STAGE OF INFECTION MAY NOT BE THE BEST WAY TO PRIORITIZE EARLY SYPHILIS INVESTIGATIONS AMONG MALES IN CALIFORNIA
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Background: Rather than close delayed investigations, many jurisdictions are ending contact tracing for early latent (EL) infections to alleviate staff burden caused by rising syphilis morbidity. We conducted a retrospective analysis to compare outcomes between timely EL and delayed primary and secondary (P&S) investigations.

Methods: California Project Area surveillance data (2015-2016) were used to classify all interviewed male P&S and EL cases based on time from spec-
imen collection to interview: same-day, 1-3 weeks, 4-6 weeks, and ≥7 weeks. Disposition codes were used to determine if ≥1 contact received treatment due to the investigation. The association between stage of infection, time-to-
contact, and ≥1 contact treated was assessed via multivariate logistic regres-
sion (controlling for client characteristics and reporting facility).

Results: Overall, 70% (n=3,940) of reported P&S and 60% of EL cases (n=2,247) were interviewed. For P&S, 12% of interviews were same-day, 50% occurred within 1-3 weeks, 20% within 4-6 weeks, and 18% ≥7 weeks; for EL, these percentages were 4%, 52%, 23%, and 21%, respectively. Al-
though 12% of P&S and 9% of EL investigations resulted in ≥1 contact treat-
ed (p<0.001), this difference was not statistically significant in multivariate models. Compared to ≥7 weeks, same-day interviews (AOR=3.8, 95%CI:2.6-
5.6; p<0.001) or those occurring within 1-3 weeks (AOR=2.3, 95%CI:1.7-
3.0; p<0.001) had higher odds of ≥1 contact treated. EL same-day inter-
views had higher odds of contact treatment compared to: P&S 1-3 weeks (AOR=1.7, 95%CI:1.1-2.4; p<0.01), P&S 4-6 weeks (AOR=2.8, 95%CI:1.8-
4.3; p<0.01), and P&S ≥7 weeks (AOR=3.8, 95%CI:2.4-6.0; p<0.001). EL in-
terviews within 1-3 weeks had higher odds of contact treatment compared to:
P&S 4-6 weeks (AOR=1.7, 95%CI:1.2-2.3; p<0.003), and P&S ≥7 weeks (AOR=2.2, 95%CI:1.6-3.3; p<0.001).

Conclusion: California data indicate prioritizing follow-up of newly report-
eld EL syphilis over delayed P&S investigations may result in more contacts receiving treatment. Other jurisdictions should consider similar analyses to maximize disease intervention when addressing workload challenges.

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POS 160 - W
USING INCENTIVES TO INCREASE NAMED PARTNERS FROM EARLY SYPHILIS PATIENTS, CONNECTICUT, 2017
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Background: Early syphilis cases continue to increase nationally and in Con-
necticut; 200 cases were reported in 2016. While the majority of case-patients are interviewed and a high number of partners are reported, few partners have verified contact information, inhibiting follow-up. To increase the number of named partners, Connecticut instituted an incentive program to encourage early syphilis patients to name partners during partner elicitation interviews.

Methods: All early syphilis case-patients (primary, secondary and early latent) interviewed in 2017 were offered a gift card at the start of their initial inter-
view if they were willing to name ≥1 partner. One gift card ($25) was offered for one named partner and two gift cards were offered for ≥2 named partners. Locating information for partners was verified before the gift card was pro-
vided. Reasons patients declined an incentive were also recorded.

Results: In total, 230 early syphilis cases were reported in 2017. Overall, 85% (196) were male and the majority reported having male partners (168, 86%). The median age was 30 years (range 17–68 years). The majority were white (89, 39%), followed by Black/African-American (76, 33%), and Hispanic (72, 32%). Of 230 cases, 218 (94.7%) were interviewed. Of 86 partners named, 43 were named by 28 patients accepting an incentive; 43 were named by 34 patients not accepting an incentive. The overall verified partner ratio for 2017 was higher compared to 2016 (.39 vs .25, p<0.05). Reasons for not accepting an incentive included patients not knowing their partners or wanting to notify their partners themselves.

Conclusion: Offering incentives increased the number of verified partners for early syphilis patients; however, only a small number of patients accepted an incentive. Incentives might be one strategy for engaging syphilis patients in the partner notification process.

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POS 161 - W
USE OF RAPID SYPHILIS SCREENING TEST FOR MSM IN A NON-CLINICAL SETTING
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Background: In 2017, MSM comprised 76% of early syphilis in Denver. The Syphilis Health Check (SHC) rapid treponemal test may be an important tool to increase syphilis testing in high-risk communities and decrease time to treatment. The Denver Public Health Department implemented a pilot test to assess performance of SHC in outreach settings. For this analysis, we evalu-
ated SHC by comparing it to the Treponema Pallidum Particle Agglutination (TPPA) assay as the gold standard.

Methods: Data were collected from 01/23/17 to 11/17/18 at six outreach sites for MSM with no prior history of self-reported syphilis. Patients were screened with SHC and Rapid Plasma Reagin (RPR); TPPA was used for confirmation. Patients with positive SHC results were referred immediately to the STD clinic.

Results: Testing was completed in 719 clients. Of the 29 (2%) positive SHC tests, 9 had untreated syphilis including 2 cases of neurosyphilis; 10 had pre-
Results: There were 6,807 syphilis diagnoses in Virginia between 2012-2017; 589 were primary syphilis, 1611 secondary, 2586 early latent and 2021 late latent. Of the primary syphilis cases, 25.3% had a low/not reported initial RPR titer, compared to 5.3% of the secondary, 15.4% of the early latent and 69.0% of the late latent cases. Overall, women were statistically more likely than men to have a low or not reported RPR titer (55.9% vs 24.0%). After stratifying by stage, this association was only evident for early latent and late diagnoses. No difference by gender was apparent for primary and secondary diagnoses. There was no significant overall difference by age between the low/not reported and high titer groups; however, late latent cases with high titer were more likely to be younger (t-value -7.78; p<0.0001). Overall, 10.6% of all primary and secondary syphilis diagnoses had a low or not reported RPR titer.

Conclusion: Incoming syphilis laboratory test results with low or not reported titer need to be continued to be processed in totality to avoid missing diagnoses of early syphilis, particularly among women.

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POS 164 - W
COMPARISON OF TWO HEALTHCARE CLAIMS-BASED DATA SOURCES FOR SEXUALLY TRANSMITTED INFECTION SURVEILLANCE AND HEALTH SERVICES RESEARCH: UNITED STATES, 2003-2015
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Background: Due to limitations of nationally notifiable disease data, additional data sources are needed for population-level surveillance of sexually transmitted infections (STI) and assessment of health services. Healthcare claims may be useful, particularly if linked to laboratory results or clinical information derived from electronic health records (EHR).

Methods: We compared data during 2003-2015 from MarketScan® Commercial Claims and Encounters (CCAE), a widely-used source of healthcare claims and laboratory data, and OptumLabs® Data Warehouse (OLDW), comprised of linked claims, EHR, and laboratory data. Annual comparisons were limited to healthcare insurance enrollees aged <65 years. Those enrolled >11 months in a given year were considered continuously enrolled.

Results: The mean number of annual enrollees was 34.0 million in CCAE and 20.9 million in OLDW (P<0.01). More enrollees resided in the South in both CCAE (41%) and OLDW (44%). Most CCAE (72%) and OLDW (67%) enrollees were continuously enrolled in a given year (P<0.01). Annual distributions of inpatient admissions and outpatient visits differed significantly between data sources due to large numbers of enrollees, but examination of these distributions did not reveal meaningful differences. More continuous enrollees had prescription claims in CCAE (58%) than OLDW (41%) (P<0.01). Race/ethnicity data were unavailable in CCAE, but were available for 69% of OLDW continuous enrollees. Laboratory results were available during 2008-2015 for 55% of CCAE and 25% of OLDW continuous enrollees (P<0.01). CCAE contained no EHR data; 7% of OLDW continuous enrollees with claims records had EHR records.

Conclusion: CCAE had a larger number of annual enrollees than OLDW, and slightly longer annual enrollment; however, more laboratory results were available in OLDW, and EHR data were only available in OLDW. Race/ethnicity data, while incomplete, were also only available in OLDW. Future investigations will explore the usefulness of OLDW data for STI surveillance and health services research.

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POS 165 - W
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POS 162 - W
PUBLIC HEALTH DETAILING FOR CONGENTIAL SYPHILIS PREVENTION
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Background: In recent years, Los Angeles County (LAC) has seen an increase in the number of syphilis cases among women and an alarming number of congenital syphilis cases. Health care providers play a critical role in addressing the congenital syphilis epidemic by appropriately screening and treating high risk patients for syphilis. In 2017, LAC adopted more rigorous syphilis screening guidelines to screen all women of reproductive age (15-44 years) for syphilis at least once. In order to raise awareness about the trends in syphilis in women, the LAC Division of HIV and STD Programs (DHSP) is implementing a public health detailing campaign.

Methods: Medical providers were identified in three ways: 1) providers involved in the care of congenital syphilis cases from January 2014 to December 2107, 2) providers who were listed as the provider of record on female syphilis cases during January 2014-December of 2016, and 3) the local list of Medicaid funded Comprehensive Perinatal Services Providers, who provide a range of enhanced services to low income pregnant women. Between May 7 and June 29, 2018, representatives of DHSP will conduct a brief syphilis tutorial and assessment at an initial and follow-up session with 500 medical providers during an 8-week period.

Results: Providers’ medical training, medical specialty, and baseline familiarity with recent syphilis trends and guidelines will be described. Syphilis trend knowledge, syphilis screening knowledge, syphilis screening practice in women of child bearing age and third trimester screening will be assessed at baseline and at 4-week follow-up to determine whether intervention resulted in increased screening.

Conclusion: Public health detailing is a promising tool to change provider practice as part of a congenital syphilis prevention and control strategy.

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POS 163 - W
A GAME OF TITERS: ASSESSMENT OF INITIAL RPR TITERS BY STAGE OF SYPHILIS IN VIRGINIA, 2012-2017
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Background: This analysis describes variations in values of quantitative laboratory results for syphilis by diagnostic stage, stratified by patient demographics. Results of this assessment may be used to automate processing of incoming reactive tests; currently all are manually reviewed and assigned for investigation.

Methods: We analyzed syphilis cases diagnosed in Virginia between 2012-2017 and associated laboratory results. The first value of the RPR titer associated with a syphilis diagnosis was categorized into two categories: low (1:4 or below) or not reported, and high (1:8 and above). We further stratified by stage of diagnosis and patient characteristics. Chi-square tests were used to evaluate differences between groups, and a t-test was done to determine differences in age distribution between the low/not reported and high titer groups.
POS 166 - W
NAVIGATING RISKS: PreP REFERRAL AND LINKAGE AMONG PATIENTS WHO INITIALLY DECLINED – NEW YORK CITY SEXUAL HEALTH CLINICS, 2017
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Background: At New York City (NYC) Sexual Health Clinics (SHCs), patient navigators provide HIV pre-exposure-prophylaxis (PrEP) counseling and referral to long-term PrEP care. Patients from “priority groups” (meet specific criteria based on behavioral risk or prior STD diagnosis) and those interested in PrEP are offered PrEP navigation. Approximately 62% of navigated patients accept a referral and 22% link to PrEP care ≤60 days following their initial navigation session.
Methods: Using electronic medical record data, we identified SHC patients who declined a PrEP referral during their first navigation session between January-April 2017. We then identified the subset who returned to a SHC and were offered another navigation session within 6 months and examined subsequent acceptance of PrEP navigation, referral, and linkage-to-care.
Results: Among 455 patients who declined PrEP referral at initial navigation session, 138 (30%) returned to SHCs and were offered subsequent PrEP navigation; 58% (81/138) accepted navigation. Among patients receiving subsequent navigation, 69% (48/70) accepted a PrEP referral; acceptance was significantly higher among men-who-have-sex-with-men (MSM) (73% versus 29% among non-MSM, p=0.03) and among patients who newly met priority group criteria at subsequent navigation (89% versus 62% not in priority group/no change in priority group status, p=0.04). Patients were less likely to accept referral at subsequent navigation if they declined initial referral because of low risk perception (25% versus 74% among those without low risk perception, p=0.01) or reported concerns about taking pills (29% versus 73% among those without such concerns, p<0.05). One-third (23/70) of patients receiving subsequent navigation linked to PrEP care.
Conclusion: Among SHC patients initially declining PrEP, perceived-risk and report of increasing risk were associated with PrEP acceptance over time. It is important for clinic staff to seize every opportunity to connect eligible patients to PrEP care by assessing risk at each clinical encounter and, if appropriate, offering PrEP navigation.
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POS 167 - W
TRANSMISSION DYNAMICS AND SEXUAL BEHAVIORS OF MEN WHO HAVE SEX WITH MEN, 2011-15
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Background: Syphilis and gonorrhea continue to increase among men who have sex with men (MSM) in the United States, with a disproportionate burden among younger and racial/ethnic minority MSM.
Methods: We analyzed transmission dynamics and sexual behaviors for MSM by age (15-24 years, 25-44 years) and race/ethnicity (Hispanic, non-Hispanic white, non-Hispanic black) from the 2011-15 National Survey of Family Growth.
Results: In the past year, 26.5% of MSM were non-monogamous, 61.5% had a non-monogamous partner, and 15.4% were mutually non-monogamous. In the past year, 16.4% of MSM had two or more male sex partners for receptive anal sex, 15.6% for insertive anal sex, and 25.4% for oral sex. More young MSM reported two or more receptive anal sex partners (24.6%, 13.5% p<0.05) and oral sex partners (36.9%, 20.6% p<0.05) compared to older MSM in the past year. Similarly, more Hispanic and black MSM reported two or more receptive anal sex partners (26.8%, 27.9%, 12.4% p<0.05) and oral sex partners (30.3%, 23.1%, 23.1% p<0.05) compared to white MSM (24.7%, 27.3%, 21.5% p<0.05). Among sexually active MSM (sex in the past 12 months), 67.5% used HIV serosorting and 9.2% reported sex with an HIV-positive male.
Conclusion: While disparities in STD rates among MSM may be partly due to individual behaviors and sexual networks, further research should investigate transmission dynamics, interconnectedness, and concurrence of sex partners.
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POS 168 - W
ASSESSING UNMET CONTRACEPTIVE NEEDS AMONG PATIENTS AT NEW YORK CITY SEXUAL HEALTH CLINICS, 2016
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Background: Women who have unprotected sex are at increased risk for STI, HIV, and unintended pregnancies. At New York City (NYC) public sexual health clinics (SHC), information on pregnancy status and current contraception use is collected for female and trans male patients who are seen by a clinician for STI/HIV-related care. We assessed unmet contraceptive needs among this group.
Methods: We extracted clinic electronic medical record data (January-December 2016) for patients who were considered at risk for pregnancy (born female, <53 years old, not currently pregnant or menopausal, reported vaginal sex with ≥1 male partner in the past 3 months) and not desiring pregnancy. Those who reported using no form of contraception were classified as having an unmet contraceptive need. We described the population with unmet contraceptive needs.
Results: Of 9,676 patients with pregnancy status and contraception use collected, 7,847 (81%) had pregnancy risk. Of those, 29% (2,929/7,847) had an unmet contraceptive need; proportions of patients with unmet needs were similar across categories of age, race/ethnicity, insurance, partner number, and STI diagnosis (gonorrhea, chlamydia, syphilis; diagnosis on day of visit). Twelve percent of patients at risk of pregnancy had STI diagnoses; among those, 33% had unmet needs. The majority of patients with unmet needs were <30 years old (65%), uninsured (56%), and reported one sex partner in the prior 3 months (71%). There were significant differences by race/ethnicity, with non-Hispanic black patients comprising the largest proportion of patients with unmet needs (63% versus 6%-24% for other racial/ethnic groups, p<0.01).
Conclusion: Almost one-third of NYC SHC patients with pregnancy risk had unmet contraceptive needs. Most were younger and uninsured; these patients may have had lower levels of access to contraception options elsewhere, demonstrating a role for SHC in providing patients with contraception and, at a minimum, linking them to long-term family planning services.
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POS 169 - W
Pep to PrEP: Missed Prevention Opportunities Among Persons at High Risk for HIV Acquisition
To assess impact of KIR CAP awareness efforts, we analyzed KIR Baseline data from all participants and follow-up data from partici-

Background: New York City's public Sexual Health Clinics (NYC SHCs) provide full-course (28 days) HIV post-exposure prophylaxis (PEP) to HIV-negative patients within 72 hours after possible HIV exposure. PEP patients are to return for PrEP navigation 3-6 weeks after PEP initiation, when links to referral providers for long-term PrEP care are made. We examined missed opportunities in the PEP-to-PrEP transition and ongoing risk among this primary group.

Methods: Using medical record data for PEP patients with clinic visits during January-August 2017, we assessed PEP-to-PrEP missed opportunities (MO) as: 1) no return to clinic for PrEP navigation ≤60 days after PEP initiation; or 2) clinic visit(s) after PEP but without navigation; or 3) patient declined PrEP referral during navigation session; or 4) no documented linkage with PrEP provider ≤60 days after referral. We explored factors associated with MO among navigated patients, and measured incident clinic-diagnosed STI (chlamydia, gonorrhea, syphilis) and HIV rates among patients with MO and return visits through December 2017.

Results: Among 738 PEP patients (85% men-who-have-sex-with-men/transgender persons), only 76 (10%) ultimately linked to PrEP. Of those with MO: 23% (155/662) did not return to clinic, 40% (263/662) did not receive navigation, 22% (148/662) declined referral, 15% (96/662) accepted referral but did not link. Of 263 patients who returned but were not navigated, 40% refused navigation: clinic-related factors (precluding navigation due to questions about age 23 years. Associations decreased for marijuana and increased for alcohol use measures. The findings underscore the need to address substance-related sexual risk among young African American women in the South and may inform optimal timing of intervention.

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POS 171 - W
LEARNING RUBBER: CAN AWARENESS OF SCHOOL CONDOM PROGRAMS BOOST OTHER PROTECTIVE FACTORS?
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Background: Los Angeles Unified School District (LAUSD) implemented a high school condom availability program (CAP) in 1992. In 2012-15, “Keeping It Real” (KIR) a joint project of Los Angeles County Division of HIV and STD Programs (DHSP) and the University of Southern California, conducted multiple STD/HIV and pregnancy prevention activities with 16 LAUSD middle schools and 7 associated high schools, including improving CAP awareness and efficacy.

Methods: To assess impact of KIR CAP awareness efforts, we analyzed KIR survey data, collected from approximately 150 9th graders per year at each project high school from 2012-15 using ACASI software on netbooks. Respondents were from a random sample of majority-9th grade classrooms. All participants were consented via opt-out parental consent. We examined correlations of CAP awareness with other condom-related measures, using multivariate multilevel models.

Results: A total of 4,492 students were surveyed (51% male; 89% Latino, 6.1% African American, 4.5% other; mean age 15.1, 0.01 SD), of whom 16.3% (n=730) reported ever having sex. Sexually experienced students were significantly more likely to aware of the CAP (487, 66.7%) than non-sexually experienced students (2,165, 58.6%). But among sexually experienced students, CAP awareness was not significantly associated with condom use at last sex. Interestingly, among all 4,492 respondents, students who reported CAP awareness (59.0%) were much more likely (p<0001) to say condoms can prevent STDs, that they could ask for condoms from a school nurse, at a clinic, or a store, or convince sex partners to use condoms. Correlations with CAP awareness remained significant even after controlling for gender, age, race, and sexual experience.

Conclusion: Though CAP awareness was not associated with condom use among sexually experienced 9th graders, these results raise intriguing questions about whether it can increase future use among students not yet sexually active, by boosting perceived efficacy regarding access, and use with partners. Contact: Harlan Rotblatt / hrotblatt@ph.lacounty.gov

POS 172 - T
STD CLINICAL CONSULTATION: BUILDING THE CAPACITY OF HEALTHCARE PROVIDERS THROUGH EXPERT CLINICAL CONSULTATION AND NAVIGATION
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Background: Electronic clinical decision support is an important tool to help health care providers manage both novel presentations of common STDs as well as complex STD issues. The STD Clinical Consultation Network (CCN) is a national web-based service provided by each regionally-based CDC-funded STD Prevention Training Center (PCT) to clinicians who request clinical STD expertise.

Methods: The NY PTC began use of the CCN June 2015 in its region: New York (NY), New Jersey (NJ), Ohio (OH), Indiana (IN), Michigan (MI), Puerto Rico (PR) and US Virgin Islands (USVI). The CCN tool captures the submitter's demographic data, consult question and best contact information at the time of the consult. PTC local faculty provide responses and may respond via phone or email as requested by the submitter. Descriptive statistics were used for this analysis.

Results: Between June 25, 2015-Dec 11, 2017, 50 consults submitted to the CCN for the NY PTC. Providers in MI, NY, OH and NJ respectively submitted 34, 30, 16 and 10% of consults with only 4% and 6% from IN and the USVI respectively. Physicians (20%) and nurses (24%) frequently consulted the CCN. 40% of providers identified local and state health departments as their primary location. Other locations included: women's health centers/family planning 8%, STD/HIV clinics 8% as well as 8% academic institu-
tions, 6% community health centers, and other (30%). Clinical questions were primarily for STD management including chlamydia (21%), syphilis (20%), gonorrhea (9%), herpes (9%) and public health inquiry (7%), unspecified or other (34%) that pertained to administrative issues (billing, case management and protocols).

Conclusion: The CCN is a clinical tool to request specific consultation for local and regional STD cases. The CCN helps PTCs to identify regional clinical trends and can be used to develop case-based educational lectures and should be promoted to increase provider awareness.

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POS 173 - W
EMERGING THEMES FROM THE ONLINE NNPTC STD CLINICAL CONSULTATION NETWORK – CALIFORNIA PREVENTION TRAINING CENTER EXPERIENCE IN 2017

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Background: The National Network of STD/HIV Prevention Training Centers’ (NNPTC) STD Clinical Consultation Network (STDCCN) provides an online consultation system to connect healthcare providers and public health staff (‘requesters’) who have clinical STD management questions with faculty experts through regional Prevention Training Centers (PTCs). CAPTC’s consultation themes guide clinical training and resources.

Methods: Requesters entered clinical consults into the STDCCN; consults were then delivered electronically to a regional expert. Consult questions from 1/1/2017–12/31/2017 were extracted from the STDCCN database for CAPTC’s region (Arizona, California, Hawaii, Nevada, New Mexico), read individually, and qualitatively coded for the following: requester occupation/employment setting; STD(s) of inquiry; and non-mutually-exclusive consult topics. Descriptive analysis was performed to characterize STDCCN requesters and explore common consult themes.

Results: In 2017, 256 STDCCN consults were submitted in CAPTC’s catchment area. Requestor occupations were as follows: 71/28% physicians, 70/27% registered nurses, 41/16% nurse practitioners, 24/9.4% disease investigators, 16/6.3% physician assistants, and 34/13% other/unknown. Among requesters, 116/45% worked in public health departments, 113/44% in clinical settings, and the remainder in academic or other settings. Syphilis questions accounted for 17/167% of consults. Of these, 71/42% pertained to interpretation of syphilis test results; 41/24% syphilis in pregnancy and congenital syphilis; 17/10% treatment interval for late latent syphilis; 16/9.4% timing of post-treatment titer monitoring; and 16/9.4% neurosyphilis. Twenty-nine/11%, 27/11%, and 10/3.9% of consults pertained to gonorrhea, chlamydia, and gonorrhea/chlamydia co-infection, respectively. Additional consult topics included HPV, trichomonas, HIV, HSV, and Mycoplasma genitalium. Common consult themes – relating to all STDs – pertained to adequacy of nonstandard therapy (26/10%) and management of drug allergy (22/8.6%).

Conclusion: STDCCN consults highlight common, often complex STD clinical issues that can inform the development of training resources, particularly regarding syphilis. Addressing these topics is an important component of building clinician capacity, which is critical for effective STD diagnosis and management.

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POS 174 - W
THIRD PARTIES TO STD TREATMENT: AN EXAMINATION OF STATE LEGAL DUTIES IN THE UNITED STATES, 2017

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Background: A physician’s “duty to warn” is a well-known doctrine in health law, and relates to the duty of a physician to warn an identifiable third party of serious foreseeable harm threatened by the physician’s patient. While many states authorize reporting of sexual partners, legal duties related to third parties to an STD diagnosis have not been examined. This analysis investigates physician state legal duties related to third parties to an STD diagnosis.

Methods: Statutes and regulations regarding physician duties related to third parties when treating an STD case, effective in 2017, were examined for all 50 U.S. states and the District of Columbia. Search terms were used to identify laws in legal research databases. States were classified based on the duty placed on physicians regarding third parties to STD treatment, and the circumstances that create the duty.

Results: Only three states place a duty on physicians based on a third party’s potential exposure to an STD by the physician’s patient. California requires physicians to “endeavor to discover the source of infection” and “make an effort” to treat a third party. If the third party does not receive treatment, the physician must report them to the health department. Iowa and Nebraska require reporting of “contacts” or “suspected cases” on the basis of an STD diagnosis, likely requiring reporting in the case of a known, named sexual partner.

Conclusion: No state requires a “warning” to third parties about potential exposure to an STD in a manner that is similar to the legal doctrine of “duty to warn.” Three states may require reporting of partners, based on the circumstances, and one of these states specifies limited procedures for attempting to treat partners. Future research could investigate how these laws are implemented in practice and any associations with STD morbidity.

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POS 175 - W
FREQUENT GONORRHEA INFECTIONS AND SUBSEQUENT EARLY SYPHILIS DIAGNOSES IN LOUISIANA: AN OPPORTUNITY FOR INTERVENTION

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Background: Since 2012, gonorrhea diagnoses in the US have increased 40% and early syphilis diagnoses have increased 88%. Louisiana's rates have ranked in the top three throughout this period. While both diseases are treatable, the prevalence of antimicrobial-resistant gonorrhea has increased, and the sequelae of untreated syphilis can be serious, including congenital syphilis in the children of infected pregnant women. Gonorrhea and syphilis are markers for high-risk sexual behavior and for subsequent sexually transmitted disease and HIV. In this study, we assess the risk of early syphilis infection after frequent gonorrhea infections in persons living in Louisiana.

Methods: Surveillance data from Louisiana Department of Health’s STD registry were used to compile gonorrhea and early syphilis diagnoses occurring in Louisiana between 2012 and 2016. Persons were classified as having frequent repeat gonorrhea infections (FRGI) if they had two or more gonorrhea diagnoses within an 18 month period. Descriptive statistics and survival analyses were performed to determine risk of developing a syphilis infection following classification as having FRGI.

Results: From 2012 through 2016, 4,235 persons were classified as having FRGI. 55% were female, 86% were Black non-Hispanic, and were a mean age of 26 at the time of FRGI classification. Males were 3.45 times as likely to develop a syphilis infection following being diagnosed as having FRGI (p<0.0001). Increase in age had a protective effect. With each year increase, the risk of developing a syphilis infection following classification as having FRGI was decreased (p=0.044). No significant difference was observed between Blacks and Whites (p=0.4638).

Conclusion: Young males in their mid-twenties with multiple gonorrhea infections over a short time period are more likely to be diagnosed with early syphilis than other groups in Louisiana. Providers and health department should be made aware of this so increased syphilis screening and prevention activities can be implemented.

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POS 176 - W
FREQUENT SYPHILIS INFECTIONS AMONG MEN SCREENED AT A LARGE BOSTON COMMUNITY HEALTH CENTER, 2005-2015

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Background: To understand recent trends in local syphilis epidemiology, we reviewed the charts of men attending a federally qualified health center in Boston from 2005-2015.

Methods: A retrospective, open cohort of all male males screened with rapid plasma reagin (RPR) from October 2005 through October 2015 was analyzed. We developed two algorithms classifying new syphilis infections and determined syphilis test positivity trends over time. We calculated the incidence of syphilis infection using a modified Cox proportional hazards model to account for multiple infections over time.
Results: Between 2005 and 2015, 18,282 men had a total of 57,080 RPRs. Using clinician-based syphilis diagnosis as gold standard, the two diagnostic algorithms had 77-80% sensitivity and >99% specificity. From 2005-2006, 3452 were screened finding 64 syphilis infections (1.8%) and from 2014-2015, 9725 were screened with 183 infections (1.9%). Test positivity ranged from 0.7-1.6% and 2.7-4.1% per year among HIV-uninfected and infected men, respectively. Test positivity representing reinfection increased from 0.1% to 0.7% overall, from 0 to 0.2% and 0.3 to 2.0% among HIV-uninfected and infected men, respectively.

Background: Recurrent sexually transmitted infections (STIs) continue to have an impact on health outcomes. This study uses BYM modeling to demonstrate how the risk of repeat STIs changed over space and time in DC.

Methods: Data from the STI data management system was used for STI diagnoses between 2010-2016. A full Bayesian spatiotemporal model was used to produce precise rate estimates for the census tracts of the District. Bayesian model with both area-specific intercept, and temporal trend ($\tau_0$) as random effects which allows for spatiotemporal interactions.

Results: Of the 54266 STI diagnoses between 2010-2016, there were 10100 repeaters identified. The changes over the seven year period also show that there is spatially diffusing over time. The overall temporal trend ($\tau_0$) of HIV disease relative risk in DC is negative (-0.20). The temporal trend identifies space-time clusters of STI repeaters in the east and south of DC. The changes over the years are also shown in the results which seem to be spatially diffusing over time. Parameters $\tau_2$ and $\tau_2$ control the variability of $v$ and $u$. The variability of the relative risk is attributed more to the uncorrelated heterogeneity than to the spatially structured effects.

Conclusion: By applying Bayesian spatiotemporal methods, we have identified areas in DC where the areas of risk for STI repeaters. The results show that overall geographical disparity of the infections also change over time. This study is a critical contribution as it helps to plan for area specific prevention and intervention strategies. This study provides vital clues to understanding the geographic disparity of repeat STI in the District, which in turn will serve as a valuable tool for maximizing the distribution of public health resources as well as assist in targeted prevention and care efforts.

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PO6 177 - T ADULT STAKEHOLDER GUIDANCE FOR IMPROVED HIV AND OTHER STD PREVENTION AND SCREENING WITH GAY, BISEXUAL AND TRANSGENDER YOUTH

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Background: Adolescent MSM and transgender youth disproportionately experience HIV/AIDS and other STDs, with youth of color facing the greatest disparities. Supportive adults can help facilitate access to treatment and prevention services; however, limited research exists on the tools and resources that adults may need to help facilitate AMSM and transgender youths’ access to prevention and treatment.

Methods: Four synchronous stakeholder discussions were conducted online with adults who serve AMSM and transgender youth, including adolescent health providers, school nurses, youth workers, and school educators and administrators in summer 2017. InsideHeads, an online platform, was used to communicate with racially and geographically diverse groups of professionals.

Results: Four themes were identified from the stakeholder discussions: 1) strategies for building trust with youth, 2) sexual health communication barriers and facilitators, 3) HIV and other STD prevention barriers and facilitators, and 4) tools for adults and youth. Body dysmorphia, suicide risks, and dating concerns were also raised as important issues for AMSM and transgender youth.

Conclusion: Creating welcoming, inclusive, affirming and nonjudgmental environments can build trust with youth. School and institutional policies, political climate, and parental opposition may represent barriers to sexual health communication, while supportive adult figures and affirming services are facilitators. Stakeholders reported gaps in PrEP knowledge and misinformation about PrEP among youth, and stigma among some providers that PrEP use could potentially increase STD transmission. Continuing education credits and multiple modalities are important for tools aimed at adults, as well as endorsement of evidence-based curricula and policy statements from professional associations. Tools aimed at youth should involve age peers communicating sexual health information. Although some tools should use popular, web-based technologies, others should be printable so adults may need to help facilitate AMSM and transgender youth’s access to prevention and treatment.

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PO6 178 - T SPATIO TEMPORAL CHANGES OF SEXUALLY TRANSMITTED INFECTION REPEATERS IN DISTRICT OF COLUMBIA - A BESAG, YORK AND MOLLIE (BYM) APPROACH

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Background: New STBBIs testing technologies are an opportunity for more integrated and equitable STBBIs testing in Canada, and more nationally coordinated use of these technologies within specific communities. With contextually-relevant programs and policies, there will be a way to meet Canada’s commitment to eliminate HIV, Hepatitis C and other STBBIs by 2030.

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POS 180 - W
PROJECT CONNECT BALTIMORE, A PROGRAM DESIGNED TO INCREASE ACCESS TO AND UPTAKE OF SEXUAL AND REPRODUCTIVE HEALTH CARE AMONG YOUNG MINORITY MALES: A COST AND COST-THRESHOLD ANALYSIS
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Background: In an era of declining federal public health funding, evaluating the potential cost savings of a program is critical to its implementation. Few sexual and reproductive health (SRH) evidence-based interventions, however, have assessed the potential cost savings of improving SRH access and uptake by young minority males who bear a disproportionate burden of STIs/HIV. The objectives were to 1) determine the cost overall of delivering the Project Connect, a program designed to increase SRN knowledge among youth serving professionals and ultimately SRN access to and uptake by young urban minority males; 2) determine the cost savings threshold for reductions in HIV/STDs; and 3) determine the cost-effectiveness threshold (using societal willingness to pay per quality adjusted life year).

Methods: We tabulated program costs for the first 27 months and applied standard methods from the US Panel on Cost-Effectiveness in Health and Medicine to calculate the cost-savings and cost-effectiveness thresholds.

Results: The cost of implementing Project Connect was $351,574 over the first 27 months. The cost for staff time represented 82% of overall costs. Most of the staff cost was attributable to trainers (66%). The material costs (18%) included expenses related to running meetings, travel to sites, small participant incentives, telephone, and office supplies. We found that for this program to be cost saving, it would have to prevent 0.45 (or 1) HIV infection or 4,596 cases of chlamydia. For the program to be considered cost-effective, it would need to prevent either 0.24 HIV infections (one HIV infection) or 197 chlamydia infections.

Conclusion: The low thresholds for cost-saving and cost-effectiveness point to Project Connect being a worthwhile investment of limited public health dollars.

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POS 181 - W
UNDERSTANDING THE TRUE COST OF SERVICE DELIVERY TO GENERATE AND SUSTAIN REVENUE: AN ASSESSMENT OF PROVIDERS IN JURISDICTIONS TRANSITIONING TO FEE FOR SERVICE BUSINESS MODELS
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Background: Federal funding for STD programs has not increased since 2003. As funders prioritize outcomes-driven, performance-based financing, service providers must sustain services by maximizing existing funding and diversifying revenue streams. Providers are often unable to quantify the true cost of the services they provide. Due to reduced resources, programs must diversify funding and understand the true cost of services to drive outcomes-based programming.

Methods: Jurisdictions that administer STD programs are transitioning from grant funding to fee for service models. HealthHIV identified jurisdictions that are adopting new payment systems to assess 1) feasibility of calculating the cost of a service unit, 2) impact on communication and accountability between funder and provider, and 3) implications for program sustainability/fiscal diversification. HealthHIV designed a methodology for defining the unit of service, determining the yearly number of units of service, computing direct and indirect costs, calculating the full cost of the service, and determining the average cost of services.

Results: Determining the elements of the cost, gathering financial data, and integrating the cost components to develop an accurate cost estimate require a strong data management infrastructure and staff capacity. A customizable tool for organizations to assess unit costs of services allows them to strengthen fiscal systems and better analyze data for program sustainability. Three quarters of fiscal managers trained on unit cost development reported gaining practical skills to help them work within their agencies. Benchmarking unit costs improves efficiencies and expands service delivery.

Conclusion: Development of unit cost rates for healthcare services facilitates better communication between funders and recipients; makes service pro-
viders more competitive in pursuing new funding; prepares them to market services to funders; and builds capacity to improve fiscal accountability. The assessment process generated collaboration across jurisdictions to compare unit costs, and created a benchmark to increase efficiency of service provision.

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POS 182 - T
PREVENTING STDs THROUGH PARTNER COMMUNICATION: EDUCATION VIDEOS TO BUILD SKILLS
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Background: STDs are on the rise, particularly among young people. LGBTQ youth, and youth of color. In person sex education is also on the decline, so young people are not receiving the tools they need to effectively prevent STDs. Young people are, however, online - increasingly on search engines/social media sites like YouTube. A large barrier to practicing safer sex and getting tested/treated is stigma. This stigma prevents young people from having the important conversations they need to have with a sexual partner to prevent STD transmission.

Methods: To address these gaps and disparities, Planned Parenthood Federation of America (PPFA) developed a series of three videos: “How to talk about safer sex,” “How to talk about STD testing,” and “How to tell someone you have an STD.” These educational videos model partner communication, giving young people the skills they need to more effectively prevent getting or spreading an STD. The videos (on YouTube at t.p.ppfa.org/TalkingSTDs) are informed by the Unified Theory of Behavior, addressing key determinants to encourage young people to perform essential behaviors to prevent the spread of STDs, including self-efficacy, self-image, knowledge, skills, affect, etc.

Results: Since launch in April for Get Yourself Tested (GYT) month, the videos have been viewed over 258,000 times across YouTube, Facebook, and Instagram. They have also been used in classrooms and community programs by educators, using the lesson plans developed to supplement, process, and further build skills utilizing the videos (lesson plans at www.plannedparenthood.org/learn/for-educators/digital-tools).

Conclusion: Digital tools, like the STD Videos Series, can bridge the gaps in sex education by reaching young people where they are - on their phones and online. And by creating resources that are inclusive of young people, people of color, and LGBTQ youth, we can empower them to take charge of their sexual health, and reduce the spread of STDs.

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POS 183 - W
HEALTH IS POWER: LESSONS LEARNED FROM CUSTOMIZING A SEXUAL HEALTH MEDIA CAMPAIGN FOR YOUNG, HETEROSEXUAL AFRICAN AMERICAN MEN
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Background: In the United States, young, heterosexual African American (AA) men are disproportionately affected by sexually transmitted diseases (STDs). To date, STD prevention efforts have inadequately addressed the sexual and reproductive health (SRH) needs of this population. Health Is Power (HIP), a media campaign developed by CDC and its partners to promote sexual health among this population, utilizes a multi-phase approach with positive, empowering messaging around condom use, healthy relationships, STD prevention, and open partner communication.

Methods: The National Association of County and City Health Officials, with funding from CDC, is leading a two-phased demonstration project in New Orleans, Houston, and Baltimore focused on customizing and implementing HIP campaigns. In Phase I (January – June 2017), sites developed tailored HIP campaign messages and materials based on input and guidance gathered via community outreach efforts, convening community advisory boards, and conducting focus groups and surveys with the target population for the campaign.

Results: Community members responded positively to the need for a campaign focused on the SRH needs of AA heterosexual males aged 18-30. Across all sites, findings from community outreach efforts indicated that the messages, images, campaign hashtags, and slogans available through the HIP
Toolkit would be better received and more effective if tailored to a local audience. Based on these results, sites customized HIP messages and materials to incorporate images of men and women that represented their target audience, developed language that drew on local slang and social media hashtags that clarified unfamiliar terms, reflected culturally-specific colloquialisms, and in one case, photographed local community members in well-known city areas to create original campaign materials.

**Conclusion:** In order to address the rising rates of STDs, young, heterosexual AA men must be a focus in prevention efforts. Community engagement is a critical component of building and developing effective, local sexual health campaigns for this population.

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**POS 184 - T**

**“IMMA BE ME” — PERSPECTIVES ON SEXUAL HEALTH AND ONLINE RESOURCES FOR YOUNG MEN WHO HAVE SEX WITH MEN OF COLOR IN PHILADELPHIA**

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**Background:** Despite efforts at control, syphilis rates have continued to rise in Philadelphia, with the majority of cases occurring among young black men who have sex with men (MSM). Additionally, among MSM with syphilis in 2016, 59% were coinfected with HIV. Given these trends, the need to engage young MSM of color (YMSMC) with STI/HIV education and services is evident. A critical piece in determining effectiveness and relatability of resources targeting YMSMC is an examination of how the population understands and views sexual health and online resources.

**Methods:** As part of a larger evaluation of the www.doyouphilly.org website, semi-structured focus groups and online interviews were conducted with YMSMC in Philadelphia to obtain their viewpoints. Interview guides focused on four major domains: 1) sexual identity, 2) technology, 3) sexual health and 4) website look and feel. Focus groups/interviews lasted approximately 45 minutes, were audio recorded, transcribed, and coded thematically.

**Results:** A total of four focus groups of 9 to 12 YMSMC and eight one-on-one interviews were conducted over a 3-month period in 2017. The mean age of participants was 20.67 years. Themes that emerged across discussions included: not wanting to be labeled as any specific identity ("Imma be me") and related fears of expressing sexuality due to possible judgement; feeling uncomfortable talking to primary care providers about sexual health; and a lack of age and culturally appropriate STI/HIV educational materials. Participants thought online resources were useful and endorsed the use of websites that had a "clean" design, were simple to navigate, and emphasized quality over quantity in relation to content.

**Conclusion:** These focus groups/interviews highlight the need for www.doyouphilly.org to create simple, direct programming for YMSMC that is tailored to their sexual health needs while simultaneously representing the fluidity of self-expression that exists among this group of young men.

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**POS 185 - W**

**UPTAKE AND IMPACT OF SHORT MESSAGE SERVICE (SMS) REMINDERS VIA STI PARTNER SERVICES (PS) ON HIV/STI TESTING FREQUENCY AMONG MEN WHO HAVE SEX WITH MEN (MSM)**

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**Background:** STI PS are an opportunity to provide HIV/STI prevention interventions to high-risk MSM, including SMS reminders to increase HIV/STI testing frequency.

**Methods:** In King County, Washington, PS attempt to reach all MSM with early syphilis and those with gonorrhea or chlamydia as resources allow. In July 2013, PS began offering quarterly SMS testing reminders to interviewed MSM. From February 2014, men who refused SMS were asked if they used another reminder. Correlates of SMS acceptance among all MSM were identified by logistic regression. The impact of reminders on testing frequency was evaluated by comparing time from last HIV test to asymptomatic STI diagnosis among HIV-negative MSM by Mann-Whitney test.

**Results:** During 7/11/13-1/17/18, 7925 MSM were reported with 21 case of early syphilis, gonorrhea, or chlamydial infection, of whom 4862 (61.0%) were interviewed for PS. Of these, 3909 (80.0%) were offered SMS reminders; 522 (13.4%) accepted SMS at initial offer, 2626 (67.7%) were already receiving SMS, and 3125 (79.9%) refused. Of 2485 who refused SMS and were asked about other reminders, 16.5% received reminders from medical providers outside of Public Health, 26.0% used other reminders, 20.7% tested at physicals or HIV well-care visits, and 36.8% used no reminders. Accepting SMS reminders was associated with negative HIV status, younger age, non-white race/ethnicity, diagnosis in an STD clinic, and diagnosis with gonorrhea or chlamydia (vs. syphilis) (<0.05 for all). Among HIV-negative MSM diagnosed with asymptomatic STIs, those using no reminder or testing at physicals had the longest median time since last HIV test (5.6 months), followed by those receiving SMS reminders (4.8 months, p<0.05 vs. no reminder), and those using non-SMS reminders (3.6 months, p<0.0001 vs. SMS).

**Conclusion:** Offering SMS reminders through STI PS is feasible and may increase testing frequency, but has relatively low uptake. Many MSM employ diverse methods to remind themselves to test or integrate testing into primary care.

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**POS 186 - T**

**WHAT ARE YOU LOOKING AT? A QUANTITATIVE EVALUATION OF WWW.DOYOUPHILLY.COM**

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**Background:** The use of smartphone apps and web-based platforms are greatly increasing among young men who have sex with men (YMSM). HIV/STI program efficacy therefore requires focus on these new information and communication tools (ICT) that YMSM are already using for sex, entertainment, and health information. Though ICT are thought to be powerful tools to reach and engage YMSM, formal evaluation of the manner in which men are using ICT is limited. The Philadelphia Department of Public Health sought to evaluate the use of www.doyouphilly.org, a website specifically designed for local YMSM of color.

**Methods:** Quantitative data was measured using Google Analytics to capture user and usage statistics among visitors to www.doyouphilly.org during a single year (8/1/16 – 8/1/17). Data points included demographics of users, time spent on different website pages, frequency of return visits, and landing and exit pages. Demographic characteristics of individuals who ordered home testing kits and free condoms were examined separately.

**Results:** A total of 26,834 unique sessions occurred during the study time period. 71% of users were located in Pennsylvania; of those, 78% were in Philadelphia. Among new users in Philadelphia, the average time spent on the website was 77 seconds, with a mean number of 3.98 page views. A total of 2,812 condom kits and 130 testing kits were ordered. Mean age of condom and test kit orders were 20.2 and 23.2, respectively. The majority of individuals (85.0%) ordered 10 or more condoms; only 31.1% ordered anal lubricant. Orders for urine, throat and anal test kits were evenly distributed (47%, 30%, and 23%).

**Conclusion:** Average visits to the www.doyouphilly.org website were short, and few pages were viewed per visit, indicating that the website should maximize exposure to direct calls to action (condom and test kit orders), rather than educational content (which was rarely viewed).

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**POS 187 - W**

**TALK WITH YOUR KIDS (TWYK) ABOUT SEXUAL AND REPRODUCTIVE HEALTH: USING ONLINE PLATFORMS TO MEET THE NEEDS OF CALIFORNIA PARENTS**

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**Background:** California ranks first among all states for the total number of notifiable bacterial STDs, and adolescents are among the populations at highest risk. Parent engagement is a protective factor for teens, however there are gaps in resources for parents about how to talk to their children about sexual and reproductive health (SRH).

**Contact:**

**POS 188 - T**

**THE NEEDS OF CALIFORNIA PARENTS ON REPRODUCTIVE HEALTH: USING ONLINE PLATFORMS TO MEET THE NEEDS OF CALIFORNIA PARENTS**

Essential Access Health, CA, USA, 1Sandra Differdinger, MPH1, Sergio Morales, MPA1, Holly Howard, MPH1

1California Department of Public Health, CA, USA

**Background:** Despite efforts at control, syphilis rates have continued to rise in Philadelphia, with the majority of cases occurring among young black men who have sex with men (MSM). Additionally, among MSM with syphilis in 2016, 59% were coinfected with HIV. Given these trends, the need to engage young MSM of color (YMSMC) with STI/HIV education and services is evident. A critical piece in determining effectiveness and relatability of resources targeting YMSMC is an examination of how the population understands and views sexual health and online resources.

**Methods:** As part of a larger evaluation of the www.doyouphilly.org website, semi-structured focus groups and online interviews were conducted with YMSMC in Philadelphia to obtain their viewpoints. Interview guides focused on four major domains: 1) sexual identity, 2) technology, 3) sexual health and 4) website look and feel. Focus groups/interviews lasted approximately 45 minutes, were audio recorded, transcribed, and coded thematically.

**Results:** A total of four focus groups of 9 to 12 YMSMC and eight one-on-one interviews were conducted over a 3-month period in 2017. The mean age of participants was 20.67 years. Themes that emerged across discussions included: not wanting to be labeled as any specific identity (“Imma be me”) and related fears of expressing sexuality due to possible judgement; feeling uncomfortable talking to primary care providers about sexual health; and a lack of age and culturally appropriate STI/HIV educational materials. Participants thought online resources were useful and endorsed the use of websites that had a "clean" design, were simple to navigate, and emphasized quality over quantity in relation to content.

**Conclusion:** These focus groups/interviews highlight the need for www.doyouphilly.org to create simple, direct programming for YMSMC that is tailored to their sexual health needs while simultaneously representing the fluidity of self-expression that exists among this group of young men.

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Background: WeCanStopSTDsLA is a movement of the LA County District 2 Community Advisory Coalition, working to engage the public around the high levels of sexually transmitted diseases (STDs) in South LA. Stigma, as well as lack of conversation in the community regarding sexual and reproductive health, contributes in part to the spread of STDs by inhibiting important conversations. To help build a more supportive community environment, a campaign was initiated to engage non-traditional partners as well as more diverse audiences in community-based STD prevention conversations.

Methods: WeCanStopSTDsLA created an activation campaign called “Let’s Talk About It” and recruited non-traditional partners to support the movement. The activation campaign framed a set of novel community engagement activities within the contexts of public health, health care and the community, set around the release of the latest edition of the movement’s signature outreach tool, the Pocket Guide to Sexual Health Services and Clinics in South LA. To accomplish this, WeCanStopSTDsLA first leveraged its network of partners. Second, a Pocket Guide wellness center located on the campus of a Los Angeles Unified School District high school was selected as a pilot location. Third, local businesses were approached to be community supporters and encouraged to be free condom distributors. Next, high school students were engaged to encourage peer-to-peer communication. Finally, a press conference featuring student voices as well as other key community members and partners was held.

Results: The campaign resulted in press coverage as well as increased engagement with current and new stakeholders, cultivation of new non-traditional partners, and a replicable model of engagement.

Conclusion: Non-traditional partners can enhance STD prevention/treatment promotion initiatives by helping to create a supportive environment conducive to open communication and healthy decision-making, promoting clinics and other resources, and being proportional to community residents.

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POS 190 - T

ACCEPTABILITY OF A BRIEF ENTERTAINMENT-EDUCATION VIDEO INTERVENTION TO PREVENT STIS AND UNINTENDED PREGNANCIES AMONG OLDER ADOLESCENTS

Methods: African-American, Latina, and White women aged 16-19 (n = 120) were surveyed online after viewing Plan A. The measurement instrument included variables measuring acceptability (4 items; e.g. “I think women my age should watch this video.”), and constructs including narrative flow (10 items; e.g. “While watching, I did not notice how much time had passed.”), narrative engagement (10 items; e.g. “At times, the video was closer to me than the real world.”), and identification with characters (3 items; e.g. “How much do you feel like you know [character]?”). All items were measured using a 7-point scale.

Results: Plan A acceptability was high (M = 5.01, SD = 1.67). A series of ANOVAs did not reveal any significant differences in intervention acceptability between the target audience (African-American and Latina women age 18-19) and other audiences (White women and/or those aged 16-17), based on race/ethnicity and age; F(2,119) = 0.42, p = .66; F(2,119) = 0.03, p = .99. The best predictors of acceptability were narrative engagement (r = .42, p = .01), narrative flow (r = .65, p < .01), and identification with characters (r = .33-.51, p < .02).

Conclusion: Entertainment-education programs have demonstrated effectiveness in addressing numerous health issues, including STI prevention. Narrative engagement, narrative flow, and identification with characters are important elements for maximizing acceptability of these programs. Plan A had high acceptability for the target audience and a broader audience, indicating it is appropriate for diverse clinic settings.

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POS 191 - W
SUCCESSFULLY ENGAGING PRIORITY POPULATIONS FOR SEXUALLY TRANSMITTED DISEASE PREVENTION ON POPULAR SOCIAL MEDIA PLATFORMS IN RHODE ISLAND

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Background: Rhode Island has experienced a surge in sexually transmitted diseases (STDs) in recent years. In 2016, Chlamydia, gonorrhea, and infectious syphilis diagnoses were the highest reported in the last decade. In 2017, Rhode Island embarked on an initiative to evaluate social media usage among adolescents, young adults, and men who have sex with men (MSM) and implement a state-wide STD prevention and testing campaign targeting popular social media platforms.

Methods: A self-administered survey was conducted at a local STD clinic to gauge social media usage among patients from September in October of 2017. A comprehensive STD prevention campaign was developed and implemented based on popular social media platforms, apps, and meeting places. Google analytics were evaluated from November 2017-January, 2018 to evaluate the impact of the campaign.

Results: A total of 874 individuals were surveyed about social media use including 34% MSM. The three most commonly used social media sites were Facebook (53%), Snapchat (40%), and Instagram (41%). Among MSM, Grindr (42%), Scruff (23%), and Tinder (12%) were the most commonly used "hookup" sites. The results of the campaign revealed a total of over 3 million impressions, with an average 0.32% click-through rate on social media. During this time, there was a doubling of the percentage of MSM presenting to the STD Clinic. The advertised landing web pages all experienced substantially higher hits, ranging from 100% to 700% increases, compared to baseline data.

Conclusion: These preliminary findings indicate that a public education campaign targeting high-risk individuals (based on their reported social media behaviors) can be effective in driving individuals to online educational information, as well as prompting them to seek sexual health services at a STD clinic.

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POS 192 - T
A MIXED METHODS ANALYSIS OF CDC’S @CDCNPIN TWITTER FOLLOWERS

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Background: CDC’s National Prevention Information Network (NPIN) is a reference and referral service for prevention partners for information on HIV/AIDS, viral hepatitis, STDs, and tuberculosis. Social media, particularly Twitter, is one way NPIN has worked to reach partners. Understanding the Twitter audience is critical to developing an effective communication strategy for the right audience.

Methods: We generated a chronological list of all @CDCNPIN Twitter followers (N=26,600) using Simply Measured social media analytics. To provide a snapshot of audiences over time, we selected a purposive sample of 12 followers (N=26,600) using Google analytics were evaluated from November 2017-January, 2018 to evaluate the impact of the campaign.

Results: We identified five follower types: General Public (57%) - followers with no organizational affiliation; Partner Organizations (21%) - health or public-health-related organizations; Public Health/Medical Professionals (18%) - individuals working in health; Academia (3%) - accounts with an academic affiliation; and Federal Organizations (<1%) - accounts with a federal affiliation. To understand whether @CDCNPIN’s messages were targeting its desired audiences, we used descriptive analysis to compare tweets’ target audiences to actual followers. The analysis revealed that @CDCNPIN tweeted messages were primarily aimed at General Public (45%), followed by Partner Organizations (25%), Public Health/Medical Professionals (25%), Academia (<1%), and Federal Organizations (<1%).

Conclusion: NPIN Twitter followers consist of a wider audience than just public health partners. We should seek to understand more about NPIN’s various audiences in order to strengthen the NPIN Twitter content strategy.

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POS 193 - W
EVALUATING A SEX-POSITIVE SEXUAL HEALTH CLINIC MARKETING CAMPAIGN USING A PATIENT INTAKE SURVEY, NEW YORK CITY, 2017

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Background: In February 2017, the New York City (NYC) Department of Health and Mental Hygiene launched a sex-positive media campaign advertising expanded clinical services – including pre-exposure prophylaxis (PrEP) initiation – at NYC’s Sexual Health Clinics (SHCs). The campaign’s placement strategy focused on reaching priority populations, defined as black and Latino men who have sex with men, and people who are transgender or gender non-conforming. We conducted an evaluation to explore campaign reach and impact.

Methods: Researchers approached all patients in SHC waiting rooms on recruitment days in summer 2017 to complete a self-administered, anonymous paper survey (available in Spanish and English). Respondents were asked whether they saw the campaign, sought SHC services because of the campaign, knew about PrEP services at SHCs, and knew about PrEP services because of the campaign. Analyses compared priority populations to other respondents; differences were determined using Chi-square tests.

Results: Of 784 patients surveyed, 22% (n=167) belonged to priority populations. Of respondents, 37% (285/775) had seen ≥1 advertisement; of those, 29% (84/285) reported coming to the SHC because of the campaign. Of respondents, 52% (392/759) knew about PrEP services at SHCs, and 21% (83/392) of them knew about PrEP services because of the campaign. Of priority-population respondents, 50% (83/166) reported seeing the ads compared to 33% (198/593) of other respondents (p<0.05). Sixteen percent (27/165) of priority population respondents reported knowing about SHC PrEP services because of the campaign versus 10% (56/575) of other respondents (p<0.05).

Conclusion: Approximately 1 in 10 all respondents sought SHC services because of the campaign; the same proportion of respondents knew about SHC PrEP services because of the campaign. Thus, our sex-positive campaign promoted SHC PrEP services and positively influenced decisions to attend SHCs for many patients surveyed. In addition, the findings suggest that our targeted placement reached priority population members.

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POS 194 - T
PROVIDER AND CLINIC FACTORS INFLUENCING THE IMPLEMENTATION OF STI/HIV-RELATED SERVICES: A NARRATIVE REVIEW

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Background: Confidentiality is important for high-quality adolescent healthcare, including STI/HIV-related services. However, many adolescents do not receive confidential care, and barriers and facilitators to implementation are not well understood. We conducted a narrative review to identify provider- and clinic-level factors associated with the implementation of adolescent confidential sexual health services.

Methods: We searched PubMed and Google Scholar to identify peer-reviewed, English language literature published from August 2002 to September 2017. Studies were included if they presented empirical data from a U.S. sample on provider- or clinic-level factors associated with the provision of confidential services, either generally or specifically related to sexual health. Findings were extracted and grouped into overarching factors relevant to providers or clinic practice.

Results: We identified 15 articles, with findings relevant to 10 overarching factors. At the provider-level, factors including knowledge, attitudes, behavior, and demographic characteristics were associated with implementation of confidential care. Knowledge of confidentiality policies and protocols was
low, particularly when it came to the rights of younger adolescents. Provider attitudes generally supported the concept of confidentiality yet behaviors such as routine communication with adolescents and parents about confidentiality were lacking. At the clinic-level, factors included the physical space, time constraints, practice type/setting, billing, confidentiality-related protocols, and nature of visit. Time constraints emerged as one of the main barriers to providers having time alone with adolescent patients. Multiple studies noted a lack of protocol for documenting time alone, providing confidential test results, and ensuring confidential billing.

Conclusion: Provider training to increase knowledge about confidentiality and skills for communicating with adolescents and parents may facilitate delivery of confidential services. Developing protocols to alleviate time constraints (i.e., utilizing support staff, electronic screening) and optimizing electronic health record and billing mechanisms to maintain confidentiality in documentation and billing may increase provision of confidential services.

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POS 195 - W

MISCLASSIFICATION OF SEXUAL HEALTH RISKS IN A SELF-IDENTIFIED LOW RISK COHORT OF MEN WHO HAVE SEX WITH MEN (MSM) ENROLLED IN A COMMUNITY BASED PEP PROGRAM
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Background: The CDC recommends PrEP for MSM at substantial risk of HIV acquisition, leaving clinicians unsure whether to prescribe PrEP to MSM who do not disclose HIV risk factors. In a real-world setting we followed a cohort of MSM using PrEP who during their clinical visits stated they were low-risk for HIV to assess the accuracy of their HIV risk perception.

Methods: A longitudinal cohort of MSM requesting PrEP despite reporting either 100% condom use or participation in oral sex only were followed over a year. Participants completed a sexual and substance use behavior questionnaire at baseline, followed by quarterly HIV/STI testing and condom use change questionnaires.

Results: 81 clients self-identified as low-risk for HIV (age range 22-71, 83% non-Hispanic, 17% Hispanic). The mean number of partners in the previous 12 months was 10. 80% of MSM who perceived themselves as low-risk for HIV reported at least one HIV-related risk behavior including, sex while intoxicated (38%), sex with a person of unknown HIV status (28%), injecting drugs (1%), consuming 5 or more alcoholic drinks in one sitting (40%), ecstasy (11%), and poppers (16%). Condomless sex increased to 12% at month 1, peaked at 22% at month 7, and then decreased to 6% at month 13 before increasing slightly to 8% at month 13. Rates of pharyngeal GC/CT started from 7% at baseline to 11% at month 13, while rectal GC/CT decreased from 6% at baseline to 0% at month 13. The rate of syphilis was 1% both at baseline and at month 13, however, 11% and 15% of clients tested positive for syphilis at months 1 and 7 respectively.

Conclusion: 80% of participants who perceived themselves as low risk for HIV were actually high risk. Exploring risk perception during a clinical visit may help to reduce HIV/STI rates in MSM.

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POS 196 - T

PERCEPTION, KNOWLEDGE AND PRACTICES REGARDING STD SCREENING AMONG HIV POSITIVE FEMALE PATIENTS ON ANTI-RETROVIRAL THERAPY IN BOTETI DISTRICT, BOTSWANA
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Background: The HIV and AIDS epidemic has brought new challenges and also renewed urgency to STD management. The aim of the study was to determine perception, knowledge and practices regarding STD among female patients on antiretroviral therapy in order to increase the uptake of STD screening, enable early treatment and reduce mortality and morbidity due to STD and also identify factors influencing STD screening uptake among the HIV women patients.

Methods: The study used a cross sectional survey in which a questions were used to interview 300 participants in order to assess their perceived susceptibility, their perceived severity and the perceived barriers of seeking STD screening. Each question was scored using a 5-point Likert scale ranked from strongly agree (5) to strongly disagree (1).

The analysis compared women who had “ever had STD screening” with women who had “never had STD screening”.

Results: The study done in Boteti District Health Management Team revealed that 39 % of the respondents have done STD screening but still low in comparison with the national goal which is 75% for all the screening diseases.

Conclusion: Education and awareness campaigns still the golden keys and should strongly emphasize about the Perceived susceptibility and severity of STD. Most of participants did not find barriers to STD screening but for minority, who barriers contributing to low uptake of STD screening, the root of the cause supposed to be addressed. Improve financial power, address institutional barriers, negative believes and social barriers.

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POS 197 - W

TRENDS IN RACIAL/ETHNIC INEQUITIES IN BACTERIAL STIs AMONG MEN WHO HAVE SEX WITH MEN, KING COUNTY, WA, 2007-2017
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Background: Black and Latinx gay, bisexual, and other men who have sex with men (MSM) in the U.S. experience greater incidence of bacterial STIs than other MSM; however, racial/ethnic inequities may be changing in the era of HIV treatment as prevention.

Methods: Using STI surveillance data, we examined trends in bacterial STI incidence among cis/trans-MSM age ≥15 years by race/ethnicity in King County, Washington. Based on local Behavioral Risk Factor Surveillance System and census data, we assumed 5.7% of men age ≥15 in King County were MSM when calculating incidence. We compared nativity by race/ethnicity using chi-square tests. Race/ethnicity-stratified analyses were limited to Asian/Pacific Islander (API), black, Latinx (regardless of race), and white MSM for power considerations.

Results: From 2007-2017, overall incidence of early syphilis, gonorrhea, and chlamydia among MSM increased from 449-1204, 797-4509, 903-4396 per 100,000, respectively. Incidence of all three infections increased within each racial/ethnic group. Latinx MSM experienced the greatest increases over this period (3.29, 6.73, 6.24-fold for syphilis, gonorrhea, and chlamydia) and, by 2011, had replaced black MSM as the highest incidence group for all infections. By comparison, white MSM experienced 2.28, 5.18, and 4.75-fold increases in 2017. In 2017, syphilis incidence was 438, 1759, 2929, and 1074 per 100,000 API, black, Latinx, and white MSM, respectively; gonorrhea 2102, 5900, 9933, and 4197; and chlamydia 2880, 4398, 8365, and 4177. Among partner services recipients, API MSM were most likely to have been born outside the U.S. (48%), followed by Latinx (46%), black (15%), and white (9%) MSM (p<0.0001); 2% of PS recipients were non-English speakers.

Conclusion: In King County, Latinx MSM now experience the greatest risk of bacterial STI diagnosis. Research is needed to confirm these findings, understand possible causes of these inequities, and improve STI services for these men, particularly those born outside the U.S. who frequently experience barriers to healthcare.

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POSTERS

POS 199 - W
HUMAN PAPILLOMAVIRUS, ANAL CANCER SCREENING AND RISKY BEHAVIORS IN HIV+ SUBJECTS FROM SOUTHEAST MEXICO
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Background: Anal intraepithelial neoplasia (AIN) is rising world wide. The main risk factor for developing this pathology is the persistent infection with high-risk HPV genotypes. In general population, AIN is rare but people living with HIV/AIDS are considered in higher risk. Nevertheless, it remains largely understudied and there are not official screening programs addressing this population at risk. We aim to generate more knowledge and gather more evidences to support its implementation.

Methods: This is a cross-sectional study, including adults living with HIV/AIDS, performed in Mérida (southeast Mexico). We invited patients of HIV/STDs public clinics with fly outs, and also patients affiliated to social organizations of people living with HIV/AIDS, with a group session or talk. Participants responded an instrument to assess risky behaviors. Samples from the anal canal and anal pap smear slides were obtained with a cytobrush or dacron swab. HPV detection and typing were performed with molecular methods.

Results: We included 96 participants (87 men, 9 women), of 18-72 years of age (mean 38.6 ± 12.3). In total, 96% were male. In general population, AIN is rare but people living with HIV/AIDS are considered in higher risk. Nevertheless, it remains largely understudied and there are not official screening programs addressing this population at risk. We aim to generate more knowledge and gather more evidences to support its implementation.

Conclusions: We included 96 participants (87 men, 9 women), of 18-72 years of age (mean 38.6 ± 12.3). In total, 96% were male. The mean age of patient was 29.5 ± 15 years (ranged 2 months to 81 years). The male to female ratio was 2.7:1. Itching was the most common presentation. Fifty four types of non-venereal diseases were encountered. Among inflammatory dermatoses, drug reactions (11.5%) and eczemas (6.5%); and among infection/infestations, scabies (9.5%) and fungal infections (7.5%) were the common ones. Venereophobia was present in 36(18%) of patient among which pearly penile papule was the frequent cause.

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POS 200 - T
KNOWLEDGE OF SEXUALLY TRANSMITTED INFECTIONS AND SOCIO-DEMOGRAPHIC FACTORS AFFECTING HIGH RISK SEX AMONG UNMARRIED YOUTHS IN NIGERIA
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Background: Despite a relatively high level of knowledge of sexually transmitted infections (STIs), including HIV/AIDS and unwanted pregnancy in Nigeria, 80% yet indulge in unsafe sex such as casual and multiple sexual partnerships, sex without condom, early sexual debut and most of them do not know their HIV status. The plight of youths in sexual and reproductive health raises serious concerns because of the issues associated with high risk sexual behaviour such as HIV/AIDS which is very high, unwanted pregnancies estimated at about 14 million per year, unsafe abortion at 24 per 1000 women, adolescent fertility that is estimated at 122 per 1000 births and unmet needs of contraception estimated at 16%.

Methods: The study employed a secondary data from the 2013 Nigeria Demographic and Health Survey (NDHS). A sample of 7,744 female and 6,027 male aged 15-24 years respondents were utilized in his study making 13,771 altogether. The data were analyzed using frequency distribution and logistic regression.

Results: The results show that both male (92.2%) and female (93.6%) have accurate knowledge of sexually transmitted infections. Nevertheless, the prevalence of high risk sexual behavior is high among Nigerian youths; this is evident as 77.7% (female) and 78.4% (male) are engaging in high risk sexual behavior. Both socio-demographic and socio-economic factors were statistically significantly related with high risk sexual behaviour among male and female.

Conclusion: The study concludes that there is high level of knowledge of sexually transmitted infections among unmarried youths in Nigeria and the knowledge doesn’t translate to practice. Generally, the practice of high risk sex is high among unmarried youths but higher among male youths. There is need to further examine the factor that is making knowledge about STIs and HIV/AIDS not translate to practice.

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POS 201 - W
THE ROLE OF IMMUNOLOGY IN UNDERSTANDING THE LINK BETWEEN VIOLENCE VICTIMIZATION AND STD ACQUISITION
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Background: Women who have experienced violence victimization may be more likely to acquire STDs than those who have not experienced such trauma. Despite investigating a multitude of structural and behavioral indicators that may explain this link, the role of biology, particularly immune protection, has received scant attention. Here we examine how violence victimization may be related to immune response in the apical lumen of the female reproductive tract (FRT) using the Lifetime Trauma and Victimization History (LTVH) instrument.

Methods: Participants (n=42) were split into 2 groups using the median LTVH score (which includes physical assault/abuse, sexual assault/abuse, crime victimizations). Paired blood and vaginal lavage specimens were collected from non-pregnant, HIV and STD-negative women aged 18-45 in Grady Clinic, Atlanta. Epithelial and immune cells from vaginal lavage were enriched using an enhanced density centrifugation method and characterized using flow cytometry and RNA was analyzed by qRT-PCR. Statistics were calculated by t-test.

Results: Among those with a high LTVH (>9), increased markers of immune suppression and compromised epithelial barrier integrity were observed: increased antigen presenting cells (p=0.04) expressingCCR5 (p=0.02) and decreased cellular expression of genes involved in epithelial barrier integrity. HIV target cells (CD4 T cells) exhibited markers associated with altered trafficking behavior between the FRT and circulation: reduced CD69 frequency (p<0.0001) and increased CCR7 (p<0.0001). Women who report violence victimization are more likely to have decreased immune response at the apical lumen of FRT barrier, which indicates increased vulnerability to STDs. This is one of the first studies that examines past violence experiences in relation to current immune response. Future work will examine how different forms women’s victimization (experiencing assault vs. witnessing assault and sexual violence vs. physical violence, for example) may influence immune response and implications for STD physicians.

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POS 202 - T
SEXUALLY TRANSMITTED INFECTIONS REPORTED AMONG ADULTS AGED 50 YEARS AND OLDER, NEW YORK CITY 2006-2016
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Background: Chlamydia, gonorrhea and syphilis infections are reportable in New York City (NYC). Adults remain sexually active into later life, but may not be considered at risk for sexually transmitted infections (STI). We examined trends in chlamydia, gonorrhea, and syphils among New Yorkers aged ≥50 years.

Methods: We analyzed cases of reported chlamydia, gonorrhea, and syphilis among NYC-resident adults aged ≥50 reported to NYC Department of Health's STI surveillance registry during 2006-2016. Case rates were calculated per 100,000 population.

Results: In 2016, men aged ≥50 contributed 4.3% (1,184/27,781) of all male chlamydia cases; 5.2% (756/14,537) male gonorrhea cases; 10.5% (192,1830) male P&S and 13.5% (398/2,864) early latent syphilis cases. Women aged ≥50 contributed 2.3% (894/37,799) female chlamydia cases; 2.2% (98/6,415) female gonorrhea cases, 1.1% (1/95) female P&S and 15.6% (27/173) female EL syphilis cases. During 2006-2016, case rates per 100,000 for males aged ≥50 increased 478% for chlamydia, (17.3 to 100); 269% for gonorrhea (17.3 to 63.9), 459% for P&S syphils (2.9 to 16.2) and 220% for EL syphils (10.5 to 33.6). Among females aged ≥50, chlamydia case rates increased 107% (290 to 59.9); gonorrhea, 16% (5.7 to 6.6); while syphilis rates decreased 50% for P&S (0.2 to 0.1) and 53% for EL (3.8 to 1.8). The percentage of all three STIs cases diagnosed in NYC Sexual Health Clinics decreased over time for both sexes: 15.4% in 2006 (151/9799) vs. 6.7% in 2016 (239/3550).

Conclusion: A small proportion of NYC STI are diagnosed among persons ≥50 years, however, rates are increasing in this group, and a male preponderance. Most STI are diagnosed in settings other than SHC. Our findings underscore the importance of sexual history taking through adulthood, in order to appropriately identify screening/treatment needs.

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POS 203 - W EXAMINING STD/HIV PARTNER NOTIFICATION PREFERENCES AMONG UNDERSERVED WOMEN

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Background: Partner notification is important in the prevention and control of sexually transmitted diseases (STD) and HIV because it can help to avoid the spread of further infection. Limited studies have examined patient referrals among underserved women in terms of STD/HIV infection. The purpose of this study was to examine partner notification preference (PNP) in women visiting reproductive health clinics.

Methods: An in-person survey questionnaire was administered to women attending reproductive healthcare clinics serving low-income women between May 26 and July 21, 2017. Spanish and English versions of the questionnaire included demographic and health behavior information. Bivariate analyses were conducted using chi-square tests. Multinomial logistic regression was used to examine predictors of PNP.

Results: A total of 342 women were included in this study. Approximately 78% (n=269) were Hispanic and between the ages of 18 to 36 years (n=270). Having a regular place to go when ill was associated with PNP (p<0.0001) in bivariate analyses. Women concerned about experiencing genital discomfort were four times more likely to prefer talking directly with their partner unaccompanied by a healthcare provider (HCP) (aOR: 4.1, 95% CI: 1.2, 13.2) compared to an HCP speaking alone with their partner or an HCP speaking with them and their partner together during a medical visit. Additionally, Spanish speakers were 3.5 times more likely to prefer an HCP speaking with them and their partner together during a medical visit compared to women that preferred speaking directly with their partner (aOR: 3.5, 95% CI: 1.3, 9.2).

Conclusion: This study revealed that cultural differences and concern for STDs had an influence on the preference style for notifying partners among women in underserved communities. It can be implied that there is an additional need for culturally sensitive policies for partner notification practices among diverse populations.

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POS 204 - T PROMOTING ADOLESCENT HEALTH THROUGH SCHOOL-BASED HIV/STD PREVENTION AND SCHOOL-BASED SURVEILLANCE: FINDINGS FROM STATE AND LOCAL EDUCATION AGENCIES

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Background: The Division of Adolescent and School Health at the Centers for Disease Control and Prevention funds 18 state education agencies (SEAs) and 17 local education agencies (LEAs) to work on the institutionalization and implementation of programs and practices to support school-based HIV/STD and pregnancy prevention efforts in priority districts and schools. This presentation highlights results from performance monitoring of the first three years of program implementation.

Methods: Since spring 2015, SEAs and LEAs completed a biannual, web-based survey on program activities linked with HIV/STD risk reduction, including district adoption or school delivery of sexual health education curriculum, linkage of students to sexual health services, and the provision of safe and supportive school environments for students and staff. Those data were used to assess linear trends using PROC GLIMMIX in SAS to account for the nesting and repeated observation of priority schools and districts.

Results: Across districts in SEAs, there was significant improvement in the adoption of sexual health curricula for students in middle (P<0.01) and high schools (P<0.01) and districts with a referral system linking students to youth-friendly sexual health service providers (P<0.01). There was an increase in the percentage of districts recommending or requiring key activities to address bullying victimization, including sexual harassment (P<0.01); school connectedness (P<0.01); and parent engagement (P<0.01). Across schools in LEAs, there was a significant increase in the percentage of schools implementing sexual health curricula in grades 9-12 (P<0.01) and an increase in instances of school referrals to off-site providers for youth-friendly sexual health services (P<0.01). There was an increase of schools implementing activities to address bullying victimization, including sexual harassment (P<0.01); school connectedness (P<0.01); and parent engagement (P<0.01).

Conclusion: These findings highlight the expanded availability and quality of programs and practices to decrease sexual risk behavior and HIV/STD risk among students.

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POS 205 - W KNOWLEDGE OF SEXUALLY TRANSMITTED INFECTIONS (STIS) AND HUMAN IMMUNODEFICIENCY VIRUS (HIV) AMONG COLLEGE STUDENTS ON AN HISTORICAL BLACK COLLEGES AND UNIVERSITIES (HBCU) CAMPUS

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Background: STIs have resulted in millions of dollars being spent by the public in health care costs. STIs continue to remain a public health concern among young people 15-24 years. Some of the highest rate of STIs/HIV were reported in Maryland.

Methods: A convenience sampling of 18-24 years college students that were registered for the spring semester of 2017 in a northeast urban HBCU were surveyed on program activities linked with HIV/STD risk reduction, including district adoption or school delivery of sexual health education curriculum, linkage of students to sexual health services, and the provision of safe and supportive school environments for students and staff. Those data were used to assess linear trends using PROC GLIMMIX in SAS to account for the nesting and repeated observation of priority schools and districts.

Results: Across districts in SEAs, there was significant improvement in the adoption of sexual health curricula for students in middle (P<0.01) and high schools (P<0.01) and districts with a referral system linking students to youth-friendly sexual health service providers (P<0.01). There was an increase in the percentage of districts recommending or requiring key activities to address bullying victimization, including sexual harassment (P<0.01); school connectedness (P<0.01); and parent engagement (P<0.01).

Conclusion: These findings highlight the expanded availability and quality of programs and practices to decrease sexual risk behavior and HIV/STD risk among students.

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POS 206 - T
SYPHILIS DIAGNOSIS AMONG MEN WHO HAVE SEX WITH MEN WHO ARE LIVING WITH DIAGNOSED HIV INFECTION: ASSESSING MORBIDITY IN NEW YORK STATE (EXCLUDING NEW YORK CITY)
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Background: Since 2009, syphilis has been increasing in New York State (NYS) among men with a history of male-to-male sexual contact (MSM). This study was designed to establish the yearly rate of, and assess factors associated with, early syphilis diagnosis among MSM living with diagnosed HIV infection (MSM/LWHDH) in NYS excluding New York City.

Methods: A cohort of MSM/LWHDH aged 18+ alive at the end of 2016 was matched to STD data to identify individuals with at least one syphilis diagnosis between July 2014 and December 2016. Syphilis diagnosis rates were calculated for 2015 and 2016. Crude relative risks and 95% confidence intervals (95%CI) were used to determine associations between syphilis diagnosis and age, race/ethnicity, receiving consistent HIV care (viral load, CD4 or genotype testing) and HIV viral suppression (<150 c/ml) from January 2013 to December 2016 (both defined as no lapse >3 months).

Results: Of 9,056 MSM/LWHDH, 50% were white, 84% aged 35+, and 387(4%) had a subsequent syphilis diagnosis. Yearly syphilis rates were: 18 and 17/1,000 for 2015 and 2016, respectively (2016 rate among NYS males was 0.10/1,000). Age was significantly inversely associated with syphilis diagnosis, and blacks were 1.98 (95%CI:1.55-2.51) times more likely to have a syphilis diagnosis than whites. MSM/LWHDH who were never virally suppressed or never in care during the study period were less likely to have a syphilis diagnosis (0.61(95%CI:0.45-0.81) and 0.55 (95%CI:0.41-0.75) respectively).

Conclusion: Syphilis diagnosis rates in the cohort were significantly higher than NYS rates among males overall. Higher risk of syphilis diagnosis in MSM/LWHDH consistently virally suppressed or in care suggests either beneficial detection bias or higher incidence. Consistent HIV care as a means of improved syphilis detection could have implications for prevention programs, such as routine syphilis testing in conjunction with viral load monitoring for MSM/LWHDH. Findings also support continued syphilis testing among young MSM/LWHDH.

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POS 207 - W
PREVALENCE AND RISK FACTORS OF HIV AND SYPHILIS AMONG PREGNANT WOMEN IN ADO LOCAL GOVERNMENT, EKITI STATE, SOUTH WESTERN NIGERIA – 2017
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Background: Sexually transmitted diseases (STDs) are epidemics and causes enormous health and economic consequences in developing countries. HIV, Syphilis and other STDs are transmissible to the unborn babies and result in adverse pregnancy outcomes. This study aimed to determine the prevalence and risk factors of HIV and Syphilis among pregnant women in ADO Local Government Area.

Methods: A cross-sectional study was conducted between March and May, 2017. 340 pregnant women attending ANC and maternity homes were enrolled. Data was collected using semi-structured interviewer administered questionnaire and blood samples from enrollees were screened for HIV and Syphilis using enzyme linked immunosorbent assay. Descriptive, bivariate and multivariate analyses were done and level of significant set at 5%.

Results: Data analysis was carried out on 337 respondents. Mean age was 29.6 years, 108 (53%) were employed, 274 (81.3%) Christian and 251 (74.5%) had lived in Ado LGA for more than 2 years. Majority, 328 (97.3%) had at least one sexual partner in the past 1 year (AOR 29.0, 95% CI. 3.4 - 244.1) and new sexual partner in the past 6 months (AOR 10.2, 95% CI. 1.5 - 68.1) and Syphilis were found in 1(0.3%) respondent. Predictors of HIV infection included multiple sex partners in the last one-year (AOR 13.3, 95% CI. 2.6 - 69.8), giving or receiving money or goods in exchange for sex (AORS 5, 95%CI 1.0 - 31.0). Predictors of syphilis infection were forced to have sex in the past 1 year (AOR 29.0, 95% CI. 3.4 - 244.1) and new sexual partner in the past 6 months (AOR 10.2, 95% CI. 1.5 - 68.1).

Conclusion: The prevalence of HIV (3.3%) and Syphilis (2.4%) was high in this study population. The exposure of pregnant women to some risk factors underscores the need to intensify effort at providing health education to women of reproductive age on prevention of HIV, Syphilis and other sexually transmitted diseases.

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POS 208 - T
EVALUATION OF RAPID SYPHILIS TESTING USING THE SYPHILIS HEALTH CHECK IN FLORIDA, 2015–2016
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Background: The Rapid Syphilis Health Check (RSHC) test had low estimated specificity (91.5%) in a previous study in Escambia County, Florida. We studied the use of RSHC tests in 35 Florida counties between 2015 and 2016 to estimate test specificity, predictive value positive, and usefulness to programs.

Methods: All reported RSHC test results performed in Florida between 2015 and 2016 were extracted from Florida’s surveillance system. RSHC test specificity was estimated using available tests. Field staff from the top 11 RSHC-using counties were surveyed about its usefulness and challenges.

Results: Of 3,610 RSHC results reported, 442 (12%) were reactive, of which 91 had prior diagnoses of syphilis and 7 had no further testing. Of the remaining 344: 158 were confirmed as cases, 18 had other syphilis serology tests positive but were not reported as new cases, and 168 tested negative on other syphilis serology tests. Thus, specificity was at least 1- [168/(3,610-91-7-158-18)]=95. This estimated specificity is an underestimate because it is based on negative nonprenatal testing (confirmatory treponemal testing was usually not done). Specificity was consistent by county. Predictive value positive varied greatly by county (range 6.9% to 93.3%) mostly due to a wide range of prevalence of syphilis among persons tested (range 0.4% to 25.4%). Sensitivity could not be estimated because most negative RSHCs had no further testing. Staff thought the RSHC helped identify new syphilis cases and was acceptable to patients. However, they expressed concern regarding the amount of discordance between reactive RSHC and lab-based testing.

Conclusion: Specificity was at least 95%. Variability in predictive value positive between counties was mostly due to differences in syphilis prevalence in the population tested. The benefit in using the RSHC test may depend on the population tested and available resources for traditional syphilis testing and follow-up.

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POS 209 - W
INTRAVAGINAL PRACTICES IN AN URBAN SEXUALLY TRANSMITTED DISEASE (STD) CLINIC, 2017
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Background: Douching is consistently associated with bacterial vaginosis (BV) and most clinicians formally recommend against it. Very little is known about prevalence and risks of other forms of vaginal washing, though existing data shows it is common, particularly in Black women1. To investigate local practices, the Philadelphia Department of Public Health (PDPH) surveyed STD clinic patients about personal washing/douching behavior (intravaginal practices, IVP).

Methods: From March 1-May 8, 2017, an anonymous questionnaire about IVP, including frequency and reasons for IVP, what was used, and self-report of prior STD and vaginitis, was offered to all women who registered at PDPH’s larger STD clinic. Descriptive statistics were calculated using Pearson chi-squared tests.

Results: Participants (197 of 763 women who visited clinic) tended to be Black (74%), 20-29 years old (59%), to have completed less than four years of college (71%), and had annual incomes below $40,000 (82%). Most participants (71.1%) reported ever having practiced IVP and 37.1% practiced IVP at least once per month (2 once/month). Having ever practiced IVP was more common in Black women compared with non-Black women (p<0.001), but those who practiced IVP ≥ once/month did not differ by race.
(p=0.12). Practicing IVP ≥ once/month was more common for lower income women regardless of educational attainment (p=0.01). Reasons for IVP ≥ once/month included general (61%) and menstrual (46%) hygiene, hygiene before (28%) or after (36%) sex, to decrease odor (34%) and to prevent infection (17%). Self-report of vaginitis and STD differed by frequency of IVP and was different for different conditions.

Conclusion: IVP were very common in this predominantly Black cohort of women. Given that BV is consistently more prevalent among Black women than other groups, the effect of IVP on vaginal flora should be investigated. National health behavior surveys should ask about other IVP as well as douching.

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POS 210 - T

ASSESSING FACTORS ASSOCIATED WITH STD/HIV TESTS IN EMERGENCY DEPARTMENT SETTINGS

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Background: Very few studies have examined sexually transmitted disease (STD) or HIV screening in emergency departments (EDs) using national data, although these facilities are sometimes used as an alternative to primary care. The purpose of this study was to examine factors and trends associated with STD/HIV screening and treatment practices in EDs.

Methods: This retrospective repeated cross-sectional study used data from the National Hospital Ambulatory Medical Care Survey (NHAMCS) between 2009 and 2013. This survey, which is comprised of a national probability sample of visits to EDs of 600 non-institutional hospitals, was conducted by the Centers for Disease Control and Prevention’s National Center for Health Statistics. We included individuals who were more than 15 years of age and visited EDs for reproductive health concerns. Bivariate analyses were conducted using chi-square tests. All data were weighted using standard weights available in the dataset. Potential confounders were controlled for in multinomial logistic regression models examining predictors of screening in addition to diagnosis and treatment using SAS Statistical Software Version 9.4 (Cary, NC).

Results: A total of 3,150 people seeking STD-related care were included in this study. More than 45% (n=1,434) were screened for an STD, while 2% (n=63) were screened for HIV. Individuals presenting to the ED with general STD symptoms were sixteen times more likely to be screened (aOR: 16.2, 95% CI: 11.6, 22.8); and nine times more likely to be diagnosed because of STD symptoms were sixteen times more likely to be screened (aOR: 9.03, 95% CI: 4.4, 18.7).

Conclusion: This study revealed that, among those who had STD-related visits to EDs, those who presented with general symptoms and reported positive exposure were more likely to be screened in addition to being diagnosed and treated compared to those who weren’t screened. EDs may play a pivotal role in STD/HIV care.

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POS 211 - W

RECRUITING AND TRAINING LATINO YOUTH LEADERS AROUND STD PREVENTION: EARLY LESSONS LEARNED FROM A COMMUNITY-BASED PARTICIPATORY RESEARCH PROJECT IN SAN DIEGO, CALIFORNIA

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Background: The South Bay region of San Diego, California is a unique context for health inequities, including STDs and HIV/AIDS. Furthermore, poor STD-related health outcomes are disproportionately concentrated among Latino youth, therefore demanding culturally sensitive, community-driven health equity initiatives. As a part of the CDC’s Community Approaches to Reducing STDs initiative, we recruited and trained youth to serve on a Youth Advisory Board (YAB) to assess and prioritize community youth needs and design culturally appropriate strategies to increase STD testing and awareness among this population. We will discuss our approach to youth engagement, academic-community model and the early lessons learned from this community-based participatory research (CBPR) project.

Methods: Since October 2017, we systematically recruited and trained Latino youth leaders (ages 15-19 years) on STDs, needs assessment/research methods, and group/team dynamics. Youth participated in a two-day training encompassing social determinants of health, STDs, contraceptive methods, and CBPR/ youth participatory action research. Subsequent meetings focused on developing group operating norms (e.g., decision-making processes), conceptualizing a mission statement, planning for assessment and prioritization of STD-related needs and intervention development. Brief pre-/post-surveys assessed youth satisfaction with trainings/meetings and achievement of learning objectives.

Results: Overall, youth were satisfied and expressed high self-efficacy following their training/meetings. Knowledge of STDs and contraceptive methods statistically increased (p<.05) from pre- to post-training time points. Youth recommended that facilitators assist in the improvement of youth communication and meeting organization. In addition to expressing excitement to identify a specific project focus, YAB members requested further training in sexual and reproductive health.

Conclusion: Our approach to youth engagement may serve as a model for others as they attempt to impact STD testing and associated rates in complex and dynamic communities. The CBPR framework can create a strong partnership that is responsive to the needs and goals of the communities served.

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POS 212 - T

VARIANCE IN SEXUALLY TRANSMITTED INFECTION DETECTION BY ANATOMIC SITE: EVIDENCE FROM AN INTERNET-BASED SCREENING PROGRAM

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Background: Urogenital-only testing for sexually transmitted infections (STIs) has been shown to miss a substantial number of infections in some populations. To quantify the degree to which STI detection varies by anatomic site, vaginal and penile-rectal urogenital and rectal specimens were evaluated using on-line users of an internet-based STI screening program providing free, anonymous, at-home self-collection test kits.

Methods: Specimens and self-reported risk data collected from residents of Maryland and Washington, DC, through the “IWantTheKit” (IWTK) program were analyzed for the period August 2013-December 2016. Specimens were tested for Chlamydia trachomatis (CT), Neisseria gonorrhoeae (NG), and Trichomonas vaginalis (TV). Specimen positivity was examined by anatomic site and sex to assess attributable STI detection. Logistic regression models were used to assess predictors of rectal or urogenital infection (e.g., age, sex, race, and risk score).

Results: For the 3,191 kits returned, overall STI positivity was 10.7%. Of 884 (27.7%) kits that included both urogenital and rectal specimens, 52.5% were submitted by women; 95% of rectal swabs were positive for one or more STIs (5.0% CT, 3.0% NG, and 2.9% TV); and 8.7% of urogenital swabs were positive (5.5% CT, 0.4% NG, and 3.2% TV). Collectively, 19.9% of STI kits would have been missed with urogenital-only testing (16.9, 55.9%, and 17.1% for CT, NG, and TV, respectively). Missed CT and NG infections varied by sex (11.9% missed chlamydia infections in women, compared to 21.2% in men (p=0.08); 11.1% missed gonorrhea infections in women, compared to and 81.3% in men (p<0.001)). Risk scores were significantly associated with STIs (urogenital or rectal).

Conclusion: STI risk scores were significant independent predictors of urogenital and rectal STIs. Significant STIs were missed by urogenital-only testing, highlighting the usefulness of risk assessment to identify the need for extra-genital testing.

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POSTERS

Sexually Transmitted Diseases • Volume 45, Supplement 2, September 2018
rates of substance use, sexually risky behaviors, and unintended pregnan-
cy. For many YESCS access to primary healthcare, information, and social
services are limited by the transition out of the systems. Linking YESCS to
healthcare and social services is critical. An estimated 73% of US teens have
smartphone access. Mobile technology solutions provide opportunities to
link YESCS to health information, resources, and services.

Methods: Literature on the healthcare needs, outcomes, and current transi-
tion strategies for supporting YESCS, as well as mobile technologies were
identified and reviewed. Trained facilitators conducted Youth-Centered
Health Design (YCHD) workshops to inform the design, functionality, and
feasibility of a mobile technology solution for YESCS.

Results: YESCS demonstrate parallel gaps in access to health services and
increased vulnerability to sexually transmitted infections, pregnancy, and
assault. However, mobile application availability differed between the youth,
with foster youth having 4x more mobile application options. Three YCHD
workshops were conducted with 20 YESCS, which underlined the impor-
tance of using mobile technology to address needs including access to re-
sources, primary care, and housing. YCHD workshop findings coupled with
a mobile application scan and literature review of 26 articles yielded the de-
sign of a pilot mobile technology solution that includes a resource database
with more than seventy resources in the test area.

Conclusion: There are gaps in the mobile technology and literature regard-
ning the health and social service needs of YESCS. While services are not lacking,
the greatest need is in acquiring these services in a trauma-informed context.
Engaging YESCS in designing mobile technology solutions presents an op-
portunity for: 1) identifying under-net needs, 2) centralizing available ser-
vice and resources, 3) offering information and pathways to gaining access to
services, and 4) potential strategies for maximizing reach.

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POS 214 - T
STD SCREENING SERVICES AND PROVISION OF BARRIER
METHODS IN U.S. PUBLICLY-FUNDED FAMILY PLANNING CLINICS
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Background: The 2014 CDC and Office of Population Affairs Recommenda-
tions for Providing Quality Family Planning Services state that family planning
providers should provide sexually transmitted disease (STD) screening and
treatment services, and that condoms be easily and inexpensively available on-
site. The relationship between STD screening and condom availability among
publicly funded family planning clinics has not recently been investigated.

Methods: Using a nationally representative survey conducted in 2013-2014
of publicly-funded family planning clinics in the U.S. (n=1615), we exam-
ined the frequency of providing female and male STD screening services and
condom provision at Title X (n=1,045) and non-Title X (n=570) clinics.
Unadjusted prevalence ratios (PR) and 95% confidence intervals (CI) were
estimated using predicted margins from logistic regression models, account-
ing for survey design.

Results: Title X clinics were more likely than non-Title X clinics to provide
STD screening services frequently to female (92% vs. 82%; PR=1.13, 95%
CI: 1.08, 1.18) and male (77% vs. 63%; PR=1.22, 95% CI: 1.14, 1.31)
clients. Among those clinics that provided STD screening services frequently
to female clients, Title X clinics were more likely than non-Title X clinics to
provide female (56% vs. 39%; PR=1.43, 95% CI: 1.26, 1.63) and male (99%
vs. 82%; PR=2.12, 95% CI: 1.15, 2.60) condoms on-site. Among those clin-
ics that provided STD screening services frequently to male clients, Title X
clinics were more likely than non-Title X clinics to provide female (59% vs.
43%; PR=1.35, 95% CI: 1.18, 1.55) and male (99% vs. 85%; PR=1.17, 95%
CI: 1.11, 1.22) condoms on-site.

Conclusion: There exists a gap between providing STD screening services
and providing condoms on-site, particularly among non-Title X clinics. Our
findings warrant further investigation into how condoms can be easily and
inexpensively available on-site in order to increase client access to these con-
traceptive barrier methods.

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POS 215 - W
DISPARITIES IN DISEASE BURDEN ASSOCIATED WITH
GONORRHEA IN THE UNITED STATES, 2000-2015

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BS\(^5\), Yelena Maluyta, BS\(^5\), Nicolas Menzies, PhD\(^5\), Katherine Hsu, MD,
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Background: Disparities in gonorrhea cases and rates across subgroups are
well-documented. We used quality-adjusted life years (QALYs) to assess dis-
parities in the health burden of gonorrhea by age, sex, race/ethnicity, and for
men who have sex with men (MSM).

Methods: A sex, age and race/ethnicity stratified transmission model of
gonorrhea was calibrated to national data on prevalence and reported cases
(adjusted for incomplete reporting) for 2000-2015. The model-estimated prev-
tence trends were used in a Markov cohort model to estimate burden of
disease, using QALYs lost; based on disease sequelae in women and men.
Disparities in disease burden were examined by age and race/ethnicity among
heterosexual men and women (‘Non-Hispanic White’ (NHW), ‘Non-His-
panic Black’ (NHB), ‘Hispanic’, ‘American Indian or Alaska Native’ (AI/AN),
Asian or Native Hawaiian or Other Pacific Islander’ (A/NH/OPi)) and sepa-
rately by age for MSM (all race/ethnicities combined).

Results: The estimated gonorrhea QALYs lost decreased from 2000 to 2015
for heterosexual men and women, except among AI/AN women. QALYs lost
among MSM was estimated to be stable (aged 15-24) or increasing (aged 25-
39). Due to high prevalence, the NHB population had the highest numbers of
QALYs lost, followed by NHW and Hispanic populations. AI/AN and A/
NH/OPi populations had the lowest QALYs lost. The total QALYs lost for men
aged 15-24 years in 2015 were 21,255 for NHB, versus 778 for A/
NH/OPi. For AI/AN women aged 15-24 years in 2007, the QALYs lost per
100,000 persons (QLPP) was 544, 5.5 times that of A/NH/OPi women (98
QLPP). This disparity in AI/AN women continuously increased to 10.7 times
that of A/NH/OPi women in 2015 (656 versus 61 QLPP).

Conclusion: Racial/ethnic gonorrhea disparities may be growing for women,
in addition to the continued disproportionate gonorrhea burden among het-
erosexual Black population and MSM. QALYs can be useful in measuring
disparities in STDs.

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POS 216 - T
SEXUALLY TRANSMITTED INFECTION RATES IN MEN WITH HIV
PRESCRIBED ERECTILE DYSFUNCTION MEDICATION
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Background: Erectile dysfunction (ED) is common in up to 60% of men
living with HIV. Limited evidence suggests a decrease in sexually transmitted
infection (STI) screening and an increase in positivity after ED medication
(EDM) prescription.

Methods: We performed a retrospective cohort analysis of HIV-positive,
adult males in care during 2008-2016 at an HIV clinic at the University of
Alabama at Birmingham. We included men prescribed phosphodi-
erase inhibitor medications for ED. Differences in STI testing and positivity
rates were compared before and after EDM prescription (+12 months) using
paired data analysis. Three reportable STIs were included: chlamydia, gonor-
rrhea, and incident syphilis.

Results: Among 2924 males engaged in HIV care, 600 (20.5%) were pre-
scribed EDM. The mean age was 47 years, 68.0% reported sex with men
(MSM) and 52.0% were Black. STI testing rates decreased significantly in the
year after EDM prescription: 37.3% vs 32.5% for chlamydia, 37.3% vs
32.5% for gonorrhea, and 89.2% vs 67.5% for syphilis. All 10 chlamydia
infections, 8 of 9 gonorrhea infections and all 27 syphilis infections detected
before and after EDM occurred in MSM. In the paired data analysis, MSM
had fewer chlamydia infections (9.9% vs 2.5%; p=0.06), more gonorrhea
infections (2.5% vs 8.8%; p=0.06), and similar syphilis infections (5.4% vs
6.0%; p=0.55) after EDM was prescribed.

Conclusion: MSM living with HIV in Alabama had elevated rates of bacte-
rial STI before and after the initiation of EDM medication. Our hypothesis
that EDM would lead to increased STI rates was not supported. Clinic-based
STI screening rates were low and study findings support CDC recommendations
to screen sexually active adults with HIV for STI at exposure sites frequently.
Screening periodicity should be based on risk behavior and STI history, irrespective of EDM.

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POS 217 - W
CONDOM USE DECISION-MAKING AMONG YOUNG MEN WHO HAVE SEX WITH MEN IN THE ERA OF HIV PREEXPOSURE PROPHYLAXIS
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Background: Condom use and HIV pre-exposure prophylaxis (PrEP) can decrease the disproportionately high rates of HIV infections that occur among young men who have sex with men (YMSM) in the US. Recent studies with adult MSM suggest the likelihood of less condom use while using PrEP. However, few have explored how PrEP use or non-use affects condom decision-making for YMSM, whose beliefs/behaviors could differ from older peers. This study explored YMSM’s condom decision-making and how PrEP use or non-use impacts those decisions.

Methods: We conducted qualitative interviews with 28 HIV-uninfected YMSM aged 17-25 (mean=21) who had never used PrEP (n=16), were taking PrEP with suboptimal adherence (n=3), or taking PrEP with optimal adherence (n=9). We explored condom use experiences and decision-making in the context of perceptions about HIV risk behaviors, sexual relationships, and PrEP use. Data were analyzed using content analysis.

Results: YMSM were knowledgeable about condoms and perceived them to be effective, affordable, and accessible. Condomless sex was perceived to be risky by those who underwent receptive anal sex and/or substance use during sex. Youth were less likely to use condoms with monogamous and trusted partners, based on familiarity and open communication about their HIV status, condom use intentions, and PrEP use. Those not using PrEP viewed condoms more favorably. For PrEP-experienced participants, condom beliefs were varied. Some YMSM described condoms as positive additional protection against HIV and others reported pressure not to use condoms while on PrEP.

Conclusion: Interventions to improve condom use and PrEP among YMSM may be more effective if they discuss rates of HIV transmission among trusted primary and casual partners, support optimizing HIV prevention choices while engaging in higher-risk behaviors (e.g. receptive anal sex/ substance use), simplify access to PrEP, and empower YMSM to negotiate condom use while taking PrEP.

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POS 218 - T
EVIDENCE-BASED CARE FOR SEXUALLY TRANSMITTED INFECTIONS: MISSED OPPORTUNITIES IN AN ACADEMIC MEDICAL CENTER
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Background: Colorado has had rising rates of gonorrhea and syphilis. Guidelines for those diagnosed with sexually transmitted infectious (STIs) stipulate that patients should receive screening for other STIs, including syphilis and HIV. We aimed to study how often patients received guideline-based evaluation and hypothesized that providers adequately treat STIs, but fail to provide comprehensive screening.

Methods: We retrospectively reviewed 868 patients diagnosed with chlamydia, gonorrhea, and trichomoniasis within the University of Colorado Health System. We defined “comprehensive screening” as testing for both syphilis and HIV and “re-screening” as testing again for the originally detected pathogen. Statistical analysis was performed with chi-square analysis.

Results: 801 (92.2%) of 868 patients received treatment, 98.3% of which was guideline-based. Time of diagnosis, 16 (3.0%) of 550 patients seen in the emergency department, urgent care, or obstetrical triage received comprehensive screening compared to 183 (57.5%) of 318 patients seen in clinics. Comprehensive screening at diagnosis was more common in infectious disease (ID, 84.2%) and obstetrics (OB, 70.8%) clinics than in gynecology (GYN, 29.1%), family medicine (FM, 45.2%), or internal medicine (IM, 41.3%) clinics (p < 0.01). 62 (43.1%) of 144 patients not comprehensively screened at diagnosis received comprehensive screening at time of follow-up, more commonly in ID (68.4%) and OB (57.1%) clinics than in FM (24.1%) and GYN (22.9%) clinics (p < 0.01). 200 (84.7%) of 236 patients seen in follow-up received re-screening. Only 96 patients (11.1%) received extra-genital testing at any point; of these 93 (96.9%) were men and 79 (82.2%) were tested in ID clinic.

Conclusion: Guideline-based treatment and re-screening for diagnosed STIs were routinely performed. However, comprehensive screening for those diagnosed with STIs was below standard of care. Additionally, extra-genital testing was not routinely performed. Providers in ID and OB clinics, where screening is either routine or protocolized, were more likely to perform comprehensive screening.

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POS 219 - W
SYSTEMIC IMMUNE ACTIVATION AND INFLAMMATION IN HIV-INFECTED MEN WHO HAVE SEX WITH MEN WITH AND WITHOUT A HISTORY OF SYPHILIS INFECTION
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Background: HIV and syphilis are associated with systemic immune activation and inflammation, which can have negative health consequences. Whether past syphilis infection results in sustained inflammation in HIV-infected individuals is not well understood.

Methods: We conducted a cross-sectional study of 157 HIV-infected men who have sex with men (MSM). Participants self-administered a behavioral survey; we captured data from medical records and evaluated serum biomarkers of inflammation from a convenient subset of 51 participants. For this analysis, we compared biomarkers between the 21 participants who reported a history of syphilis and the 10 who reported no prior sexually transmitted infections (STIs).

Results: The 31 participants were predominantly white (65%, n=20); median age was 46 years (IQR: 34–53 years). With the exception of three men who reported prior syphilis, all participants had HIV viral loads ≤40 copies/mL. We observed no differences between men who reported prior syphilis and those who reported no prior STIs regarding use of antiretroviral therapy (95% vs. 100%, p=0.10) and median CD4 count (618 cells/mm3 [IQR: 476–766] vs. 637 cells/mm3 [IQR: 581-785], p=0.90). Men who reported prior syphilis had somewhat higher mean levels of sCD14 (3442 vs. 2821 pg/mL, p=0.06), CRP (4119 vs. 2436 ng/mL, p=0.14), IP-10 (353 vs. 289.2 ng/mL, p=0.15), and IP-10 (138.9 vs. 110 ng/mL, p=0.17). After excluding men with HIV VL ≤40 copies/mL (n=3), the difference between groups increased for sCD14 (3527 vs. 2821 pg/mL, p=0.03) and CRP (4574 vs. 2436 ng/mL, p=0.06). Somewhat higher IL-6 levels were observed in men with no STI history (5.632 vs. 3.593 pg/mL, p=0.17). No difference was observed for sCD163, ox-LDL, sTNFR1, sTNFR2, TF, D-Dimer, VCAM, Fractalkine, Lp-PLA2, and ICAM-2.

Conclusion: Prior syphilis infection may be associated with sustained inflammation in HIV-infected MSM despite viral suppression and preserved immunity. Larger studies with serial biomarker measurements are needed.

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POS 220 - T
THE CHANGING ROLE OF DISEASE INTERVENTION SPECIALISTS IN MODERN PUBLIC HEALTH PROGRAMS
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Background: Disease Intervention Specialists (DIS) help control sexually transmitted disease transmission by assuring patient treatment and notifying their sexual partners of potential exposure. Given the recent increase in syphilis...
HIV outcomes are an important component of syphilis partner investigations. NCSD conducted focus groups with Black MSM on PrEP in order to determine how PrEP affects condom use. These different responses to the question of how PrEP affects condom use were broadcast to large audiences. However, through using social media, programs can microcast their messaging to inform users with different perspectives about the costs and benefits of different sexual health strategies in ways that will resonate with them.

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**POS 224 - T**

**HIV OUTCOMES OF SYPHILIS PARTNER INVESTIGATIONS**

North Carolina, 2015-2016

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**Background:** HIV outcomes are an important component of syphilis partner notification services (PNS) success. We calculated syphilis and HIV outcomes for partners named by syphilis patients.

**Methods:** For all partners reported by primary, secondary, and early latent syphilis cases interviewed by a disease intervention specialist (DIS) in North Carolina (NC) during 2015-2016, we assigned syphilis treatment status (untreated, presumptively-treated, treated) and HIV status (previous HIV-positive, newly HIV-positive, HIV-negative, HIV-unknown) per Division of Public Health (DPH) surveillance. Using HIV labs reported to DPH, we calculated HIV care (CD4 or viral load (VL) ≤1 year before index's syphilis diagnosis) and viral suppression status (VL<200 copies/mL within 6 months of index’s syphilis diagnosis) for HIV-positive partners.

**Results:** During 2015-2016, 3,779 syphilis index cases were reported in NC; 45% were HIV-positive. DIS interviewed 3754 (99%) index cases who reported 9351 partners (median=2, range=0-151); 4532 partners had locating information. Overall, 1958 (52%) index cases named 1 syphilis-treated partner. DIS found 3546 partners: 2756 (78%) were treated for syphilis. Overall, 1625 partners tested negative for syphilis and were presumptively-treated. An additional 1131 partners had diagnosed syphilis: 631 (0.17 per index) were treated before, 85 (0.02 per index) were treated the same day as, and 415 (0.11 per index) were treated after being named by the index case. Partners were: previously HIV-positive (N=1152, 25%), newly HIV-positive (N=86, 2%), HIV-negative (N=1499, 33%), and HIV-unknown (N=1795, 40%). In total, 3174 (42%) previous HIV-positive partners not in care and 73/86 (87%) newly-diagnosed partners were linked to care within 6 months after DIS contact.

**Conclusion:** One-third of partners reported by syphilis patients were located; most were treated for syphilis, but many had an unknown HIV status. Improved documentation of HIV testing, pre-exposure prophylaxis referrals, and care indicators will enhance understanding of syphilis PNS effectiveness for HIV-related outcomes.

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**POSTERS**

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Background: One in two sexually active young people will get an STD by the age of 25; most will not know it. In order to encourage STD testing, particularly among asymptomatic, sexually active college students, new strategies are needed. The purpose of this study was to investigate college students’ perceptions of and intention to use STD self-testing services if made available on campus.

Methods: During February 2018, students from a large public university (n=423) completed an online survey that explored students’ sexual, health care, and STD/HIV testing behaviors; perception of personal STD risk; comfort with STD self-testing procedures; and intention to use STD self-testing services if offered through student health services.

Results: Most students had engaged in oral (79%), vaginal (66%), and/or anal (21%) intercourse during the past 12 months. Yet, most (56%-98%) did not use a condom/other barrier method the last time they engaged in these behaviors. Overall, students perceived themselves to be at “low risk” for STDs. Forty-six percent had been ever tested for HIV; 5% for other STDs. Thirteen percent had been diagnosed with/treated for an STD. Students reported being more likely to use STD self-testing services if they could “take a test kit home and test themselves in the privacy of their own home/residence” than using traditional STD testing services or self-testing services where they could “go into a private room at Student Health Services and test themselves.” Students also reported being “very comfortable” with many procedures in a self-testing process and performing certain testing themselves. Confidence, accuracy, and privacy/confidentiality of the tests, along with the provision of clear “how to” instructions, topped students’ questions, concerns, and comments about STD self-testing.

Conclusion: Student health services should consider offering STD self-testing options, especially take-home test kits, as a means of increasing STD testing among sexually active college students.

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POS 225 - W
MSM WHO USE DATING APPS SUPPORT NEW FEATURES TO PROMOTE SEXUAL HEALTH
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Background: Dating apps can help public health reach large numbers of MSM with messages. Profile options allow users to make informed choices about partners. Partner services remain a challenge in mobile apps. Assessing users’ preferences for interventions is crucial before implementation.

Methods: From July to November 2017, Building Healthy Online Communities partnered with American Men’s Internet Survey (AMIS) to ask app users to rate online interventions. Participants were recruited via online advertisements. The analysis sample (n=4825) included respondents who were: aged 15 or older, were not transgender, were US residents, were MSM, and reported using sites or apps to meet or socialize with other men in the past year. Analysis was completed in SPSS Version 22, using chi-square tests to test for differences by demographic factors.

Results: Respondents were: 6% African American, 16% Hispanic/Latino, 71% White, 7% other or multiple races, 42%-30% years, 30%-40 years and 42%-40 years, and 9% HIV+. Overall, 68% reported they used sexual health information from an app profile to determine whether to chat with another user. Sexual health features that respondents most wanted apps to add were: local outbreak alerts (79%); free home test mailed (77%); a method to track or take notes about partners to find them again (71%). 59% supported having a way to tell sex partners if they’d been exposed to HIV or STDS. Among HIV+ respondents, preferences were outbreak alerts and a way to track partners, although HIV+ respondents were less likely to prefer all features (p<.01). Between 50-75% of respondents, depending on the feature, said their perception of the app would improve if the features were incorporated. Only 1-9% would feel worse about the app.

Conclusion: These data inform finding common ground between public health and app owners. Acceptance of partner notification strategies may inform development of them for app use.

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POS 226 - T
SEXUALLY TRANSMITTED INFECTIONS AS A PREDICTOR OF HIV CARE OUTCOMES AMONG MEN WHO HAVE SEX WITH MEN
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Background: National guidelines recommend routine screening for sexually transmitted infections (STIs) among people living with HIV. The purpose of this study was to evaluate STI diagnoses among MSM with HIV disease and determine correlates with HIV clinical outcomes.

Methods: The HIV and STD surveillance data management systems were matched. MSM diagnosed and living in DC through 2016 and STIs (chlamydia gonorrhea, and primary & secondary syphilis) diagnosed ≥ 3 months after HIV diagnosis between 2012 and 2016 were included in this analysis. Bivariate analysis was performed to identify differences by demographics, HIV disease stage, retention in HIV care (RIC), HIV viral suppression (VS) and time to VS.

Results: Of 5,560 MSM diagnosed with HIV and living in DC at the end of 2016, there were 3,776 STI diagnoses among 2,193 MSM (38.8%). Compared to mono-infected cases, multi-infected cases were more likely to be RIC in 2017 (98.8% vs 70.9%, p<0.0001) and be virally suppressed in 2017 (65.4% vs 61.9%, p=0.0004). Mono-infected cases were more likely to ever be diagnosed with stage 3 HIV disease (49.3% vs 42.7%, p<0.0001) and have a stage 3 diagnosis at first lab (34.3% vs 27.5%, p=0.0001). Multi-infected cases who had 3 or more STI diagnoses were more likely to be retained in any care in 2017 (78.1% vs 73.9%, p=0.0281) and be virally suppressed within 12 months of their first encounter (DC (38.6% vs 29.5%, p=0.02). There were no differences by type of STI diagnosis and demographics or HIV clinical outcomes.

Conclusion: This analysis demonstrated that MSM with prevalent HIV disease and multiple STIs had better HIV care outcomes than their mono-infected counterparts. Care strategies targeting MSM have been successful in encouraging RIC and VS but must also include tactics for condom use, partner counseling and other non-HIV STI risk reduction activities.

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POS 227 - W
LET’S TALK ABOUT SEX: ROUTINE SEXUAL HEALTH HISTORIES IN A COLLEGE HEALTH SETTING
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Background: Over the past several years the rates of STDs have increased with over 50% of the cases diagnosed in young people. Individuals aged 15 to 24 are a population at risk for STDs secondary to a plethora of factors. Although many of the contributing factors belong to young people, health-care providers play an integral role in STD screening, prevention, and sexual health education. Researchers have learned that health care providers lack sufficient sexual health education and training and that many healthcare providers lack self-efficacy talking about sex and STDs.

Methods: A two-tiered intervention was delivered in a college health setting at a university in northeast Tennessee over a 6-month period (2017). The initial intervention delivered sexual health history taking, proper STD testing, diag-nosing, and treatment education for healthcare providers of the clinic. The second intervention implemented a standardized sexual health history embed-
ed in the electronic health record which was to be completed on all student health patients presenting to the clinic. Pre and post intervention data of sexual health knowledge and self-efficacy, the number of patient-provider visits addressing STDs, and the number of sexual health histories completed was analyzed (t-tests and ratios) to determine the effectiveness of the interventions.

Results: Student health provider sexual health self-efficacy increased from baseline to six-months following implementation (p<.001). Following the intervention, a 126% increase in STD diagnosis codes at patient-provider visits was appreciated over baseline. At the conclusion of the intervention implementation, nearly 90% of patient-provider visits had completed the sexual health history.

Conclusion: Implementing sexual health education for providers and an electronic standardized sexual health history in a college health setting improved provider self-efficacy, increased the number of sexual health histories completed, and increased the number of patient-provider visits addressing STDs.

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POS 228 - T
HOW ARE STD AAPPS RECIPIENTS SUPPORTING STD SAFETY NET CLINICAL PREVENTIVE SERVICES? A SUMMARY OF THE 2016 STD AAPPS ADMINISTRATIVE REPORTING RESULTS
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Background: Changes in the health system have led to shifts in the proportion of individuals with insurance, resulting in changes in reliance on the STD public health safety net. To ensure STD safety-net services remain available, CDC included an assurance activity in the Improving STD Disease Programs through Assessment, Assurance, Policy Development, and Prevention Strategies (AAPPS) cooperative agreement that required recipients to provide assistance (at least 13.5 percent of the overall award amount) to non-profit organizations with demonstrated ability to provide safety-net STD services. This study describes the types of clinical partner sites and populations served using the safety-net assistance.

Methods: We developed an administrative reporting template to determine how the 13.5% has been used by recipients (n=35/59 funded recipients) in 2016 to support safety-net STD clinical preventive services. Collected information on clinical partner types, number of clients (ages 16-44) served, STD tests performed, and associated positivity for tests funded by AAPPS.

Results: Based on aggregate data, 55 awardees reported funding a total of 2,609 clinical partner sites. Of these clinical partner sites, 64% were identified as family planning, state, and/or local clinics. There were 2.9M clinic visits from patients ages 16-44, and 35% were identified as uninsured or underinsured. Over two million AAPPS-funded syphilis, chlamydia, and gonorrhea tests were provided for the uninsured/underinsured patients. Of these tests, there was 0.2% positivity for newly diagnosed syphilis cases, 10.5% positivity for chlamydia and 4.0% positivity for gonorrhea.

Conclusion: Estimates suggest that several million uninsured people aged 15-44 years will be in need of STD services during the next eight years. Support for STD safety-net services remains a critical need for the most vulnerable populations in the shifting health care environment.

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POS 229 - W

USING A COMMUNITY NEEDS ASSESSMENT TO INFORM AN HIV PREVENTION PROGRAM FOR AFRICAN AMERICAN COLLEGE STUDENTS

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Background: Substance abuse, HIV, and STDs are significant public health challenges for African American college students. The Peer Movement Project (PMP) was recently funded by SAMHSA to provide substance abuse and HIV prevention to African American college students ages 18-24. To inform intervention activities, a community needs assessment was conducted prior to service implementation to establish a benchmark of substance use, HIV, and other STDs among the target population.

Methods: In addition to obtaining data from secondary sources, PMP conducted an anonymous needs assessment survey with 180 African American college students at a university in Greene County, Ohio. The survey gathered information pertaining to HIV and STD testing and diagnoses, substance use and sexual behaviors, risk perceptions, and intent to engage in safer sex practices.

Results: Of the 180 students surveyed, 59.4% were female, 11.2% identified as gay, lesbian or bisexual, 50.2% were freshman, and 68.3% lived on campus. Students reported high rates of substance use, with 37.8% of students using marijuana during the past 90 days. On average, students reporting using marijuana for 28.9 out of the past 90 days, and underclassmen were significantly more likely to use marijuana than upperclassmen (Pearson correlation, r=.001). Additionally, in the past 90 days, a majority of students (62.8%) reported being sexually active, students engaged in sex with multiple partners (2.4 partners), and only 27.2% reported using condoms every time they had sex. Of the students surveyed, 8.9% had been diagnosed with an STD, and a majority of students had not been tested for HIV (55.6%).

Conclusion: Based on the unique needs of African American college students identified by the needs assessment, PMP developed a multi-level approach to prevention including culturally appropriate HIV and substance abuse education, evidence-based environmental strategies (CDC High Impact Prevention, PROMISE), and access to HIV/hepatitis C testing in traditional and non-traditional campus locations.

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POS 230 - T

PARENTAL PROTECTIVE FACTORS DURING ADOLESCENCE AND STD-RELATED OUTCOMES IN ADULTHOOD: ARE THERE LONG-TERM EFFECTS?

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Background: Family connectedness and parent-adolescent communication are well-established protective factors for adolescent sexual health. However, few studies have considered long-term effects of these factors on sexual behavior and STD diagnoses. We examined associations between family connectedness and parent-adolescent communication during adolescence and STD-related outcomes in adulthood.

Methods: We used in-home survey data from Waves 1 (1994 -1995, n=20,745) and IV (2008, n=15,701) of the National Longitudinal Study of Adolescent Health. Adolescents in grades 7-12 responded to eight items about their level of connection to parents (e.g., “Your parents care about you”) that were summed to create a scale score ranging from 10-40. Adolescents also reported their level of satisfaction with parental communication based on a single item, which was dichotomized (strongly agree/agree vs. neutral/disagree/strongly disagree). Adults aged 24-32 years self-reported STD-related outcomes at Wave IV including: lifetime diagnosis (yes/no), past year number of sex partners (1 vs. 2+), and past year non-monogamy (yes/no). We ran separate multivariable logistic regression models for each outcome, controlling for socio-demographic characteristics, other protective factors, and age of sexual initiation <14 years (yes/no) as an indicator of sexual risk. The model for STD diagnosis also adjusted for baseline diagnosis.

Results: Adolescents with higher levels of family connectedness had lower odds of STD diagnosis (adjusted odds ratio [AOR]=0.97, 95% confidence interval [CI]=0.96-0.99) and past year multiple partners (AOR=0.96, 95%CI=0.96-0.99) and non-monogamy (AOR=0.97, 95%CI=0.95-0.99). Associations between parental communication satisfaction and STD-related outcomes were not significant.

Conclusion: Our results suggest long-term, albeit modest, protective effects of family connectedness for STD-related outcomes, underscoring the importance of promoting positive family relationships during adolescence as part of STD prevention efforts. Although we did not observe sustained protective associations for adolescent satisfaction with parental communication, future research should consider long-term effects associated with extent to which parent-adolescent communication occurs.

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POS 231 - W

COMPARING TWO HIV PREVENTION PROGRAMS FOR AFRICAN AMERICAN WOMEN IN DAYTON, OH

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Background: African American women living in Dayton, Ohio’s public housing neighborhoods are an underserved population. These women tend to be primary caregivers, and often postpone their own health needs, including HIV testing and behavioral health services. The need for HIV prevention efforts in this population is illustrated by their disproportionately high rates of HIV infection and other STDs. To date, few evidence-based, group-level HIV prevention programs are designed for women only; however, it is unclear whether gender-specific interventions are more effective at reducing HIV risk for African American women compared to programs designed for both men and women.

Methods: The SARDI program at Wright State University conducted two concurrent prevention projects that offered two evidence-based, group-level HIV interventions: 1) Sisters Informing Sisters about Topics on AIDS (SISTA), a gender-relevant program for African American women; and 2) Self-Help in Eliminating Life-threatening Diseases (SHEILD), a mixed-gender program for African Americans. Outcome measures, including substance use, HIV knowledge, risk perception, and sexual self-efficacy, were obtained from baseline and 6-month follow-up. Paired samples t-tests and repeated measures ANOVAs were used to evaluate the effectiveness of each program and to assess whether the women enrolled in SISTA had better outcomes than women in SHEILD.

Results: African American women enrolled in either SISTA or SHEILD demonstrated statistically significant reductions in substance use, improvements in self-efficacy, and increases in HIV knowledge and risk perception (p<.05). When comparing the effectiveness of the two programs, there were

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no significant differences in outcomes for women enrolled in SISTA compared to SHEILD.

Conclusion: Although a gender-specific prevention program was not more effective than a gender-mixed program, both SISTA and SHEILD had a positive impact on the behavior, knowledge, and attitudes of participants. These results reinforce the importance of prevention efforts in general, without concern for providing only one gender programming.

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POS 232 - T
WHEN IT COMES TO STI TESTING PREFERENCES, YOUNG BLACK MEN WHO HAVE SEX WITH MEN IN THE DEEP SOUTH PRIORITIZE PRIVACY, TRUST, AND COMFORT
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Background: Alabama ranks 2nd and 3rd nationally for Gonorrhea and Chlamydia prevalence, respectively. Rural and urban disparities disproportionately affects the Deep South, especially young Black men who have sex with men (MSM). This high prevalence of STIs demonstrates that traditional STI prevention approaches are failing. The objective of this study was to identify STI testing preferences among young Black MSM in the Deep South to inform a targeted STI testing intervention.

Methods: We recruited young Black MSM ages 16-35 in Birmingham, Alabama to participate in focus groups led by an experienced moderator. Each focus group was audio-recorded and professionally transcribed. Transcripts were reviewed by the research team after each focus group; additional questions were added to the protocol to explore emerging themes. Thematic coding of all transcripts was conducted by a trained qualitative researcher.

Results: 30 young, black MSM participated in 4 focus groups (3 to 9 participants each). Half engaged in frequent STI testing (5+ times); most reported <5 previous STI diagnoses. One third were HIV+ and linked to HIV care. Participants expressed a strong preference for testing conducted at private doctors’ offices, citing the importance of trust and comfort with providers. Lack of confidentiality, difficulty with scheduling appointments, and perceived stigma related to poverty and presumed promiscuity were major deterrents to testing at the health department. Confidentiality was also mentioned as a barrier to testing at non-clinical sites (e.g., community health centers, clubs). Notably, most participants focused on HIV testing despite the moderator consistently inquiring about STI testing independently.

Conclusion: This study identified ongoing concerns regarding privacy and confidentiality related to STI testing in this vulnerable population of men. There are also many perceived barriers to testing at the local health department. Participants’ perseveration on HIV testing, rather than STI testing, may highlight a lack of awareness of STIs as an HIV risk factor.

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POS 233 - W
THE RECENT EMERGENCE OF LYMPHOGRANULOMA VENEREUM REPORTS AMONG MEN IN TORONTO: A DESCRIPTIVE STUDY OF CASES REPORTED BETWEEN JANUARY 1 2014 AND DECEMBER 30 2017
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Background: Lymphogranuloma venereum (LGV) is a systemic sexually transmitted infection (STI) caused by select serovars of Chlamydia trachomatis. Reports of LGV were rare in Canada until 2003, when outbreaks of LGV occurred among MSM across urban centres in Canada, and in 2014, the number of LGV reports in Toronto began increasing, but the local epidemiology of LGV was not well understood. In this report we describe the surveillance and epidemiology of LGV cases from January 1 2014 to September 30 2017 in Toronto.

Methods: Data were extracted from the integrated Public Health Information System (iPHIS) for cases of LGV, identified by chlamydia cases with confirmed serovars of LGV, reported between January 1 2014 and September 30 2017 who were living in Toronto at the time of diagnosis. Co-infection data for gonorrhea, HIV, hepatitis C, and infectious syphilis were extracted from iPHIS by Public Health Ontario on December 4 2017. Analyses were conducted in SAS 9.3.

Results: From January 1 2014 to September 30 2017, 157 cases of LGV were reported in Toronto, with more than half (54%) of the cases reported in 2016 (n=85). Cases were all male with a mean age of 40 years. Half (n=74) were co-infected with HIV, 14% (n=22) with infectious syphilis, 12% (n=19) with gonorrhea, and <1% (n=1) with hepatitis C. Of those with a reported risk factor, 97% (n=149) were MSM, 68% (n=104) did not use a condom, and 44% (n=68) had more than one sex partner in the last six months.

Conclusion: Recent surveillance data suggest that LGV is emerging in Toronto and disproportionately affects MSM. This report highlights the importance of enhancing the awareness among Toronto clinicians of the increase of LGV in the MSM community and improving both preventive measures and screening for LGV among MSM in Toronto.

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POS 234 - T
THE RELATIONSHIP BETWEEN NUMBER OF LIFETIME FEMALE SEXUAL PARTNERS AND CONCURRENCE IN A NATIONALLY REPRESENTATIVE SAMPLE OF ADULT MEN
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Background: The number of lifetime female sexual partners among U.S. men has increased, indicating potential skewsness of the partnering distribution among men who have sex with women. Men with a high number of lifetime female partners are more likely to have a high number of recent female sexual partners (past year) which may be more likely to include concurrent partnerships. Sex partner concurrency may speed population dissemination of HIV/STI, yet few data have explored how lifetime number of sexual partners is associated with concurrency among men given these recent changes.

Methods: To address this data gap, I examined the prevalence and correlates of concurrency among men aged 20-44 who had sexual intercourse with at least 1 female partner in the past year using data from the 2011-2015 National Survey of Family Growth (NSFG). I used logistic regression to measure adjusted prevalence ratios (APR) and 95% confidence intervals to assess the association between concurrency and number of lifetime female sexual partners. I controlled for factors known to confound this association including age at first sexual intercourse, having sex with a non-monogamous female partner, history of incarceration, binge drinking and drug use in the past year.

Results: Among 6,028 men aged 20-44, 10.2% had concurrent female partners in the past year. Compared with men who had 2-3 lifetime female partners, those who had 4-5 lifetime female partners (APR = 3.28, 95% CI=1.64-6.55), 6-11 lifetime female partners (APR = 4.97, 95% CI = 2.53-9.75) or 12 or more partners (APR = 10.37, 95% CI = 5.30-20.26) were more likely to have concurrent female partners in the past year.

Conclusion: Nationally representative data show that higher number of lifetime female sexual partners among adult men is associated with increased levels of concurrency in the past year.

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POS 235 - W
CORRELATES OF HIGH-RISK SEX WITH THE NUMBER OF SEXUAL PARTNERS AND IMPLICATIONS FOR CLASSIFYING HIV/STI RISK
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Background: Men and women who engage in sexual behaviors that increase their risk for HIV/STIs are assumed to have more sexual partners than their counterparts. Disparities in the number of sexual partners among adults reporting high-risk sex could be a proxy for elevated HIV/STI risk. However, nationally representative estimates for the average number of partners among adults reporting high-risk sex have yet to be presented. This study compared the average number of sexual partners by reported high-risk STI behaviors.

Methods: We analyzed data from the 2006-2015 cycles of the National Survey of Family Growth on sexually active men (N=14,124) and women (N=17,923) ages 18–44. Multivariate linear regression models determined the association between reporting high-risk sex in the past 12 months (i.e., sex with a person who injects drugs, is HIV-positive, exchanged sex for money or drugs, men who have sex with more than 100 MSM), or a partner with other concurrent sexual partners) and the number of opposite-sex partners.

Results: After adjusting for age, race/ethnicity, education, income, marital status, urban residence, and sexual orientation, men and women reporting...
high-risk sexual behaviors had a significantly higher average number of oppos- site-sex partners than those that did not report any high-risk sexual behaviors (men: 3.3 vs. 1.4); (women: 2.4 vs. 1.2). The average number of opposite-sex partners was highest among men and women who exchanged sex for money or drugs (4.4 and 4.6, respectively) and lowest among men reporting sex with a man or women reporting sex with an MSM (2.2 and 2.0, respectively).

Conclusion: High-risk sexual behaviors are associated with an increased number of sexual partners. Individuals with opposite-sex partners who exchange sex for money and drugs report the highest number of partners. This group is potentially at higher risk of HIV/STI infection and may benefit from increased targeting.

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POS 236 - T
THE SEX WORKERS AND POLICE PROMOTING HEALTH IN RISKY ENVIRONMENTS (SAPPHIRE): RESULTS OF PROSPECTIVE CHLAMYDIA, GONORRHEA AND TRICHOMONAS TESTING OVER ONE YEAR

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Background: Worldwide, female sex workers (FSWs) have been disproportionately affected with HIV and sexually transmitted infections (STIs). The SAPPHIRE study is a multi-phase study aimed at examining the role of the police in shaping the HIV/STI risk environment of street-based FSW. Phase IV of SAPPHIRE involved enrollment of a FSW cohort. We report the chlamydia (CT), gonorrhea (GC) and trichomonas (TV) prevalence estimates from FSW tested at baseline, 3, 6, 9, and 12-months (mo).

Methods: We recruited 250 FSWs using targeted sampling at street-based locations in Baltimore, Maryland between 2016-2017. Self-collected vaginal swabs were tested by nucleic acid amplification tests (NAAT). Inclusion criteria included: adults ≥18 yr. and minors, age 15-17 yr.; had exchanged sex ≥3 times in the past 3 mo.; willingness to undergo testing for HIV, CT/GC/TV; and provide locator information.

Results: Mean age of retained FSWs was 36 yr. vs. 34 yr. of those lost to follow-up. HIV baseline prevalence was 5%. The numbers tested at each visit were 239, 163, 161, 144, and 133 at baseline, 3, 6, 9, 12 mo., respectively. Accounting for removing those who could not be reached due to circumstances beyond our control – death, jail, moved out of the city etc., retention rates were 81%, 72%, 72% and 72% for 3, 6, 9, and 12 mo. CT prevalences were 10.5%, 9.2%, 6.8%, 8.9% 9.5% at baseline, 3, 6, 9, 12 mo, respectively. GC, prevalences were 12.6%, 12.7%, 11.2%, 2.5%, 9.0% at baseline, 3, 6, 9, 12 mo. TV prevalences were 48.8%, 49.4%, 49.7%, 50.0% 44.8% at baseline, 3, 6, 9, 12 mo.

Conclusion: High prevalence of STIs were demonstrated in FSW. Prevalences were 12.6%, 12.7%, 11.2%, 2.5%, 9.0% at baseline, 3, 6, 9, 12 mo, respectively. GC, prevalences were 12.6%, 12.7%, 11.2%, 2.5%, 9.0% at baseline, 3, 6, 9, 12 mo. TV prevalences were 48.8%, 49.4%, 49.7%, 50.0% 44.8% at baseline, 3, 6, 9, 12 mo.

POS 237 - W
INTERSECTING EXPERIENCES OF INTIMATE PARTNER VIOLENCE, SUBSTANCE ABUSE, DEPRESSION, AND HIV/STI RISK BEHAVIOR AMONG HETEROSEXUALS IN MEMPHIS, TENNESSEE

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Background: The systemic impact of intimate partner violence (IPV), substance abuse, and depression on HIV/STI risk is well established globally, particularly among women. However, information on its prominence among both men and women is limited. To address the socio-behavioral dynamics driving HIV/STI transmission in Memphis, the Tennessee Department of Health joined the CDC National HIV Behavioral Surveillance Network. The objective of this analysis was to understand the landscape of IPV, substance abuse, and depression, and its association with HIV/STI risk behavior among Memphis-based men and women.

Methods: During November-December 2016, interviewer-administered surveys assessed IPV, substance use, depression, and HIV/STI risk behavior among heterosexuals (n=543) recruited via respondent-driven sampling.

We estimated prevalence of recent IPV (past 12 months) and overlapping correlates (e.g., IPV/substance abuse, IPV/depression). Bivariate associations between IPV and HIV/STI risk behavior (i.e., sex exchange) were then examined by gender.

Results: Overall, 12.6% reported experiencing IPV in the last 12 months (men: 11.3%; women: 13.9%, p = 0.364), 26.9% reported substance abuse (men: 30.8%; women: 23.8%, p=0.065), and 11.6% reported depression (men: 5.8%, women: 16.2%, p<0.001). Overall, 17.9% reported sex exchange (men: 13.8%, women: 21.1%, p=0.026). Among men and women, those reporting IPV and substance abuse were more likely to report sex exchange compared to those without (women: 42.3% vs. 11.2%, men: 25.3% vs. 7.2%, p<0.001 for both). Among women only, those experiencing IPV were more likely to report sex exchange (33.3% vs. 19.2%, p=0.037).

Conclusion: Our data suggest that IPV alone may be a significant correlate of HIV/STI risk, particularly for women. This effect may be amplified in combination with substance abuse, for both men and women and underscores the importance of tailoring interventions to broader audiences. These findings will inform local partnership efforts in the development of gender neutral IPV programs to facilitate HIV/STI prevention efforts.

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POS 238 - T
CAN PHARMACY TESTING FOR SEXUALLY TRANSMITTED INFECTIONS BE A USEFUL WAY TO SCREEN WOMEN AT RISK USING SELF-COLLECTED VAGINAL SWABS?

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Background: Self-collected vaginal swabs for the detection of sexually transmitted infections (STIs) have been used for many years. Confidentiality, privacy, and convenience associated with self-collection compared to provider-collected specimens, make them acceptable and popular with women and they can be utilized in a variety of venues. Self-collection can be time-saving, since a provider is not always necessary. We determined the usefulness of self-collected vaginal swabs for rapid STI testing for women who were in a pharmacy.

Methods: Women were approached in a pharmacy by a health care worker to enroll in a free STI testing program, which offered the results of testing for chlamydia, gonorrhea and trichomoniasis within two hours. A vaginal swab was self-collected in the pharmacy examination room and a questionnaire about the experience was completed. Samples were transported to a nearby laboratory where they were tested by a 90-minute NAAT assay. An immediate text message or email, by participant’s choice, was sent to the patient to call the laboratory for their results. Women with positive tests with any STI were offered free treatment at the local STD Clinic.

Results: In this ongoing study, 121 women have been enrolled for free STI testing. Women (94.8%) reported being “comfortable self-collecting in a pharmacy clinic” and 98.3% “strongly agree or agree” for “STI testing at my local pharmacy was convenient”. Four women have tested positive for one or more STIs. Participants were 43% White; 43% Black. Median age was 33 years; (range 18-65 years). Even though results were available within two hours, only 64% ever eventually called for their results, after up to 2 additional reminders that results were available.

Conclusion: Collection sites for STIs that include pharmacies may become useful. Integrating testing by pharmacists could be the next step for rapid-based STI screening.

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POS 239 - W
SOCIODEMOGRAPHIC AND HIV TRANSMISSION RISK CORRELATES OF PREP UPTAKE IN TENNESSEE, 2017

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Background: Pre-Exposure Prophylaxis (PrEP) is an important HIV prevention tool. To increase PrEP accessibility in Tennessee's highest-risk groups, the Tennessee Department of Health (TDH) launched PrEP navigation projects in Memphis, Nashville, Knoxville, Chattanooga, and Johnson City. TDH

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partnered with local health department STI clinics and community-based organizations to engage PrEP-eligible clients, targeting black MSM and transgender women. However, gaps in PrEP uptake remain to be determined and addressed in Tennessee. Thus, we examined the association between various factors and PrEP-related outcomes among PrEP navigation clients.

**Methods:** Clients enrolled in PrEP navigation during January-December 2017 were evaluated to determine the proportion accepting, linking to, and receiving PrEP prescriptions. Associations by calendar quarter, age, race, transmission risk, and region were examined using multivariable modified Poisson regression.

**Results:** Among 1,385 PrEP-eligible individuals, 50.5% accepted, 33.4% were linked, and 27.3% were prescribed PrEP. The percent of black MSM accepting PrEP (50%) and linking to PrEP (45%) was lower than that of black MSM not accepting (69%, p<0.01) and linking to PrEP (73%, p<0.01). Age (20-24 vs. 25-34 years: adjusted prevalence ratio [aPR]~1.2, 95% confidence interval [CI]: 1.0-1.3; >45 vs. 25-35 years: aPR~1.1, 95% CI: 1.0-1.3), race/ethnicity (Hispanic vs. black: aPR~1.4, 95% CI: 1.2-1.7; aPR~1.2, 95% CI: 1.1-1.4), HIV transmission risk (MSM vs. non-MSM: aPR~1.2, 95% CI: 1.1-1.4; aPR~1.1, 95% CI: 1.0-1.2), and region (Memphis vs. non-Memphis: aPR~0.7, 95% CI: 0.6-0.8; aPR~0.7, 95% CI: 0.6-0.7) were significantly associated with acceptance and linkage. Disparities in acceptance among white and Hispanic vs. black individuals narrowed over time (p<0.03).

**Conclusion:** PrEP uptake varied by demographics, transmission risk, and region, and was limited among young black MSM. Findings will guide future evaluations of structural and facility-level barriers to PrEP uptake and improve partnerships with local STI clinics and other agencies providing sexual health services to under-represented and high-risk communities.

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**POSTERS **

**POS 240 - T**

CHLAMYDIA SCREENING ASSOCIATED WITH REDUCTIONS IN PELVIC INFLAMMATORY DISEASE (PID) IN A NORTHERN CALIFORNIA INTEGRATED MANAGED CARE ORGANIZATION, 2011-2015

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**Background:** Chlamydia (CT) and gonorrhea (GC) screening for women is important for identifying infections and preventing PID and other adverse reproductive health outcomes. We assessed trends in CT testing, CT positivity, and PID diagnoses among females enrolled in a large Northern California managed care organization.

**Methods:** Client enrollment, CT test records, and PID diagnosis data from Kaiser Northern California were used to calculate trends from 2011 to 2015 for females age 15-44. 15-24: 25-44. Client enrollment counts included all females enrolled in the organization for at least one month of the calendar year regardless of sexual activity status. The annual CT testing rate was calculated per 1,000 females enrolled; CT and PID diagnoses per 100,000 females enrolled. Cochran-Armitage trend tests were used to report two-sided p-values associated with change in rates.

**Results:** Enrollment of females age 15-44 increased from 740,052 in 2011 to 852,351 in 2015. From 2011 to 2015, there was no significant change in overall rates of CT screening (259 per 1,000) and CT diagnoses (387 per 100,000); PID rates significantly decreased 21% (126 to 99 per 100,000; p=0.048). Females age 15-24 had unchanged rates of CT screening (421 per 1,000) and diagnoses (2,006 per 100,000), with a 29% decline in PID (184 to 131 per 100,000; p<0.001). Females 25-44 had lower but increasing CT screening rates (167 to 186 per 1,000; p=0.026) and diagnoses (319 to 419 per 100,000; p=0.001), with a 13% decline in PID (98 to 85 per 100,000; p=0.002). When stratified by 5-year age groupings, CT diagnoses declined among ages 15-19 and increased for all other groups; PID declined for all under 35.

**Conclusion:** Despite its ecological nature, this analysis shows encouraging declines in PID in the context of stable CT screening, especially among young women that are recommended for annual CT/GC screening.

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**POS 241 - W**

SEXUALLY TRANSMITTED INFECTIONS AND RELATED SEQUELAE BY HISTORY OF CRIMINAL JUSTICE INVOLVEMENT IN A NATIONALLY-REPRESENTATIVE SAMPLE OF US WOMEN

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**Background:** Common reportable sexually transmitted infections (STIs) including chlamydia and gonorrhea are elevated among women involved in the criminal justice system compared to the general population. However, there has been little examination of differences in rates of less commonly measured STIs and related sequelae.

**Methods:** Using Wave IV of the National Longitudinal Study of Adolescent to Adult Health (N=6684 women), we estimated age and race-adjusted odds ratios (AORs) and 95% confidence intervals (CIs) for associations between history of arrest and incarceration and self-report of lifetime and past year diagnoses of STIs and sequelae.

**Results:** Approximately 16% of women had ever been arrested and 8% incarcerated. Odds of lifetime and past year human papillomavirus diagnoses did not differ based on history of arrest, though odds of lifetime diagnosis of genital warts were higher among women with a history of arrest (AOR=1.59, 95% CI: 1.00, 2.53). Compared to women who had never been arrested, women with a history of arrest had elevated odds of lifetime (AOR=1.89, 95% CI: 1.39, 2.57) and past year genital herpes diagnosis (AOR=2.02, 95% CI: 1.30, 3.12), and past year chlamydia (AOR=2.11, 95% CI: 1.40, 3.18), gonorrhea (AOR=4.25, 95% CI: 1.60, 11.26), and trichomoniasis (AOR=4.69, 95% CI: 2.66, 8.27) diagnoses. A history of arrest was strongly associated with diagnosis of pelvic inflammatory disease (lifetime AOR=1.86, 95% CI: 1.22, 2.84; past year AOR=2.95, 95% CI: 1.16, 7.51). Arrest was not associated with infertility. Associations between incarceration and STI and sequelae were comparable to the associations between arrest and outcomes, with the exception of infertility; history of incarceration was associated with an approximately 50% increase in the odds (AOR=1.49, 95% CI: 1.10, 2.01).

**Conclusion:** Women with a history of criminal justice involvement must be reached for screening of a broad range of STIs and sequelae in both correctional and community settings.

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**POS 242 - T**

USING QUALITY IMPROVEMENT MEASURES TO MONITOR AND ASSESS PRACTICE TRANSFORMATION

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**Background:** Lesbian, gay, bisexual, and transgender (LGBT) individuals face health disparities linked to societal stigma, discrimination, and denial of their civil and human rights. “Transforming Primary Care for LGBT People” was a year-long multi-institution collaboration to increase community health center capacity to provide culturally responsible comprehensive primary care for LGBT populations.

**Methods:** Ten federally qualified health centers (FQHCs) applied and were selected to implement the intervention from March 2016 (baseline) to March 2017 (endpoint). For the intervention, cross-functional teams had quality improvement training; held weekly internal meetings and monthly coaching calls; tested and implemented system changes (electronic medical record improvement training; held weekly internal meetings and monthly coaching calls; tested and implemented system changes (electronic medical record updates, workflows, etc.); attended all-team learning calls; and reported on five measures monthly defined below.

**Results:** At baseline, none of the ten FQHCs were reporting data on the five measures of focus. By the endpoint, nine were able to aggregate and present data from their EMR. The percentage of patients with Sexual Orientation and Gender Identity (SOGI) documented increased from 13.5% (23,857/177,130) in March 2016 to 50.8% (104,583/205,738) in March 2017. The percentage of LGBT patients with documented sexual histories was 33.8% (93,275) at baseline and increased to 43.1% (790/1832) at endpoint. Of 3395 LGBT patients with SOGI documentation in March 2016, 1387 (40.9%) were screened for syphilis and 1577 (46.5%) were screened for gonorrhea/chlamydia. These rates decreased to 34.6% (2587/7468) and 44.1% (3296/7468), respectively, in March 2017. 33.1% (8062435) of LGBT patients at baseline had been screened for HIV, which decreased to 30.5% (1873/6140) at endpoint.

**Conclusion:** This intense year-long intervention led to an increase in the collection of SOGI and sexual history data, but did not appear to improve STD/
POS 242 - T
SELF-COLLECTED ANORECTAL SPECIMEN: ENABLING COMPREHENSIVE SEXUAL HEALTH AMONG MEN WHO HAVE SEX WITH MEN (MSM) ATTENDING EXPRESS VISITS, NEW YORK CITY (NYC) SEXUAL HEALTH CLINICS, 2016-2017
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Background: Anorectal (AR) gonorrhea (GC) and chlamydia (Cc) infections are largely asymptomatic. Annual screening is recommended for MSM who practice anal receptive intercourse (ARI). Screening visits do not require interaction with a clinician. Thus, self-collected AR specimens can increase access to extragenital GC/Ct testing as part of routine STI screening. In 2016, NYC sexual health clinics (SHC) introduced self-collected AR GC/Ct nucleic acid amplification testing to MSM qualifying for screening visits, regardless of self-reported ARI.

Methods: We extracted electronic medical record data, and used multivariable regression to examine associations between acceptance of self-collected AR GC/Ct testing, and AR GC/Ct positivity and the following variables: patient demographics, PHI status, and receipt of any AR GC/Ct testing (receipt of any AR GC/Ct test at a NYC SHC in the 90 days before the screening visit date).

Results: From July 2016-June 2017, 3,818 MSM qualified for screening visits and 3,522 (92%) were offered AR GC/Ct testing via self-collection; 74% (2,588/3,522) accepted. Variables significantly associated with acceptance were: age < 25 years (75% vs. 68% among MSM aged ≥40 years, p<0.001); known HIV infection (86% vs. 73% with HIV negative/unknown status, p<0.001); and recent AR GC/Ct testing (67% vs. 70%, p=0.001). Patients of black non-Hispanic race/ethnicity had lower acceptance compared to those of white non-Hispanic race/ethnicity (68% vs. 73%; p<0.001). Prevalence of AR GC and Ct among those tested were 6% and 10%, respectively. Documented HIV infection was the only variable associated with higher GC (10% vs. 5%; p=0.016) and Ct (17% vs. 10%; p=0.005) positivity.

Conclusion: There was a high acceptance rate for self-collection of AR GC/Ct specimens among MSM attending screening visits, especially among younger MSM and HIV-infected MSM, and among those recently tested for AR GC/Ct. Patient self-collection of AR specimens is an important enabler of comprehensive MSM sexual health services.

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POS 243 - W
SEXUAL BEHAVIORS AND PERCEIVED RISK OF ACQUIRING A SEXUALLY TRANSMITTED INFECTION (STI) AMONG UNDERGRADUATE STUDENTS ATTENDING ON-CAMPUS TESTING SITES
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Background: Young adults account for over half of new STI cases in the U.S.; however, their perceived risk of acquiring STI remains understudied. We measured the prevalence of engaging in risky sexual behaviors among undergraduate students attending for STI testing and assessed agreement between reports of these behaviors and perceived risk of STI acquisition.

Methods: Students attending for STI testing at a Mid-western, public university completed intake forms on demographic and sexual behavior information. We analyzed undergraduate intake records from July 2016 to July 2017. We linked repeat testers using Link Plus and then restricted to the first record in the study interval. Engaging in risky sexual behaviors was defined as reporting ≥1 of 5 high-risk sexual acts (e.g., having sex with an anonymous partner or a partner who tested positive for STI) within the past 12 months. Self-perception of STI risk was reported as low or high. We used McNemar’s test to evaluate agreement between reporting risky sexual behaviors and perceived high STI risk.

Results: A total of 278 undergraduates, with a mean age of 20.5 years (SD=1.7) attended in the 2016-17 academic year. Over half (53.8%) of students perceived their STI risk as low. Most (77.6%) reported engaging in ≥1 risky sexual behavior, with a mean of 2.4 (SD=1.1) risky behaviors. Among those participating in high-risk behaviors, the most common were having sex under the influence of alcohol (76.2%) and having sex with an anonymous partner (27.0%). We found poor agreement between perceived risk of acquiring an STI and engagement in ≥1 risky sexual behavior (κ=0.0001).

Conclusion: The high level of disagreement between perceived risk and risky sexual behaviors suggests students do not associate risky sexual behaviors with an increased risk of STI acquisition. Intervention programs for undergraduate students should emphasize the risk associated with these behaviors.

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POS 245 - W
ADAPTING EXISTING PARTNER SERVICES (PS) PROGRAMS TO IMPLEMENT NEW HIV-RELATED ACTIVITIES IN JACKSON, MISSISSIPPI: LESSONS FROM A NOVEL PROCESS EVALUATION
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Background: PS in the United States has traditionally focused on partner STD testing. Adapting existing PS programs to integrate HIV-related outcomes may reduce HIV/STD transmission.

Methods: During July 2016-October 2017, the Mississippi State Department of Health (MSDH) initiated three new PS activities primarily targeted to men who have sex with men (MSM): conducting HIV testing of participants identified through STD PS; promoting re-engagement in care among HIV-infected individuals with a recent STD, and providing pre-exposure prophylaxis (PrEP) referrals to STD cases and partners. In December 2017-January 2018, we developed process flow maps with key stakeholders to identify barriers and facilitators to implementing new activities, and conducted semi-structured interviews with 8 disease intervention specialists (DIS) to ascertain their perspective on conducting new PS activities. We used notes from interviews and process maps to identify key priorities. DIS noted that the new activities increased their caseload, but recognized the new PS activities as an opportunity to provide more comprehensive services to clients. DIS expressed challenges obtaining partner names, working with clients who were not receptive to re-engagement in HIV care or PrEP, and working with MSM due to stigma and mistrust of MSDH.

Conclusion: New HIV-related activities can be integrated into existing STD PS; but may come with implementation challenges. Lessons learned from MSDH's PS program may be useful for other health departments considering implementation of similar activities.

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POS 246 - T
PRIORITIZING PREVENTION IN PRACTICE: PROVIDING PrEP AT AN STD CLINIC
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Background: The DC Health and Wellness Center is the only publicly-funded specialty clinic in Washington, DC. From July–December 2017, 3,307 unique patients were seen — 2,790 for STD and 577 for TB services. Clients were mostly young (58% <30 years of age), male (66.6%), and non-Hispanic Black (80.2%). In August 2016 the center began providing HIV pre-exposure prophylaxis (PrEP) on Wednesdays. This study describes our embedded PrEP Clinic experience.

Methods: A PrEP enrollment protocol was developed using Centers for Disease Control and Prevention guidance. The PrEP coordinator collected demographic, STI history, behaviors, and supportive service needs at enrollment. Surveys were given to patients 3 months afterward to assess current PrEP use, STIs, and behavioral changes (follow up). Chi-square analysis was conducted to determine differences in PrEP continuity by selected variables.
Results: From August 2016 - January 2018, 217 patients were enrolled. Most were young (82% were ages 16-39 years), male (88%), and non-White (46% Black and 29% Hispanic). A third were uninsured (36%), 34% had no other medical home, and 35% reported a history of ≥1 STI. Seven percent of patients never initiated PrEP, 12% were lost to follow-up, and 64% were still taking PrEP after 3 months. At follow up, 26% of patients still on PrEP reported decreased condom use. PrEP continuity did not differ by age, gender, race/ethnicity, insurance status, or history of STIs.

Conclusion: Providing PrEP in a center that diagnoses and treats STDs optimizes access to HIV prevention for those at highest risk. We recently modified our electronic health record to capture PrEP education, referral for PrEP, and timeliness of linkage to PrEP for all high-risk patients counseled by our Disease Intervention Specialists. We also need to evaluate whether the reported decrease in condom usage after PrEP initiation affects STD trends.

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POS 247 - W
LONGITUDINAL ASSOCIATIONS BETWEEN RECENT INCARCERATION AND DRUG-RELATED ANAL SEX RISK AMONG BLACK MEN WHO HAVE SEX WITH MEN

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Background: The role of incarceration in drug-related STI risk of black men who have sex with men (BMSM) is extremely limited. This represents a significant gap in STI prevention science given BMSM face disproportionate incarceration due to race bias in policing, pre-trial detainment, and sentencing. We examined longitudinal associations between recent incarceration and drug-related sex risk in BMSM.

Methods: We used data from the baseline, 6-, and 12-month surveys from HIV Prevention Trials Network (HPTN) 061 (N=1553), a study conducted among BMSM in six US cities. Recent incarceration was defined as having spent at least one night in jail/prison in the past six months at the six-month follow-up survey. Outcomes were measured at the 12-month follow-up survey and included 1) dichotomous indicators of any drug use at last anal intercourse (AI) and 2) condomless anal intercourse (CIAI) within two hours of a) marijuana use and b) crack use. We estimated associations between recent incarceration and each outcome among those who did not report engagement in the risk behavior at baseline.

Results: Approximately 14% reported incarceration in the past six months at the 12-month follow-up. After adjustment for baseline age, education, and marital status, recent incarceration was associated with more than twice the odds of incident drug use at last AI at the 12-month follow-up (AOR: 2.68, 95% CI: 1.47, 4.88) and with incident CIAI within two hours of marijuana use (AOR: 1.97, 95% CI: 1.05, 3.70) and crack use (AOR: 3.03, 95% CI: 1.19, 7.71).

Conclusion: Incarceration appears to contribute to post-release drug-related sex among BMSM. Future research will confirm these relationships with careful attention to confounding and selection bias. If the relationships are upheld, findings would suggest the inequitable burden of incarceration among BMSM plays a significant role in the STI risk of this population.

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POS 249 - W
USING FOCUS GROUPS TO ASSESS AND IMPROVE SEXUAL HEALTH SERVICES IN THE LOS ANGELES UNIFIED SCHOOL DISTRICT

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Background: The Los Angeles Unified School District (LAUSD) began implementing new sexual health services (SHS) initiatives in 2013, with emphasis on priority schools with on-campus wellness centers. We conducted and compared two sets of male student focus groups to assess attitudes and behaviors around HIV/sexually transmitted disease (STD) testing and prevention over 3 years.

Methods: The first set of groups occurred from October 2014 to March 2015 in 9 high schools (n=48); the second set occurred from October to November 2017 at 6 of the same schools (n=30). Over 95% of students identified as Black or Latina/o. Qualitative data were analyzed for themes.

Results: Participants in both sets of groups reported low HIV/STD concern among peers. The first set felt that student HIV/STD testing was rare. While students in the second set had mixed perceptions, about half said that peers were getting HIV/STD testing. Unlike the first set of groups, the majority of participants in the second set knew that testing is available at their on-campus wellness center. More than half of participants in the second set felt that students would be likely/somewhat likely to use their wellness center for testing; a marked increase from the first set wherein most said students, if tested at all, would go off-campus, primarily for privacy reasons. Awareness of their school’s condom availability program had also increased by the second set of groups. Participants in both sets emphasized the need for outreach to normalize HIV/STD testing and promote wellness center services.

Conclusion: Focus groups indicated that while HIV/STD concerns remain low among male students, there was an increase in awareness of on-campus services, including the condom availability program, and an increase in perceived testing among peers. The second set of groups offered important insights that can be used to refine SHS initiatives in the district.

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POS 250 - T
KNOWLEDGE AND ATTITUDES REGARDING SEXUALLY TRANSMITTED SHIGELLOSIS AMONG MEN WHO HAVE SEX WITH MEN-ATLANTA, GA, 2017

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Background: Viral suppression among people with HIV and pre-exposure prophylaxis (PrEP) have significantly reduced HIV transmission risk. Diagnoses of STDs among MSM have increased markedly, providing opportunities for re-engagement with HIV care for those known to be HIV-infected or referred to PrEP for uninfected MSM. Accurate patient reporting of HIV-status is critical to appropriately link patients to prevention and control initiatives.

Methods: Random samples of gonorrhea case reports from 7/2015 through 6/2017 were drawn in nine STD Surveillance Network (SSuN) sites; patient interviews ascertained gender of partners and HIV testing history. Case records were matched with HIV surveillance registries to obtain earliest date of HIV diagnoses. Gonorrhea case data were weighted to be representative of all reported cases in SSuN jurisdictions and used to estimate the proportion of MSM diagnosed with HIV prior to gonorrhea diagnosis and proportion that did not accurately disclose HIV status during their interview.

Results: During the time period, 3,645 MSM with gonorrhea were interview-viewed representing 92,132 cases among MSM. Based on HIV registry matches, 23,474 (25%, 95% CI: 22.8%-27.6%) were diagnosed with HIV at least 30 days prior to gonorrhea diagnosis. Of these, 21.6% (95% CI: 17.2%-25.9%) did not report being HIV-infected during their SSuN interview. HIV-infected MSM aged 20-29 years were more likely than other age groups to inaccurately report HIV status (30.7%, 95% CI: 22.3%-39.1%); no significant differences in disclosure were found by race or ethnicity. Significant variation in non-disclosure by SSuN jurisdiction was observed (range: 5.5% to 48.7%).

Conclusion: Many HIV-infected MSM do not accurately report HIV status when diagnosed with gonorrhea, limiting opportunities for re-engagement with care and generating PrEP referrals for ineligible patients. Non-disclosure of HIV status among persons with STDs contributes to underestimates of co-infection and argues for assuring availability of up-to-date HIV case registry to public health workers conducting STD control activities.

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Background: Recently, reports of shigellosis and particularly antimicrobial-resistant shigellosis among men who have sex with men (MSM) have increased dramatically in urban areas in the United States and globally. To inform the development of future prevention and control efforts, this exploratory study was conducted to understand MSM’s knowledge and attitudes regarding shigellosis.

Methods: Six focus groups were held with a sample of 24 self-identified, sexually-active MSM (Mean age ±SD=36±9.8 years; 15 [63%] Black and/or Latino) recruited from community settings in Atlanta in late 2017. We used a semi-structured interview guide to ask participants about their knowledge and attitudes of shigellosis, as well as their perceptions of existing educational and prevention materials.

Results: Most participants reported having little or no knowledge of shigellosis and were largely unaware that it could be sexually transmitted. When presented with information about the disease, all participants expressed concern and interest in learning more. Their assessment of disease severity varied. Some wanted to know how to differentiate the symptoms of shigellosis from more common gastrointestinal problems. Participants generally did not view the disease as equally serious as HIV because they perceived it as more “easily treatable” and that it could even naturally resolve within 5 – 7 days. Most stated that they would consider discussing the symptoms and/or the illness with potential sex partners. Participants felt that more should be done to educate MSM about shigellosis and offered suggestions for how to do so.

Conclusion: Knowledge of shigellosis is low among MSM, but interest in learning more is high. Effective health communication efforts are needed to educate MSM about how to avoid contracting and spreading shigellosis. Educating MSM about shigellosis, and changing behaviors, may be challenging, however, because MSM may perceive disease severity to be relatively low compared to HIV.

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POS 251 - W
CRACKING THE CODE TO ENGAGEMENT IN STI/HIV PREVENTION OF THE TRANSGENDER COMMUNITY IN METROPOLITAN SAN JUAN
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Background: The most visible segment of the Transgender community in the San Juan metropolitan consists of performers or sex workers. These groups are only the “tip of the iceberg.” Most of the community is out of reach of traditional prevention efforts. We needed to understand what drove this invisibility and test strategies to work “through” it.

Methods: Qualitative, descriptive study with a series of “private home parties,” from February to June 2016, were hosts led the conversation among peers to issues of sexuality and topics in need of attention and education. Person-to-person, direct recruitment was tested for effectiveness for the next step in a “Safe Space” that was created in a separate location. An educational curriculum (September 2016 to June 2017) was designed to improve self-esteem, sense of belonging, legal rights and self-care, incorporating STI and HIV testing. Hormonal therapy was an incentive for completion of the curriculum.

Results: 90% (64/77) transwomen completed the program. One hundred percent reported the fear of being recognized, of violence or the control of spouses as contributing to their isolation. 66% complete more than 15S diploma including 8 participants with postgraduate degrees. HIV positivity found in 15% (8/55) and other STI were present in a 25% (14/55). Eighteen percent enter into a continuum of prevention at PrEP Program, and 45 participants receive medically-supervised hormonal therapy.

Conclusion: Recruitment is most effective person to person, create a “safe space” first and start small. Approach matters pertaining to intimacy and sexuality with deference to their privacy. Recognize hormonal therapy as a primary health concern. Add mental health services to prevention efforts and self-esteem and belonging. Wrap STI/HIV testing in comprehensive care program to protect privacy and reduce stigma.

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POS 252 - T
BREAKDOWN IN THE EXPEDITED PARTNER TREATMENT TREATMENT CASCADE: THE ROLE OF COMMUNITY PHARMACISTS
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Background: With the increasing incidence rates of sexually transmitted infections (STI), proper treatment of individuals and their sexual partner(s) is of critical public health importance. Expedited partner treatment (EPT), an STI management and prevention strategy, allows prevention providers to offer prescriptions or medications to a patient for distribution to their sexual partner(s) without evaluating the partner. To understand the implementation and uptake of EPT, we evaluated pharmacists’ knowledge and practices related to EPT in 41 EPT-permissible U.S. states.

Methods: A randomized cohort of pharmacists were invited to complete a telephone interview from November 2017 to January 2018. Descriptive statistics were calculated for each variable of interest overall and stratified by EPT-adopter status. Fisher’s exact test was used to compare categorical measures such as EPT awareness and acceptance of EPT prescriptions by EPT-adopter status. One-way analyses of variance were used to compare continuous measures.

Results: We contacted a national sample of 619 pharmacies; of those, 350 responded with 147 opting to complete the survey, resulting in a 42% (n=147/350) response rate. Participating outpatient pharmacies were characterized as independent (32.7%, n=48/147), chain or commercial (65.3%, n=96/147), or academic (2%, n=3/147). The majority of pharmacists, 76.3% (n=258/338), reported no prior knowledge of EPT. At the close of our interview, 97.3% (n=142/146) of pharmacists reported they would fill an EPT prescription if they received one in the future. These findings were stable across strata defined by high or low incidence rates of chlamydia and early, mid, or late EPT-adopter status.

Conclusion: Increasing STI incidence rates may be associated with a lack of knowledge and awareness amongst pharmacists of EPT as an STI treatment strategy. Promoting awareness of EPT may improve pharmacists’ willingness and ability to support and fill EPT prescriptions. Without engagement of pharmacists in the use of EPT, we may continue to observe a rise in STI incidence rates.

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POS 253 - W
INCIDENCE OF NEISSERIA MENINGITIDIS URETHRITIS IN INDIANAPOLIS, IN AND COLUMBUS, OH 2015-2017
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Background: In 2015, urethritis associated with a clade of Neisseria meningitidis (non-groupable, ST-11 clonal complex [CC]/ET-37 US_NmUC) was reported to be increasing in Columbus, OH, Oakland County, MI, Indianapolis, IN and several other US cities. Cases were predominantly Black, heterosexual, HIV-negative men. Here we describe trends in cases of Neisseria meningitidis urethritis from 2015 to 2017 in Indianapolis and Columbus.

Methods: Laboratory results from local STD clinics from 2015 to 2017 were compiled by the Marion County (Indianapolis) and Columbus Public Health Laboratories. In the case of Indianapolis, N. meningitidis urethritis cases were presumed if the urethral Gram stain was positive for Gram-negative intracellular diplococci (GNID) and the urine or urethral nucleic acid amplification test (NAAT) was negative for gonorrhea. In Columbus, N. meningitidis was confirmed in all cases. Results: Indianapolis detected 115 presumed cases and Columbus detected 130 confirmed cases of N. meningitidis urethritis. Of the 115 presumed Indianapolis cases, at least 12 were also cultured and confirmed as N. meningitidis. All cases were symptomatic.

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Cases of Neisseria meningitidis Urethritis, Indianapolis, IN and Columbus, OH, 2015-2017

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Columbus cases peaked in 2015 Q3 whereas Indianapolis cases peaked in 2016 Q1. Cases declined in parallel beginning in 2016 Q2.

**Conclusion:** Neisseria meningitidis urethritis appears to be decreasing in men attending STD clinics in Indianapolis, IN and Columbus, OH. More investigation is necessary to determine the reasons for what appears to be a parallel trend in the two cities.

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**POSTS 254 - T**

**PREDICTORS OF UNDER-REPORTING OF UNPROTECTED SEX WITH CLIENTS AS MEASURED BY SEMEN DETECTION AMONG FEMALE SEX WORKERS IN BENIN**

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**Background:** Unprotected sex is the major risk factor for HIV and sexually transmitted infections (STI) among female sex workers (FSW) in West Africa. Self-report of unprotected sex is subject to biases and under-reporting has been observed among FSW through vaginal detection of prostate-specific antigen (PSA), a biological marker of recent semen exposure. Still, little is known about the factors leading to under-reporting of unprotected sex in this population.

**Methods:** At baseline of a prospective study (2014-2016) enrolling both HIV-positive and HIV-negative FSW in Benin, unprotected sex in the previous 2 days was assessed by face-to-face interview and by vaginal detection of PSA. Under-reporting was defined as not reporting any unprotected sex but testing positive for PSA. Socio-demographic, behavioural, and biological variables were tested for their association with under-reporting using bivariate Poisson regression models. Variables significantly associated (p≤0.05) with under-reporting were included in a multivariate Poisson regression model. Analyses were restricted to FSW reporting no sex with a regular partner in the last 2 days because self-reported condom use was uncommon with such partners.

**Results:** Of the 361 recruited FSW, 274 reported no sex with a regular partner in the last 2 days and were included in our analysis. Sixty-five FSW (24%) underreported unprotected sex with clients. In multivariate analysis, under-reporting was less common among Christian FSW (prevalence ratio (PR)=0.61; 95% confidence interval (CI): 0.40-0.93), FSW reporting alcohol use (PR=0.60; 95%CI: 0.40-0.90), and FSW having had a regular partner in the last year (PR=0.63; 95%CI: 0.41-0.97).

**Conclusion:** Our results suggest that religion, alcohol use and having had a regular partner in the last year were predictors of under-reporting of unprotected sex with clients among FSW from Benin. Awareness of the predictors of under-reporting of unprotected sex might improve our capacity to better target FSW having unprotected sex with effective prevention approaches.

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**POSTS 255 - W**

**PREVALENCE OF RECTAL CHLAMYDIA TRACHOMATIS (CT) AND MYCOPLASMA GENITALIUM (MG) IN A COHORT OF MEN WITH AND WITHOUT NONONOCOCCEAL URETHRITIS (NGU)**

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**Background:** Prevalence of rectal CT in men who have sex with men (MSM) is reported at ~8-9% and in women at ~6%. Prevalence of rectal MG in MSM is reported at ~6%. However, little is known about prevalences in heterosexual men (MSW).

**Methods:** The Idiopathic Urethritis in Men Project (IUMP) is a longitudinal study of men with and without NGU recruited from the Bell Flower Clinic in Indianapolis, IN. NGU was defined as signs and/or symptoms of urethritis and urethral Gram-stained smear showing ≥ 5 neutrophils per high-powered field without evidence of gonorrhea. Asymptomatic men without urethral discharge and <2 neutrophils on Gram stain were identified as healthy controls. A subset of men consented to a clinician- or self-collected rectal swab, but the rectal swab was not a requirement for participation in the study.

**Results:** One hundred thirty-three cases and 95 controls have been enrolled, with 60/133 (45.1%) and 63/95 (66.3%) consenting to rectal sampling, respectively. Fifty-two of 133 (39.1%) cases and two of 95 (2.1%) controls had urethral CT infections. Two of 60 (3.3%) cases and two of 63 (3.2%) controls had rectal CT infections. Of those with rectal CT infections, one was in a MSW and three were in MSM. Twenty-nine of 133 (21.8%) cases and 6 of 95 (6.3%) controls had urethral MG infections. Two of 60 (3.3%) cases had rectal MG infections and both were MSM. No MSW had rectal infection with MG.

**Conclusion:** Our results suggest that rectal CT and MG infections are rare in high-risk MSW, even though the majority practice oral sex (oral-genital or oral-anal) with their female partners. None of the heterosexual men had rectal MG. Given the rarity of rectal infection in MSW, rectal autoinoculation from the genital site and oral acquisition both appear to be uncommon in these men.

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**POSTS 256 - W**

**CHLAMYDIA AND HIV CO-INFECTION CHICAGO, 2011-2016**

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**Background:** Chlamydia (CT) is the most commonly diagnosed bacterial sexually transmitted disease (STD) in both men and women. One objective of this analysis was to determine the characteristics of individuals co-infected with CT and HIV.

**Methods:** Chicago CT cases reported to the Illinois National Electronic Disease Surveillance System (INEDSS) between 2011 and 2016 were matched to the enhanced HIV/AIDS Reporting System (eHARS). Cases diagnosed with CT who were under 13 years of age, previously diagnosed with HIV, and those missing sex at birth were excluded from analysis. CT/CT-HIV co-infection was defined as an HIV diagnosis occurring more than 60 days after the initial CT infection. Analyses were conducted using SAS v9.4.

**Results:** Between 2011 and 2016, in total, 162,786 CT cases were diagnosed in Chicago among 119,852 unique individuals. The majority of individuals included in the analysis were women (64.8%), persons aged 20-29 (57.5%), non-Hispanic blacks (43.2%), and received their first CT diagnosis in 2011 (20.6%). Approximately 23.3% (28,001/119,852) of individuals were re-infected with CT within this same time period. The number of HIV diagnoses increased over time from approximately 3% in 2011 to 31.3% in 2016. The largest proportion of HIV co-infected individuals were primarily in age group 20-29 (59.8%), non-Hispanic blacks (51.0%), and Men who have Sex with Men (MSM) (66.2%). In multivariate analysis, male sex at birth (OR= 5.0, 95% CI: 4.0 to 6.3) and CT re-infection (OR=2, 95% CI: 1.7 to 2.6) were significantly associated with CT/CT co-infection.

**Conclusion:** CT/CT-HIV co-infection is on the rise, occurring among MSM and were associated with an increased risk of HIV infection. HIV-uninfected MSM with multiple CT infections represent a population in need of HIV-prevention interventions such as pre-exposure prophylaxis (PrEP).

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**POSTS 257 - W**

**SUBSTANCE USE IMPACTS CONDOM USE IN DIFFERENT WAYS FOR ADOLESCENT MALES AND FEMALES**

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**Background:** School-based Health Centers (SBHC) offer a convenient and safe opportunity to assess youth for sexual health risk factors. Individual results can be used to tailor provider-delivered counseling messages, referrals for additional services, and related interventions. Large, population-level datasets can be used to identify risk subgroups based on demographic and behavioral factors but are not always analyzed for this purpose.

**Methods:** This study used self-reported data from a confidential electronic assessment (Just Health) completed by adolescents at state-funded SBHCs in New Mexico, Colorado, and Hawaii (July 2016-June 2017). All SBHC patients were eligible. The overall response rate was 42% in Colorado (where all SBHC patients were enumerated). Adolescents who reported having had vaginal and/or anal sex in the past year were included (n=1,029). Chi-Square Automatic Interaction Detection (CHAID) was used to identify distinct and parsimonious subgroups for the dependent variable ‘always used condoms.’ CHAID was conducted in R with alpha=.05 for merging and splitting thresholds.

**Results:** Males were less likely to use condoms if they used substances before sex compared to those who did not use substances (43.6% vs. 68.3%). Among females who used substances (not necessarily before sex), condom use was less likely among those with multiple partners compared to those without substances.
multiple partners (25.0% vs. 42.4%). Among females who did not use substances, those who discussed sexual history with their partner were more likely to use condoms than those who did not (63.5% vs. 42.0%). LGBTQ status and type of sex did not predict condom use.

**Conclusion:** Compared to common statistical analyses such as logistic regression, CHAID provides more actionable results for tailoring messages and services for subgroups of adolescents with sexual health risks. The low rate of condom use among females who used substances and had multiple partners is particularly concerning.

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**POSTS 258 - T**

A CROSS-SECTIONAL STUDY OF THE PREVALENCE AND RISK FACTORS FOR SEXUALLY TRANSMITTED INFECTIONS AMONG PERSONS LIVING WITH HIV ATTENDING THE STI CLINIC IN TRINIDAD

**Robert Edwards, MBBS, MSc, DePhD**, Avery Hinds, MBBS, MSc2, John Figueroa, MBBS, PhD3

1Medical Research Foundation of Trinidad and Tobago, Port of Spain, Trinidad and Tobago, 2Caribbean Public Health Agency, Port of Spain, Trinidad and Tobago, 3University of the West Indies Mona, Kingston, Jamaica

**Background:** The presence of a STI among persons living with HIV (PL-HIV) facilitates sexual transmission of HIV and suggests a breakdown of safe sex practice. This study assesses the STI prevalence and risk factors among PLHIV who attend the main STI Clinic in Trinidad with branches in the north and south of the island.

**Methods:** A cross-sectional study of STI prevalence among PLHIV attending the STI Clinic was conducted during April-September 2014. A questionnaire administered to obtain socio-demographic data and risk factors for STI infections and a physical examination was carried out. Patients were screened for STIs using clinical examination for genital warts, standard laboratory tests for trichomiasis, bacterial vaginosis, herpes simplex, syphilis and HIV; and nucleic acid amplification tests for chlamydia and gonorrhea. Data were analyzed using SPSS version 22 and factors significantly associated with the presence of a STI were assessed using multiple logistic regression.

**Results:** A total of 210 HIV infected patients (138 males [65.7%] and 72 females [34.3%]) were enrolled; age range 17-68 years, mean age 36.4 years. Of these, 68 (32.4%) were newly HIV diagnosed and 142 (67.6%) had a known history of HIV infection. Seventy-eight (37.1%) of the 210 patients were concurrently diagnosed with a STI. Risk factors for STIs included male sex (OR, 2.46; 95% CI, 1.06-5.73), homosexual/bisexual sexual orientation (OR, 2.26; 95% CI, 1.06-4.80) and multiple sex partners within the past 12 months (OR, 1.99; 95% CI, 1.03-3.86). The most common STIs included syphilis - 44 (21.0%), genital warts - 17 (8.1%), Chlamydia trachomatis - 12 (5.9%), herpes genitalis - 11 (5.2%) and gonorrhea - 5 (2.4%).

**Conclusion:** The STI prevalence was high among PLHIV attending the STI Clinic in Trinidad. Targeted interventions among PLHIV including routine STI screening, comprehensive STI management and prevention strategies for HIV positives are urgently needed.

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**POSTS 259 - W**

RATES OF SEXUALLY TRANSMITTED INFECTIONS IN THE ATLANTA ELIGIBLE METROPOLITAN AREA (EMA) IN COMPARISON TO ACCESS POINTS FOR PRE-EXPOSURE PROPHYLAXIS (PrEP)

**Leah Pinholster, MPH**, Rachel See, MPH, Africa Alvarez, MD, MPH

Southside Medical Center, GA, USA

**Background:** Prevention interventions of persons with 1+ STDS are key in reducing new infections of HIV. There is a need for prevention efforts in Georgia where the state ranks 6th and 7th for highest rates of chlamydia and gonorrhea. Southside Medical Center (SMC) is an 11-clinic site FQHC located in Atlanta, where the syphilis rates are double the national rates of infection. In 2017, SMC began offering comprehensive high-risk negative (HRN) prevention strategies as a response to the high rates of HIV diagnoses in its clinics through opt-out testing.

**Methods:** Electronic health records were analyzed for patients who had been tested for syphilis, chlamydia, and gonorrhea in 2016 to assess the burden of STDS on the populations that SMC serves. Greater than AID's PrEP locater was then used to determine the accessibility of care for persons seeking out HRN resources.

**Results:** SMC had 9 clinics that provided services in 6 counties in the Atlanta EMA: Butts, Clayton, Fulton, Gwinnett, Henry, and Spalding. In Clayton County, two clinics found 4/279 (1.43%) positives for syphilis, 8/108 (7.41%) for chlamydia, and 6/108 (5.56%) for gonorrhea. The three Fulton County clinics found 44/2294 (1.92%) positives for syphilis, 127/1508 (8.42%) for chlamydia, and 303/1507 (1.99%) for gonorrhea. The clinic in Henry County found 5/512 (0.98%) positives for syphilis, 7771 (9.86%) for chlamydia, and 3/668 (0.41%) for gonorrhea. Currently, there are 9 PrEP-providing organizations in Fulton County and none for the other 5 counties.

**Conclusion:** Fulton County clinics experienced high STD rates, showing there is a need for the 9 PrEP providers. However, there is a great need for PrEP services in counties like Clayton and Henry that also report significant numbers of STDs. Improving the accessibility of PrEP in communities with substantial rates of STDS could increase utilization of prevention and treatment strategies for HIV and all STDs.

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**POSTS 261 - T**

OCULAR SYPHILIS IN OREGON, JANUARY 2014-MARCH 2016

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**Background:** In April 2015, CDC released a clinical advisory on ocular syphilis cases (n=12) reported from Seattle and San Francisco. Ten were men who have sex with men (MSM) and 9 were HIV positive (75%). In Oregon, 68% of infectious syphilis cases reported in 2014 identified as MSM and 46% were HIV positive. The goal of this study was to determine the frequency of ocular syphilis in Oregon and compare demographic and risk characteristics to non-ocular syphilis cases.

**Methods:** Syphilis records in Oregon's surveillance system from 2014-March 2016 with documented vision changes were identified. Surveillance and medical records were reviewed to determine if they met the case definition for ocular syphilis: confirmed or presumptive syphilis, clinical symptoms consistent with ocular disease, and no alternative medical explanation. The demographic and risk behaviors from ocular cases were compared to non-ocular syphilis cases using chi-square tests.

**Results:** During the review period, 1,561 syphilis cases were reported, 209 were identified as potential ocular syphilis cases and 53 (3.4%) met the case definition. Cases presented with decreased visual acuity (42%), eye pain (13%), or visual disturbances (9%). Thirty-one cases (58%) had an eye exam...
and 84% were diagnosed with uveitis. Ocular and non-ocular cases were both predominantly male (77% vs. 86%, p=0.06) and had similar HIV comorbidity (32% vs. 36%, p=0.58). Eighteen (44%) ocular cases identified as MSM compared to 64% non-ocular cases (p=0.009). Ocular cases were more likely to report other neurologic symptoms (58% vs. 0.83%, p<0.0001) and be classified as late-latent syphilis (56% vs. 29%, p<0.0001).

Conclusion: Ocular syphilis cases in Oregon display similar frequencies as non-ocular cases for sex and HIV status. Male ocular cases were less likely to identify as MSM compared to non-ocular cases. It is unclear if this is due to behavior differences or lack of a sexual history at time of exam.

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POS 262 - T
SEXUAL AND TESTING BEHAVIORS OF A NATIONAL SAMPLE OF NON-STUDENTS, TWO-YEAR, AND FOUR-YEAR COLLEGE STUDENTS
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Background: College students represent a distinct subgroup of young adults at high risk for contracting STDs. Previous research suggests two-year student risk may be similar to nonstudents. Since little is known about sexual and STD testing behaviors of nonstudents and two- and four-year college students, we sought to describe behavioral differences across these groups.

Methods: Data (2013) are from a national panel survey that evaluated the “Get Yourself Tested” campaign. The study population was restricted to sexually experienced 17-25 year olds who were not in high school and for nonstudents, individuals who had not completed any type of secondary education after high school. Bivariate and t-test analyses compared differences among nonstudents, two- and four-year college students.

Results: Two- and four-year students were very similar, with respect to sexual and STD testing behaviors and demographics, compared to nonstudents. Two (n=319) and four-year (n=587) students were predominantly younger, white, and more likely to have private health insurance (68.4% and 77.8% vs. 45.5%, p<0.0001). Nonstudents (n=628) were more likely to be uninsured (30.2% vs. 9.0% and 12.0%, p<0.0001), compared to two- and four-year students. Nonstudents were also more likely to report early sexual debut, multiple sex partners, and never having used condoms or contraceptives. Although not significantly different, STD testing rates for the study population were low, only 44.3% had ever been tested for an STD and 22.1% had been tested in the past 12 months. However, HIV testing was higher for two-year students and nonstudents compared to four-year students (47.3% and 43.7% vs. 35.7%, p=0.019).

Conclusion: Nonstudents engaged in more high-risk sexual behaviors, while two- and four-year college students had similar sexual and testing behaviors, which were generally more protective. Future research is needed to examine whether HIV testing is more affordable/accessible than STD testing in this population and the role of insurance coverage variation.

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POS 263 - W
SEATTLE-AREA MSM’S ATTITUDES TOWARDS STI DIAGNOSES AND WILLINGNESS TO CHANGE BEHAVIOR TO AVOID STI
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Background: Bacterial sexually transmitted infection (STI) rates among men who sex with men (MSM) in the US continue to rise; some have hypothesized this is an inevitable consequence of pre-exposure prophylaxis (PrEP). However, little is known about MSM’s attitudes towards STIs, nor their willingness to change behavior to avoid contracting them.

Methods: Public Health – Seattle & King County conducts an annual survey of a convenience sample of MSM Washington State residents attending the Seattle PRIDE parade. The survey may be self- or interviewer administered. For the 2017 PRIDE Survey, we queried participants about their attitudes towards acquiring bacterial STI and what changes they would be willing to make to reduce their risk of STI.

Results: Of 491 MSM respondents, 53 (10.8%) self-identified as HIV-infected. Among the HIV-uninfected (n=438), 16.4% were currently using PrEP. Overall, >85% of men reported that it is very important to avoid getting gonorrhea, chlamydia, syphilis and herpes. HIV-infected men (76%) and PrEP-using men (81%) were less concerned about STI than non-PrEP using HIV-negative men (92%) (P<0.001). Men diagnosed with an STI in the past 12 months were also less concerned about acquiring gonorrhea/chlamydia (72% vs. 91%; p=0.002) or syphilis (81% vs. 92%; p=0.051). Presented with options for reducing STI risk, 78% were willing to use condoms more often, 63% would reduce their number of sexual partners, 58% indicated they would be willing to have more oral sex and less anal sex and 57% would be willing to take a daily antibiotic.

Conclusion: Most MSM think avoiding STIs is very important and report that they are willing to change aspects of their sexual behavior to avoid them, though there are some differences by HIV status and STI history. These findings suggest that there may be opportunities to diminish rates of STI in MSM through behavior change.

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POS 264 - T
STD AND VIRAL HEPATITIS SCREENING AND TESTING AMONG RYAN WHITE CLIENTS IN A CASE MANAGEMENT SETTING, WYOMING—2016–2017
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Background: HRSA recommends sexually transmitted disease (STD) and viral hepatitis (VH) screening for newly enrolled Ryan White clients (RWC). Prior to 2016, local public health nursing offices were not involved in STD or VH screening of RWC, thus data on the number of clients screened and testing results were incomplete. To ensure screening among RWC occurred, and to improve data collection, the Wyoming Communicable Disease Unit implemented two pilot studies using Ryan White case managers to conduct screening through risk assessments and offer testing.

Methods: Case managers were trained to conduct client risk assessments, test for VH, and conduct multi-site testing for STDs accordingly. A 6-month pilot offering STD and VH testing, regardless of risk, to all RWC ages 15-65 was conducted June–December 2016. Participating clients were given gift cards. Results from the pilot were evaluated and modifications to the testing protocol were made. A second pilot was conducted May–December 2017. RWC with STD and VH risk factors based on screening were tested and given an incentive.

Results: In 2015, 7% of RWC had documented tests for STDs or VH with 0% positivity. In the 2016 pilot, 27% of RWC were tested with 16.5% positivity for STDs and 5.5% for VH. After changing the project to risk-based testing in the 2017 pilot, 52% of RWC were offered screening. Seventy-three percent of those screened and 90% of those deemed high risk were tested with 16.1% positivity for STDs and 5.0% for VH.

Conclusion: Wyoming had limited data on STD and VH screening and testing in RWC prior to 2016. After implementing the pilots, we ensured appropriate screening and testing based on client risk. Additionally, the program was able to improve data collection, improve accessibility of testing, and offer treatment for infections that may have otherwise gone undetected.

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POS 265 - W
EARLY SYPHILIS INFECTION IN UTAH - PRIOR AND CONCURRENT STD DIAGNOSIS
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Background: Preventing early syphilis infections is a public health priority. Syphilis increases both the risk of acquiring and transmitting HIV. As the rates of early syphilis infection are increasing both nationally and in Utah, more research to identify priority populations for public health intervention is merited. This study assesses the frequency of prior STD diagnoses and concurrent STD diagnoses among persons diagnosed with an early syphilis infection.

Methods: Data on all reported early syphilis infections (primary, secondary, and early latent) from 2014 to 2016 along with data on all reported STDs (chlamydia, gonorrhea, syphilis) from 2009 to 2016 were exported from EpiTrax, Utah’s NEDSS compatible surveillance system. Probabilistic record linkage was conducted utilizing Link Plus to identify both concurrent STD infection and prior STD infection (diagnosis within the past five years). Univariate analysis was conducted utilizing SAS 9.4.

Results: 348 Early syphilis infections were reported in the three year time-frame (79 primary, 131 secondary, and 138 early latent). Over three-quarters of early syphilis infections were diagnosed within 1 year of diagnosis. After controlling for potential confounders, HIV and other STIs were more common among early syphilis cases than in the general U.S. population. Among early syphilis cases, nearly half were not born in Utah, and nearly half had a non-Utah exposure. This is consistent with the higher rates of syphilis diagnoses among non-Utah residents seen in the general population.

Conclusion: A considerable number of early syphilis cases in Utah are not only occurring among Utahians but also among non-Utahians. Addressing the factors leading to these infections may have implications for reducing the rates of early syphilis infections among non-Utahians who then travel to Utah to acquire other STIs and/or HIV. These findings emphasize the importance of screening non-Utah residents for STIs and HIV in Utah and suggest that community-based work and education about syphilis and STIs is needed to reduce the risk of early syphilis infection in Utah.

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of the persons infected identified as men who have sex with men (MSM). Of the total 348 reported infections, over one-third (34.8%) followed a prior STD diagnosis (6.3% chlamydia, 7.8% gonorrhea, 6.3% syphilis, and 14.4% multiple STD diagnoses). Of those reporting a prior infection, the majority of persons reported two or more infections in the five year timeframe (56.2%) with a median of two prior infections (range 1 to 8). Co-infection with either chlamydia or gonorrhea at the time of early syphilis diagnosis was reported in 10.1% of the cases.

Conclusion: In Utah, disease intervention specialists attempt to interview adolescents and young adults (AYA) frequently engage in Sexually Transmitted Diseases • Volume 45, Supplement 2, September 2018 1,2, Javier Lopez-Rios, MPH 1, Olubunmi Fakunle, MBBS, MSc, Mohammad Rahman, MBBS, PhD

Phase 1 utilized a longitudinal RCT to assess CC’s efficacy, acceptability, and feasibility compared to HIV/STI 101 and VOICES/VOCES. CC had equivalent efficacy and acceptability as VOICES/VOCES. Additionally, CC displayed excellent feasibility. Phase 2 implemented a multi-site evaluation to assess CC/SHAC’s effectiveness at a PWI university, an HBCU, and an educational/vocational (E/V) program utilizing paired-samples z tests.

Results: PWI students displayed significant gains in recognizing the need for oral sex protection, identifying correct steps for condom use, suggesting/intending to use condoms with new partners, as well as intending to carry a condom. HBCU students significantly increased their identification of the correct steps for condom use and need for oral sex protection. E/V students reported significant increases in ease of using condoms with a new partner and understanding of oral sex risk.

Conclusion: CC/SHAC is a promising addition to our STI prevention arsenal. In HBCU and E/V groups, power to detect differences over time was limited due to attrition, as evaluators had difficulty obtaining post-tests during community events. Future studies should address this limitation, as well as include a behavioral measure of correct condom use and a prolonged follow-up.

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POS 268 - T
AMONG HIGH RISK MSM AND TGW, LOW KNOWLEDGE AND CONCERN ABOUT SYPHILIS AND DISINTEREST IN USING A RAPID TEST TO SCREEN SEXUAL PARTNERS: HOW MIGHT DUAL HIV/SYPHILIS TESTS HELP?
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Background: Increasing incidence of syphilis among men who have sex with men (MSM) and transgender women (TGW) highlights the need for novel approaches to reducing infections such as rapid syphilis self- and partner-testing.

Methods: Sixty MSM and TGW who reported “never” or “sometimes” using condoms completed a CASI, including a 10-item assessment of syphilis knowledge and an STI risk perception item. Forty participants self-tested using a smartphone-based HIV/syphilis test and 20 using the INSTI HIV 1/2 and the Syphilis Health Check. They then underwent an in-depth interview.

Results: Almost all participants identified as men (95%). They were on average 40-63 years old (Range 20-73), diverse in race/ethnicity (60% non-White), college graduates (55%), and employed full-time (40%). Forty-eight percent reported a prior STI (15% reported prior syphilis infection). On a scale of 1 to 10, mean likelihood of contracting an STI during the next year was 4.72. On average, respondents answered 50.28% of syphilis questions correctly. Higher syphilis knowledge was correlated with more education (r=0.36, p=0.03), the presence of a partner (r=0.49, p=0.01), and condom use knowledge (r=0.34, p=0.05). During in-depth interviews, participants reported much lower knowledge and concern about syphilis than HIV. Most felt comfortable using HIV and syphilis rapid tests (RTs) for self- and partner-testing. They expressed likelihood of using a syphilis RT for self-testing, and combining it with an HIV RT for partner-testing, but few would use a syphilis RT alone to screen sexual partners or in sexual encounters with low HIV risk (i.e., oral sex). Participants were very enthusiastic about dual HIV/syphilis tests for self- and partner-testing.

Conclusion: Participants did not appear sufficiently concerned about syphilis to take active steps to reduce their risk of infection. Their enthusiasm for rapid HIV/syphilis tests for self- and partner use suggests that dual tests may facilitate more frequent screening for syphilis.

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POS 269 - W
PREDICTORS OF CONDOM USE AMONG OUT OF SCHOOL YOUTHS IN NORTH CENTRAL NIGERIA
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Background: Out of school youths are marginalized group in Nigeria with respect to HIV prevention programs. They are prone to risky sexual behaviors. Unfortunately, they lack access to school-based HIV prevention programs. Evidence has shown that public health interventions are needed
POS 270 - T
GIVE THE PEOPLE WHAT THEY WANT! ON-DEMAND ACCESS TO STD TESTING VIA INNOVATIVE DELIVERY MODELS
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Background: Two approaches of on-demand, non-traditional STD testing that have seen substantial growth in the last decade include: online STD testing, via home-collection kits and direct-to-consumer lab referrals; and retail-pharmacy-based STD testing. An analysis of the current industry landscape of these STD testing options was conducted to better understand the implications and opportunities for local STD programs and increasing access to STD health care services.

Methods: Companies offering STD testing were identified by using Internet search terms such as “home STD testing.” Company websites were assessed and additional data was collected via phone interview and electronic survey to determine what is offered to consumers. Data collected include service model, tests offered, cost, types of payment accepted, reporting practices, other services offered, referral practices, and protocol for positive results.

Results: Twenty-two companies were identified for analysis. Eight offered home-collection kits and direct-to-consumer lab referrals, and two offered retail-pharmacy-based testing. All companies offered chlamydia and gonorrhea (CT/GC) tests, yet varied greatly in terms of other STD tests. Not all companies offered follow-up for positive results; of those that did, half of the non-retail pharmacy-based companies offered phone consultations, 15% offered video consultations, and 68% offered e-prescriptions. Costs for STD testing ranged from $40 to $400 and averaged $200 for complete test panels (eight to ten tests) and ranged between $55-$150 for CT/GC tests only.

Conclusion: On-Demand testing has low demand even when provided in rural areas and in collaboration with health facilities. Contact: Adayedoy Adeyemi / dayo_bunmi@yahoo.com

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POS 271 - T
OUTCOMES OF RE-LINKAGE TO HIV CARE ACTIVITIES FOR HIV-POSITIVE INDIVIDUALS WHO ARE OUT OF HIV CARE AND NEWLY DIAGNOSED WITH SEXUALLY TRANSMITTED INFECTIONS, NEW YORK CITY, 2014-2017
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Background: Disease Intervention Specialists (DIS) in New York City (NYC) conduct partner services (PS) for HIV-positive persons newly diagnosed with syphilis and/or gonorrhea, with the aim of reducing onward transmission of HIV and other sexually transmitted infections (STD). HIV care status is ascertained during interview, and efforts are made to re-link persons who self-report being out-of-HIV-care (OOC).

Methods: Information from the NYC STI registry was extracted for 17,856 HIV-STI co-infected cases during 2014-2017; most cases (17,377) were male. We quantified numbers of men referred and re-linked to HIV care and examined characteristics associated with successful referral. We also conducted five DIS interviews to ascertain facilitators and barriers to collecting and documenting referral and re-linkage information.

Results: Of male cases, 44% (7,735/17,377) were in-care and 1% (124/17,377) were OOC. Among OOC cases, 60% (74/124) accepted a referral; 30% (37/124) did not accept referral, and 10% (13/124) did not have any referral documentation. Among the 74 men referred to care, 19% were successfully re-linked; 20% were not re-linked; and 61% did not have linkage-to-care documentation. Men diagnosed with HIV <1 year before STI diagnoses were 3 times more likely to accept a referral (aOR=3.1; 95% CI=1.2-7.6), versus those HIV-diagnosed ≥1 year prior to STI. DIS interviews revealed: 1) poor cooperation among patients during phone interviews (majority of interviews are non-clinic patients) contributes substantially to missing data; 2) phone interviews take place during times that are inconvenient for patients (e.g., during work hours) leading to incomplete interviews.

Conclusion: Relinking OOC HIV-positive persons to HIV care is a public health priority, however, LTC was verified for <40% of NYC STI cases who were referred to care. Reducing barriers to more complete ascertainment of PS outcomes is indicated. Contact: Darryl Fields / dfichldd@health.nyc.gov

POS 272 - T
SYPHILIS SCREENING AMONG SEXUALLY ACTIVE MEN WHO HAVE SEX WITH MEN AND WHO ARE RECEIVING MEDICAL CARE FOR HIV IN THE UNITED STATES—MEDICAL MONITORING PROJECT, 2013–2014
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Background: Current guidelines recommend that sexually active HIV-positive men who have sex with men (MSM) be screened at least annually for syphilis. For MSM at elevated risk, screening every 3–6 months is recommended. We examined the proportion of HIV-positive MSM currently in care who were screened for syphilis in the past 3, 6, and 12 months by their HIV care provider.

Methods: Using medical record data from the Medical Monitoring Project (MMP) during 2013–2014, a population-based HIV surveillance system, we evaluated the proportion of sexually active MSM who had documentation in their medical record of being screened by their HIV care provider for syphilis in the past 12 months, 6 months, and 3 months, stratified by sexual behavior.

Results: Overall 71% (95% CI: 69%–73%) of 3,174 sexually active HIV-positive MSM in care were screened for syphilis in the past 12 months during 2013–2014. This proportion was higher among MSM at elevated risk: 75% (95% CI: 72%–78%) among men reporting any condomless sex and 77% (95% CI: 74%–79%) among men reporting ≥2 partners. Among MSM reporting any condomless sex, 49% (95% CI: 45%–53%) were screened in the past 6 months and 26% (95% CI: 22%–30%) in the past 3 months. Among MSM reporting ≥2 partners, 49% (95% CI: 44%–54%) were screened in the past 6 months and 26% (95% CI: 22%–29%) in the past 3 months.

Conclusion: The proportion of MSM tested in the past year for syphilis is higher than previously published reports using MMP data. However, nearly one-third of sexually active HIV-positive MSM were not screened by their HIV care provider within the last year, and many at increased risk were not screened at recommended frequencies. Efforts to improve screening for high-risk HIV-positive MSM may be warranted. Contact: Alex de Voux / yxj3@cdc.gov

POS 273 - W
OPPORTUNITIES TO IMPROVE ROUTINE STD SCREENING AMONG SEXUALLY ACTIVE PEOPLE LIVING WITH HIV IN SAN FRANCISCO WHO ARE RE-ENGAGING IN CARE, 2012-2017

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Background: We validated STD testing history and STD positivity among people living with HIV (PLWH) who were not in care (NIC) before and after enrollment in an HIV care navigation program.

Methods: NIC PLWH were referred by primary care providers, the municipal STD clinic, and surveillance-generated ‘Data-to-Care’ lists to the SF Department of Public Health LINCSS navigation team. Navigators located eligible NIC patients and offered support for 90 days to re-link to primary care. Among patients enrolled in navigation with available STD laboratory testing history, we compared GC/CT and early syphilis testing and diagnosis in the 12 months prior to navigation to 90 days after enrolling in navigation.

Results: Among 355 clients enrolled in navigation during 2012-2017, 84% were male. Two-thirds (65%) of navigation clients reported at least 1 sex partner in the prior 12 months. In the 12 months prior to navigation, 49% (173/355) of clients had been tested for GC/CT from at least one anatomic site and 69% (246/355) had been tested for syphilis. STD positivity was high: 39% GC, 25% CT and 19% early syphilis. Within 90 days of enrolling in navigation, 30% (107/355) had GC/CT testing and 51% (180/355) had evidence of syphilis testing. Among clients not tested in the prior 12 months (n = 51/157 (34%) received GC/CT testing and 31/78 (28%) were screened for syphilis in the 90 days post-enrollment. Among those tested post-enrollment STD positivity was 23% for GC, 12% for CT and 8.3% for early syphilis.

Conclusion: We found high STD positivity among patients re-engaging in HIV care. HIV navigators have the opportunity to ensure sexually-active PLWH receive complete STD screening by re-linking them to care. Routinely offering partner services to NIC PLWH diagnosed with an STD may help identify people in high priority sexual networks that could benefit from STD screening and treatment. HIV testing and PrEP.

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POS 274 - T BARRIERS AND FACILITATORS TO IMPLEMENT CHANGE IN STD CLINICAL PRACTICE AFTER TRAINING
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Background: The CDC’s Division of STD Prevention funds the National Network of STD Clinical Prevention Training Centers (NNPTC) to train healthcare professionals to improve screening, diagnosis, treatment and prevention of STDs across. These trainings update healthcare providers’ current practices to align with national standards of care, such as the CDC’s 2015 STD Treatment Guidelines.

Methods: After clinical training, participants complete an evaluation on paper or online. Ninety days later, a follow-up evaluation is sent to participants. The 90-day follow-up survey asks about barriers and facilitators to implementing changes in clinical practice. Data include responses from 302 trainings conducted between July 2015 through March 2017 and 1,513 trainees responded to the 90-day follow-up survey’s items on barriers and 1,416 responded to the facilitation item.

Results: The most frequently reported barriers to change in STD clinical practice were: lack of time during patient visits (13%, n = 191), no opportunities to apply what they learned (9%, n = 139), and existing policies (8%, n = 119). Forty-nine percent of participants (n = 733) reported no barrier. When asked about what helped facilitate practice change, the most common response (50%, n = 427) was the support of a supervisor or a colleague, while the second most frequent response (21%, n = 299) was standing orders. Interviews highlighted changes when attempting to make changes in their practice because they need more time with patients during office visits and because the policies where they work prevent them from implementing the clinical updates they learned in training. Participants most frequently reported that buy-in from a supervisor or colleague and standing orders made it easier to implement the changes. Health care providers and managers should be aware of these barriers and facilitators of change and address them upon re-entry post-training to better incorporate clinical practices taught at trainings.

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POS 275 - W CHLAMYDIAL, GONOCOCCAL, AND SYPHILIS ANTIBODY PREVALENCE AMONG HIGH-RISK ADOLESCENTS IN LOS ANGELES AND NEW ORLEANS
Drew Wood-Palmer1, Chelsea Shannon, BA2, Maryann Koussa, MPH1, Jasmine Fournier1, Sung-Jae Lee3, Sue Abdalaini4, Mary Jane Rotheram-Borus5, Jeffrey Klausner6, BS, MPH, MD7
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Background: Despite American adolescents aged 15-24 years comprising 27% of the sexually active population, they account for 50% of the 20 million new sexually transmitted infections in the United States each year. There are limited data on the prevalence of Chlamydia trachomatis (CT) infection, Neisseria gonorrhoeae (NG) infection, and syphilis antibodies in homeless, LGBTQ youth, however they are a uniquely high-risk population. We report the prevalence of CT infection, NG infection, and syphilis antibodies among high-risk adolescents.

Methods: We recruited 485 HIV-uninfected adolescents aged 15-24 years from homeless shelters, LGBTQ organizations, and community centers in Los Angeles, CA and New Orleans, LA beginning May 2017. On-site testing for CT/NG was done with the Cepheid GeneXpert (Sunnyvale, CA), a 90-minute PCR test. Female participants self-collected vaginal, rectal, and pharyngeal swabs. Males self-collected urine, rectal and pharyngeal specimens. We used the Syphilis Health Check (Stone Harbor, NJ) for treponemal antibody testing. Testing was performed by trained paraprofessionals. We calculated prevalence measures for each infection according to sex and age group.

Results: The prevalence among females aged 15-19 years was syphilis antibody (0%), rectal-CT (18%), vaginal-CT (17%), pharyngeal-CT (2%), rectal-NG (5%), vaginal-NG (2%), and pharyngeal-NG (0%). Males aged 15-19 years had syphilis antibody (2%), rectal-CT (3%), urethral-CT (2%), pharyngeal-CT (0%), rectal-NG (5%), urethral-NG (0%), and pharyngeal-NG (5%). Females aged 20-24 years had syphilis antibody (1%), rectal-CT (6%), vaginal-CT (7%), pharyngeal-CT (2%), rectal-NG (2%), vaginal-NG (3%), and pharyngeal-NG (4%). Males aged 20-24 years had syphilis antibody (7%), rectal-CT (5%), vaginal-CT (5%), pharyngeal-CT (0.4%), rectal-NG (4%), vaginal-NG (0.4%), and pharyngeal-NG (5%).

Conclusion: HIV-uninfected, high-risk adolescents 15-24 years of age had high prevalence of genital and extragenital CT and NG infections. Females aged 15-19 had the highest prevalence of CT infection, while males aged 20-24 years had the highest prevalence of syphilis antibodies.

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POS 276 - T STD PROGRAMS ACROSS THE US: HOW THEY ARE CHANGING AND WHAT HOLDS THEM BACK
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Background: CDC funds 59 state and local health departments for STD surveillance and prevention. These programs operate in diverse and changing contexts. We characterize changes that programs made in recent years to better understand the STD prevention response and how to support change.

Methods: In 2017, Karma LLC collected quantitative data from 53 project areas and conducted follow-up interviews with 52. We analyzed quantitative data on 42 strategies required and recommended by CDC and the degree to which project areas perceived they strengthened or not in the prior three years. We analyzed interview data on the most important ways these areas felt they had changed, what accounted for those changes, and barriers to change.

Results: Of 42 strategies, the median number for which respondents reported strengthening ("a lot" or "some") was 22. Most widespread strengthening was reported in surveillance, GC treatment verification, and evaluation. For 33 of 42 strategies, 30% or more respondents said they experienced no or little change in their ability to implement the strategy. Reports of weakened capacity were rare. Interviews highlighted changes with data systems, data utilization, and further HIV integration. Reorganization of partner services, accelerated reorganization of partner services, and improved GC treatment verification were also highlighted. Respondents attributed some change to CDC’s cooperative agreement, but much was attributed to factors such as shifting STD epidemiology and resource limitations. Many STD programs felt progress also was...
POS 277 - W
EVALUATION OF AN ADAPTED PROJECT CONNECT COMMUNITY BASED INTERVENTION AMONG PROFESSIONALS SERVING YOUNG YOUNG MINORITY MEN

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Background: To address sexual and reproductive health (SRH) needs of young minority urban males, we developed and evaluated Project Connect Baltimore (PCB), which was adapted from a program with demonstrated effectiveness among young females. The objectives were to determine 1) the feasibility of PCB as adapted for young minority men, 2) whether the program increased SRH knowledge and resource sharing of youth-serving professionals working with young men, and 3) whether the program improved awareness of PCB resources for young minority men in Baltimore City, an urban environment with endemic rates of STDs.

Methods: PCB developed a clinic referral guide for male youth-friendly resources for SRH. Youth-serving professionals working with partners and organizations serving young minority men were subsequently trained to use PCB materials and pre- and post-training surveys were conducted to evaluate program effects. A quasi-experimental design was conducted among young men attending five urban clinics where STD/HIV rates are high, recruiting young men in five repeated cross-sectional surveys from April 2014 to September 2017.

Results: 235 youth-serving professionals were trained to use PCB materials, including a website, a paper-based pocket guide, and information regarding SRH for young men. These professionals demonstrated increased knowledge about SRH for young men (60.6% to 86.7%, p<0.05), and reported more sharing of the PCB website (23% to 62%, p<0.05) from pre- to post-training. 493 young minority men surveyed reported increased awareness of PCB over three and a half years (4% to 11%, p<0.015), although no young men reported using the website to visit clinics.

Conclusion: Project Connect Baltimore increased knowledge of SRH needs among youth-serving professionals and sharing of SRH resources by these professionals with young men. This program also demonstrated increases in awareness of SRH resources among young minority urban men.

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POS 278 - T
THE ROAD SHOW: IF YOU BUILD IT AND THEY CAN'T COME, THEN WHAT?

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Background: The New York State (NYS) AIDS Institute STD Center of Excellence (COE) is tasked with enhancing the capacity of New York’s diverse healthcare workforce to deliver quality clinical services related to sexually transmitted infections (STIs). Provider education related to STIs (especially sexual history) was identified by the NYS Ending the Epidemic (ETE) STI Workgroup as a key focus area of NYS ETE Initiative. The STI COE offers clinical preceptorships several times/year with training on sexual history, behavioral assessment, physical exam, specimen collection, STI diagnosis, management & prevention in Rochester, NY. Provider participation is limited by time & travel constraints. Attendees often request additional practice with STI history & exam skills. In response, we designed a mobile workshop to provide history/exam skills training.

Methods: A workshop was developed providing a mix of didactic presentations, role play with standardized patient scenarios, and utilization of high definition male & female mannequin simulators for exam and specimen collection skills building. This ‘Road Show’ is available to travel to the participants’ locations within NYS. Six continuing nursing/medical education credits are offered.

Results: 10 Road Show sessions were provided by 2 STI COE faculty between 07/06/16 and 02/15/18. A total of 58 clinicians were trained: 24 physicians (41%), 12 nurse practitioners (21%), 2 physician assistants (3%) and 20 nurses (34%). Practice settings included internal medicine, family medicine, college health, public and private STI clinics. Evaluation data suggest that the ‘Road Show’ improves clinician comfort and competence with STI history and examination skills.

Conclusion: A mobile skills building workshop is a useful tool to expand the capacity of NYS providers to provide quality STI care through enhancement of STI history/exam skills. The changing landscape of US healthcare along with rising STI rates requires that we find creative ways to bring vital STI training out to the broader clinician community.

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POS 279 - T
EXISTENCE AND DISTRIBUTION OF GOVERNMENT ASSOCIATED STD CLINICS - UNITED STATES, 2017

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Background: Studies of US sexually transmitted disease (STD) clinics are often limited by non-representative sampling. Our understanding of the level and quality of services and the survival of these safety net providers depends on knowing the population of clinics throughout the US, and having the ability to study clinics and their services over time. The focus on government-associated clinics allows the study of how public commitment to these clinics is expressed over time. This study establishes the first national list of U.S. government-associated STD clinics in decades, from which clinic distribution and characteristics were evaluated.

Methods: A two-phased multi-level internet-based search from September 2014-March 2015 and from May-October 2017 identified STD clinics in U.S. states and the District of Columbia operated or referred to by state, local or regional governments. Data included clinic name, address, contact information, 340B funding status, and type of clinic. Secondary, county level data for comparison included rates of chlamydia and HIV, teen births, unemployment, and school graduation, primary care physician ratio, healthcare costs, median household income and percent living in rural areas. Binary logistic regression investigated difference between counties without and with STD clinics, and among types of clinics.

Results: The 4070 government associated STD clinics were classified into 10 clinic types, and over half (58.7%) of U.S. counties had no STD clinic, yet 25.4% of states had an STD clinic in every county. Over half (66%) of states had a mean of ≥1 clinics/100,000 population. STD clinics tended to exist where the needs were greatest, for the exception populations living in rural areas.

Conclusion: The resulting national clinic list allows for comprehensive, national studies of clinic services, organizational adaptation to external policy and funding environments, and clinic survival over time. Rural safety net coverage is at issue.

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POS 280 - W
THE APPLICATION OF HUMAN CENTERED DESIGN (HCD) METHODS TO IMPROVE COLLABORATION BETWEEN PUBLIC HEALTH AND COMMUNITY HEALTHCARE PROVIDERS IN THE PROVISION OF PARTNER SERVICES (PS)

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Background: The Philadelphia Department of Public Health (PDPH) invests substantial resources in PS to patients with syphilis and HIV, to interrupt transmission and reduce morbidity and sequelae. PDPH Disease Intervention Specialists (DIS) often coordinate and collaborate closely with staff of healthcare provider organizations (HCPOs) to perform PS, knowing that

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Background: Rapid diagnostic tests (RDT) have been successfully deployed for many decades. However, visual interpretation of RDT becomes challenging as analyte concentrations approach the limit of detection (LOD). To overcome limitations with interpretation of RDT, we augmented protein-A colloidal gold labels ubiquitously utilized in our Rapid Vertical Flow platform (RVF) with a Raman active reporter molecule to create a Surface Enhanced Raman Spectroscopy (SERS)-label to facilitate detection of RVF results down to the visual discernable LOD and beyond.

Methods: SERS-labels such as PYOT were produced following routine linkage of protein-A to a colloidal gold label. Following an optimized incubation period, the particles were stabilized by addition of BSA. SERS-labels were used directly as a liquid, or were further processed in to MedMira’s patented InstantGold Caps for room temperature storage and easier use. The RVF test’s LOD for SERS-label was assessed, as per RVF testing procedure using panels comprised of serially diluted samples for product release at MedMira.

Results: Serially diluted samples routinely used as part of product release panels were tested using the RVF-SERS label. Results were read manually and then read by a small benchtop Raman spectrometer to assess resulting SERS signals for comparison. Visual reactivity was observed down to dilutions of 1:5,000. LOD using SERS labels, as interpreted by the spectrometer was 1:30,000. Plotting SERS intensity versus dilution yielded a linear plot (R²=0.98).

Conclusion: The inclusion of SERS-labels improved LOD by a factor of 6 compared to visual interpretation while concurrently removing subjectivity during reading results. The results further illustrate the possibility of developing quantitative RDT. Future development will focus on clinical validation of the assays in end user settings across the USA that allows automated interpretation, documentation, and sharing of results among health care teams.

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POS 283 - T

CULTURALLY APPROPRIATE TRAINING TO BUILD BETTER RELATIONSHIPS BETWEEN MEN WHO HAVE SEX WITH MEN (MSM) OF COLOR AND THEIR HEALTH PROVIDERS

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Background: Several studies have demonstrated significant rates of medical mistrust for African American, Latino and Native American clients. A 2015 study found that 47% of African American MSM expressed mistrust about the competence and trustworthiness of health care providers. Among all MSM who received an HIV diagnosis in 2016, African Americans accounted for 38%, and Latinos with 28% of diagnoses. Barriers to health care access and limit access and increase health inequities for racial and ethnic minorities.

Methods: HealthHIV, a Washington, DC based, national non-government organization, developed a comprehensive CME credentialed curriculum for health care providers that included the cultural insights of MSM of color. The curriculum was informed by a literature review, which focused on MSM of color’s behavioral and health services access, employment and workforce issues, and provider/client relationships. HealthHIV also created the National Minority Leadership T eam (MLT) to ensure culturally appropriate training and education programs. The MLT, comprised of 20 leaders, diverse in age, socio-economic status, geography and education, meets both in person and via conference calls. HealthHIV also created a Clinical Advisory Group comprised of 8 ethnically diverse clinical and behavioral providers who review the curriculum and ensure content is accurate and timely.

Results: 1) HealthHIV’s curriculum has demonstrated provider effectiveness in understanding implicit bias. 2) Providers have a better awareness of how language, tone and power imbalances subconsciously impact the provider/client relationship.

Conclusion: To improve MSM of color provider/client relationships and eliminate health inequities we must: 1) Deliver innovative and culturally informed training. 2) Empower MSM of color to demand access to quality, culturally competent services. 3) Determine how it transforms health organizations and providers to continually provide culturally appropriate.

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POS 284 - W

NOWCasting SEXUALLY TRANSMITTED DISEASES IN CHICAGO

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Background: Sexually transmitted diseases (STD) are a major health concern in Chicago, IL, USA. The development of novel diagnosis and treatment methods is crucial to combat the spread of these diseases.

Methods: Utilizing a participatory design approach, we engaged youth to identify solutions to test barriers and improve their experience with STI testing. We conducted small group ideation sessions, brainstorming exercises, and affinity diagramming in eight small groups. The small groups included 1-2 youth, clinic staff, and social design graduate students. The ideation sessions were facilitated by a project leader, who facilitated 2 PDPH DIS and 2 staff members of HealthHIV, a Washington, DC based, national non-government organization.

Results: Ten themes were identified corresponding to three domains: 1) improving the testing experience (increasing transparency in the testing process, increasing trust in privacy, alternative testing options, and providing incentives/rewards for testing), 2) addressing the clinic space (multi-service spaces, appealing physical clinical space, and providing waiting room activities), and 3) reframing STI testing (normalizing STI testing, the clinic as a supportive environment, and youth leadership to promote and support STI testing).

Conclusion: By involving the human perspective in all steps of the problem-solving process, in improving the relationship between DIS and providers with the goal of improving the patient experience and increasing the effectiveness of PS. Participatory HCD can improve provider collaboration and coordination required for DIS to perform successful PS outreach. Additional work is needed to determine the impact of participatory HCD methods on PS outcomes as well as the generalizability of these methods to additional HCPs.

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POS 281 - T

IDENTIFYING SOLUTIONS TO IMPROVE THE STI TESTING EXPERIENCE FOR YOUTH THROUGH PARTICIPATORY IDEATION

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Background: In a recent national survey, only 16.6% of females and 6.1% of males between the ages of 15-29 reported testing for STIs in the past 12 months. In the midst of increasing incidence of bacterial STIs, alarming STI disparities, and persistently low testing rates among youth, solution-focused and action-oriented research with youth is needed.

Methods: To identify solutions to STI testing barriers, we conducted innovative, participatory ideation workshops with 18 youth participating in a non-health focused youth organization, 10 key stakeholders who work with youth (i.e., clinic staff), and eight social design graduate students. In response to prompt questions asking “How might we…” address a testing barrier, participants generated many ideas as they could in five minutes drawing on small pieces of paper and labeling their idea with a short title. The ideation sessions produced 702 brainstorm idea sheets that were then qualitatively analyzed through pile sorting by three team members (including two young adults) with each pile representing a priori themes based on “How might we” prompts or emergent themes.

Results: Ten themes were identified corresponding to three domains: 1) improving the testing experience (improving transparency in the testing process, increasing trust in privacy, alternative testing options, and providing incentives/rewards for testing), 2) addressing the clinic space (multi-service spaces, appealing physical clinical space, and providing waiting room activities), and 3) reframing STI testing (normalizing STI testing, the clinic as a supportive environment, and youth leadership to promote and support STI testing).

Conclusion: Integrating public health, youth voices, and social design, these findings move beyond identifying barriers and motivators to STI testing among youth and focus on the generation of solutions. By engaging youth in the development of solutions to STI testing, solutions that may be better utilized and more acceptable to youth may be developed.

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POS 282 - W

INTEGRATION OF RAPID VERTICAL FLOW AND RAMAN SPECTROSCOPY TO ENABLE HIGHLY SENSITIVE RAPID DIAGNOSTICS AND AUTOMATED INTERPRETATION OF RESULTS

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Background: The inclusion of SERS-labels improved LOD by a factor of 6. Qualitative data captured consisted of field notes and transcripts of semi-structured pre and post project interviews and recordings of collaborative work sessions. Notes and transcripts were analyzed to identify stated areas of conflict and agreement, and to elicit participants’ subjective assessment of the project’s impact.

Results: Participants from both organizations demonstrated significant knowledge gaps regarding each other’s patient related activities and priorities for PS. Visual maps and discussion of the flow of patients/staff activity improved participants’ empathy for staff of the counterpart organizations. Participants’ involvement in the project and the interventions they designed reduced reported tension and improved understanding of partner organization goals, making staff feel better able to advocate for PS.

Conclusion: Participatory HCD can improve provider collaboration and coordination required for DIS to perform successful PS outreach. Additional work is needed to determine the impact of participatory HCD methods on PS outcomes as well as the generalizability of these methods to additional HCPs.

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Background: Adolescents (15-24) and communities of color are disproportionately affected by sexually transmitted infections (STIs); and morbidity rates in North Carolina illustrate this trend. Myths, lack of STD services, concurrent partnerships and endemic sexual networks are often factors in these populations’ higher rates of infection. In the US, Historically Black Colleges and Universities are uniquely positioned to address these factors; the Healthy Relationships Project provided many interactive learning opportunities for student discussion, conversation and involvement on basic knowledge and skills about sex and sexual health.

Methods: A mixed method analysis was conducted to determine if the Student Health Center at North Carolina A&T (NCAT) reported an increase in students accessing health services for 2016 and 2017.

Results: Provider visits, screening rates and STI diagnosis increased when comparing for the two years before the implementation of Healthy Relationships and the years after. In 2014 and 2015, our baseline years, there were 5640 and 5816 total provider and nurse visits and 772 and 942 STD diagnoses, respectively. For example in 2016 and 2017, the year of and after implementation, there were 7085 and 9593 provider and nurse visits and 1177 and 1342 STD diagnoses, respectively, and for the period 2014-2017 there was approximately a 70% increase in provider and nurse visits and STD diagnosis.

Conclusion: While students at NCAT were enthusiastic about the implementation of EPT envelopes containing educational material and prescribed medications, the EMR template for 103 (64%) patients. Of the 138 patients, 35 (28%) elected home-testing, 17 (33%) kits were returned, 3 (18%) were STI positive. Eighty-six (62%) patients elected clinic testing, 58 (67%) completed the appointment with an equal amount of self-and clinic-collected samples, and 14 (26%) were STI positive. Overall, 75(160) (47%) patients were retested and 177/5 (23%) retests were positive. Clinicians offered 55 (34%) patients EPT, 38 (69%) accepted, 17 (45%) were retested, and 4 (24%) retested positive. There was no association between positive retest and EPT (p=0.34), age (p=0.13), or retesting method (p=0.37).

Conclusion: A large proportion of women retested positive for an STI. Despite recommending retesting to the majority of patients, less than half completed retesting. Clinician offering of EPT was low. Additional clinician education and patient retesting reminder and support are warranted.

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POSS 285 - T
HIGHER LEARNING: STI SCREENING EXPANSION THROUGH EDUCATION AND EMPOWERMENT AT HBCUS
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Background: North Carolina Administrative Code (NCAC) 10A Chapter 41A,0204 (a) states “local health departments shall provide diagnosis, testing, treatment, follow-up, and preventive services for syphilis, gonorrhea, chlamydia, ….. These services shall be provided upon request and at no charge to the patient”. Although health departments/districts may bill governmental or insurance providers for sexually transmitted (STD) services, current practices are unclear. Also, nearly 20 million new STDs are reported in the U.S. each year, resulting in health consequences to the patient and a direct cost of nearly 16 billion dollars to the country.

Methods: This descriptive, quantitative study was conducted with 60 North Carolina Health Departments/Districts using a 42 item Qualtrics Survey to measure attitudes as well as knowledge and current billing practices. Snowball sampling was used to allow for greater inclusion of staff who met the inclusion criteria. Analysis of data was performed at the individual and agency level based on question. This was a multi-phase study (2015-2017) that surveyed all health departments/districts in the state. Only phase II results are presented.

Results: Survey response rate was 93% (56/60). For knowledge, 87% (270/311) of the respondents reported being aware of the possibility of reimbursement from third party payers for HIV/STD services. When asked about their attitude toward billing for these services, almost 90% (279/311) supported and 10% did not support. Regarding current billing of these services, 70% health departments/districts (39/56) reported they were billing third party payers and 25% (20/56) reported billing for more than 2 years.

Conclusion: These data provide a basis for assisting health departments/districts to move forward in seeking reimbursement from third-party payers for HIV/STD services. Current funding for these services is not sustainable to

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Background: The association between pre-exposure prophylaxis (PrEP) for HIV and rates of bacterial sexually transmitted infections (STIs) among PrEP users is not clearly established, especially within the men who have sex with men (MSM) community. The Kind Clinic, a sexual health and wellness clinic in Austin, Texas, offers PrEP and post-exposure prophylaxis (PEP) focusing on the LGBTQ+ population.

Methods: Since August 2015, the Kind Clinic has offered free PrEP services and STI testing and treatment to individuals living in central Texas. The Kind Clinic to annual health evaluations for all STIs, including genital and extragenital gonorrhea and chlamydia, and syphilis testing. More frequent testing is performed depending on the factors associated with individual patient need.

Results: Between January 1, 2017 and December 31, 2018, 1,423 patients were tested and 356 positive diagnoses were noted for 298 patients. Reinfec- tion was noted for 59 patients. Overall positivity rate is 14.36%. Of the 356 positive diagnoses, 39 instances were noted as multi-site infections, defined as having the STI at more than one site tested. 23 instances were noted as co-infections, defined as having at least one infection each of gonorrhea and chlamydia, and 183 were single site infections. 93.16% of patients tested were male, with a 15.4% positivity rate, and 6.9% of patients tested were female with a 8.37% positivity rate.

Conclusion: Most patients at the Kind Clinic testing positive for STI during the initial appointment before starting PrEP. 13 patients tested positive at both initial and a subsequent follow-up appointments, and 101 patients tested positive only after the initial appointment.

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POSTER 290 - W INTEGRATION AND EXPANSION OF CLINIC-BASED, OPT-OUT TESTING FOR HCV INTO AN EXISTING HIV TESTING FRAMEWORK AT A COMMUNITY HEALTH CENTER IN CHICAGO

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Background: Howard Brown Health, one of the nation’s LGBTQ healthcare organizations, was awarded funding in 2015 to create best practices around the expansion of routine opt-out HIV testing and integration of Hepatitis C virus (HCV) screening into this framework.

Methods: After modification of the Electronic Medical Record to prompt for HIV testing, testing was routinized by training Medical Assistants (MAs) to offer rapid testing using a script while reviewing/vitalizing patients. HCV testing was routinized by adding labs to order-sets for a variety of visits. Education emphasized the importance of HCV screening for people born 1945-1965, all HIV-positive patients, and patients at risk based on behavioral fac- tors. Finally, the HCV Ab test was changed to auto-reflex to a viral load to expedite determination of active HCV.

Results: The following was quantified monthly: the number and percentage of visits where HIV and/or HCV testing were offered/conduted, the number of new HIV and HCV positives identified through opt-out testing, and the number of new positives linked to care. Patient refusal reasons for testing and barriers perceived by provider were documented. These barriers were continu- ously addressed throughout the project. Meetings were held with providers at all levels to discuss how the project fit into their workflow and to assess their motivation to meet objectives.

Conclusion: EMR prompts, standardized patient interaction scripts, and documenting barriers are important. Ongoing education and progress present- sions sustain provider buy-in. Skills trainings were conducted with MAs to address refusal reasons. HCV testing importance was discussed in Clinical Quality Meetings to obtain agency buy-in to testing costs. Providers were allowed flexibility in selecting testing types to improve workflow and accept- ance. This project contributed to 51% of eligible patients being tested for HCV at least once and an increase in HIV testing offers at eligible visits (88% to 99%) while maintaining a testing rate of 90%.

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POSTER 291 - T MINIMIZING RISK BY MAXIMIZING KNOWLEDGE: A PILOT STUDY OF THE EFFECTIVENESS OF AN HPV AND ANAL DISEASE EDUCATIONAL TOOL IN AN HPV OUTPATIENT CLINIC SETTING

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Background: Although several studies related to anal cancer have focused on HIV positive men who have sex with men, all adults living with HIV, includ- ing women, are at an increased risk for anal cancer. There is a rising incidence of anal cancer among HIV positive individuals, and despite the alarming rates of anal cancer in this population, there is a lack of knowledge about HPV and anal disease. The purpose of this study was to evaluate the effectiveness of an educational tool in increasing awareness about HPV and anal disease among HIV positive men and women.

Methods: A pretest-posttest design was used to evaluate the effectiveness of an educational brochure to increase knowledge about HPV and anal disease among HIV positive men and women. During routine follow-up visits in an HIV primary care clinic, participants were randomly selected to complete a 15-question pretest, read a brochure about HPV and anal disease, and com- plete a 10-question posttest. The Wilcoxon signed rank test was used to test the median difference between pretest and posttest summarized scores.

Results: There were 20 participants primarily between the ages of 35-44. Nineteen participants were African-American and one was white. Nine par-
Participants reported preferred gender as female and eleven as male. For each participant, data were summarized as average number of correct answers across no missing values. The difference between posttest and pretest summarized scores was a median of 0.1, and the posttest summarized score statistically differed from that of the pretest (p = 0.015) with a 95% confidence interval (0.01, 0.2).

Conclusion: This study identified that educational tools such as brochures can increase knowledge and awareness about HPV and related diseases in an outpatient clinic setting, a venue that is beneficial to increasing knowledge and awareness about sexually transmitted infections.

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POS 292 - W
EXPANDING HIV/STI OUTREACH AND PREVENTION SERVICES THROUGH THE USE OF DATING APPLICATIONS
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Background: Denver Public Health (DPH) provides free and confidential outreach HIV and STI testing and prevention services, including PrEP outreach and navigation. In an attempt to leverage rising use of online dating applications (apps), DPH created profiles on several dating apps in an effort to provide information, education and prevention services to at-risk clients.

Methods: App profiles were created in both English and Spanish with a photo of a DPH outreach team member and PrEP messaging in the following three apps: Grindr, Scruff, and Adam4Adam (A4A). The profiles were activated sequentially starting with Grindr. HIV prevention counseling and education held in private messages (PM) were quantified using frequency analysis by type of service in each app from August through October and in November. PrEP navigation and linkage to PrEP care were also measured.

Results: A total of 268 PM’s occurred over the study period. Of those PM’s, 28 (11%) provided HIV/STI testing info, 196 (73%) PM’s were related to providing PrEP education, and 44 (16%) PM’s resulted in providing PrEP education and ultimately navigating those individuals into PrEP care. The majority of PM’s occurred on Grindr (75%; 210 app users overall) with fewer PM’s on Scruff (24%; 56 app users overall) and A4A (0.7%; 2 users overall).

Conclusion: Traditional methods of providing HIV/STI outreach and prevention services are no longer sufficient in a technologically driven society. Using dating apps allows us to meet our clients on their terms. By using dating apps such as Grindr, Scruff or A4A, we can focus on strengthening HIV and STI prevention efforts to individuals at risk of acquiring HIV and/ or STI.

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POS 293 - T
BEYOND HIV PREVENTION: PrEP-RELATED PATIENT REPORTED OUTCOMES BY MEN WHO HAVE SEX WITH MEN IN BALTIMORE CITY STD CLINICS
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Background: STD clinics represent ideal settings for increasing Pre-Exposure Prophylaxis (PrEP) uptake because they reach persons at high risk for HIV. Current clinical practice has largely focused on the biomedical benefits of PrEP as a HIV prevention medication. Patient-reported outcomes (PRO) have been used to encourage patient-centered care and patient engagement in various health care settings. Knowledge of PrEP-related PRO is limited. Using qualitative research methods, the aim of this study was to explore PRO reported by PrEP patients who are men sex with men (MSM) in Baltimore City Health Department (BCHD) STD clinics.

Methods: We conducted in-depth interviews with 18 PrEP patients who self-identified as MSM from two BCHD STD clinics between March and November, 2017. The coding scheme was developed using an iterative and collaborative process. The study was approved by the institution’s IRB.

Results: Participants described a variety of health, psychological and social benefits as a result of enrolling in the PrEP program. Several participants described greater awareness about overall health and wellbeing by having frequent STI testing and clinic visits for laboratory tests. Some participants mentioned taking PrEP “motivates you to take care of yourself” by drinking more water, eating healthy and reducing alcohol intake. Participants stated that taking PrEP gave them “peace of mind” as it provides an extra layer of protection to condoms. For participants with a HIV serodiscordant partner, taking medication with their HIV positive partners became a bonding activity and a way to adhere to their own regimens. Finally, several participants mentioned obtaining assistance with getting health insurance and housing as benefits of the PrEP program.

Conclusion: We identified psychosocial and expanded biomedical benefits as PrEP-related PRO among MSM. Findings can inform patient-provider communication that promotes PrEP in ways that resonates with the MSM community and increase uptake of PrEP.

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POS 294 - W
EVALUATING PARTNER SERVICES AMONG HIV POSITIVE PERSONS WITH GONORRHEA OR CHLAMYDIA IN MISSISSIPPI, 2014-2017
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Background: The Mississippi State Department of Health (MSDH) routinely provides partner services (PS) to persons living with HIV (PLWH) who are infected with gonorrhea (GC) or chlamydia (CT). The effectiveness of GC/CT PS and HIV testing and outcomes among partners in Mississippi has not been evaluated.

Methods: MSDH’s STD and HIV surveillance systems were matched to identify PLWH who were newly diagnosed with GC and/or CT between June 2014 and June 2017. New cases of HIV and cases co-infected with syphilis were excluded. Data regarding PS interviews, partners named, and HIV testing and outcomes among partners were abstracted from the surveillance systems. The number needed to interview (NNTI) was calculated as the number of GC/CT HIV positive index cases interviewed per partner newly diagnosed with HIV.

Results: From June 2014 to June 2017, 425 GC cases and 484 CT cases were reported among 805 PLWH, of which 563 (70%) were men who have sex with men. Among PLWH, 154 (19%) were interviewed. During the interviews, 89 partners were named and 55 (62%) were contacted. Among contacted partners, 25 were tested for GC and 11 were tested for CT; 52% and 64% tested positive, respectively. Forty-five percent (25 of 55) of contacted partners were previously diagnosed with HIV. GC/CT PS identified 2 new cases of HIV, yielding a new case of HIV for every 77 interviews. One of the new HIV diagnoses was a partner of a case with an unsuppressed viral load.

Conclusion: PS were successful in identifying GC and CT cases among partners of PLWH, but identified relatively few new HIV diagnoses. Future efforts to integrate HIV-related goals into GC/CT PS should focus on identifying factors associated with higher HIV case-finding yields and on expanding PS objectives to include ensuring index cases’ engagement in care and promoting pre-exposure prophylaxis (PrEP) use among partners.

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POS 295 - T
ACCEPTABILITY OF HIV/STD PARTNER NOTIFICATION USING GEOSOCIAL NETWORKING APPS
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Background: Men who have sex with men (MSM) may choose not to exchange contact information with sex partners met through geosocial networking (GSN) apps, limiting their own and health departments’ ability to notify partners of HIV/STD exposure through standard partner notification methods. This cross-sectional survey of U.S. MSM investigated the acceptability of conducting HIV/STD partner notification using GSN apps.

Methods: From August to October 2017, we recruited MSM aged ≥18 who reported meeting ≥1 male sex partner through a GSN app in the last year via social media advertisements. Participants completed an online survey with
Our results suggest that GSN app-based partner notification field records (FR) that are not closed within 60 days cause problems. The researchers developed a descriptive survey from an extensive literature review on the subject of partner treatment for sexually transmitted diseases (STD) management. A method of partner treatment called expedited partner therapy (EPT) has proven to both increase partner treatment rates and reduce STD reinfection rates. However, uptake of EPT by providers surveyed in previous studies has been mixed. The purpose of this study is to analyze current partner treatment practices of women’s health providers and identify any perceived barriers they may have to offering treatment to sexual partners.

Methods: The open FR list is generated weekly using Maven denormalized tables, SAS 9.3 and MS Excel. Regional DIS coordinators receive the list via a shared, secure network folder and distribute as needed to DIS in their region. DIS then submit the requested case documentation or provide a status update on cases open more than 60 days.

Results: At the time of the first distribution of the open FR list (9/15/2017), 24.6% of HIV and syphilis FRs that had been initiated between January - July 2017 were open. The percent of HIV and syphilis FRs open per health district on the initial list ranged from 6.7-60.0% (average=26.5%) on 9/15/2017; as of 2/15/2018, the range was 0.0-40.5% (average=8.4%). As of 12/15/2017, 15.7% of FRs initiated for a comparable time range (i.e. FRs initiated April - October 2017) were open.

Conclusion: Improved processes for FR follow-up with local health department staff has been an asset in managing a rapidly increasing DIS workload driven in part by state- and nationwide increases in syphilis. The proportion of FRs received in a timely manner has improved significantly since implementation, which has reduced the reporting delay in syphilis surveillance. Weekly open FR lists have been incorporated into routine processes, which will help timely closure of investigations in the future.

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POS 297 - T

NO STONE UNTURNED: VIRGINIA’S IMPLEMENTATION OF A WEEKLY OPEN FIELD RECORD LIST USING MAVEN

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Background: Field records (FR) that are not closed within 60 days cause delays in STD surveillance. Syphilis surveillance is particularly affected due to the need to stage infection using symptom history and partner information. In late 2016, Virginia transitioned its STD surveillance and case management system from STD/MMIS to the web-based Maven system, allowing for implementation of a weekly open FR list distributed to Disease Intervention Specialists (DIS). DIS also now have direct access to STD surveillance data that was not available with STD*MIS.

Methods: The open FR list is generated weekly using Maven denormalized tables, SAS 9.3 and MS Excel. Regional DIS coordinators receive the list via a shared, secure network folder and distribute as needed to DIS in their region. DIS then submit the requested case documentation or provide a status update on cases open more than 60 days.

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POS 298 - W

CURRENT PRACTICES AND PERSPECTIVES OF WOMEN’S HEALTH PROVIDERS ON STD TREATMENT OF SEXUAL CONSORTS

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Background: Treating sexual partners can be one of the most challenging aspects of sexually transmitted disease (STD) management. A method of partner treatment called expedited partner therapy (EPT) has proven to both increase partner treatment rates and reduce STD reinfection rates. However, uptake of EPT by providers surveyed in previous studies has been mixed. The purpose of this study is to analyze current partner treatment practices of women’s health providers and identify any perceived barriers they may have to offering treatment to sexual partners.

Methods: The researchers developed a descriptive survey from an extensive literature review on the subject of partner treatment for STDs. The survey was administered to a convenience sample of providers who regularly staff the outpatient clinics at a tertiary women’s health center in Western Pennsylvania.

Results: 28/36 (78%) providers returned the survey. 14 respondents (50%) were aware of a policy on partner treatment that had been in place for the past two years at the outpatient clinic. The most common partner treatment practice utilized by providers was referral to local STD clinics (68%). 21% of providers used the clinic’s partner referral program and 25% utilized EPT. The biggest perceived barrier to offering partner treatment was professional liability for treating partners (61%). There was statistical significance between not utilizing the clinic’s treatment policy and certain perceived barriers. Those who did not utilize the clinic’s policy were more likely to cite “knowledge of my institution’s partner treatment guidelines” (t = 2.34, df = 23, p = 0.015) and “knowledge of my institutions stance on EPT” (t = 1.84, df = 23, p = 0.04) as barriers. No relationship could be established between knowledge of state EPT laws, and provider partner treatment practices (p > 0.10).

Conclusion: Providers may benefit from well-established institutional guidance with how to approach partner treatment.

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POS 299 - T

PILOTING QUICK START CONTRACEPTION IN A NEW YORK CITY (NYC) HEALTH DEPARTMENT SEXUAL HEALTH CLINIC, OCTOBER 2016-OCTOBER 2017

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Background: Emergency contraception (EC) has been available in NYC Sexual Health Clinics (SHCs) since 2004. To augment this service, from October 10th, 2016 to October 31st, 2017, we piloted dispensing more effective contraceptive methods on day of visit. We report lessons learned from our ‘Quick Start’ pilot at one SHC.
Methods: Eligible patients were 12-52 years old, able to become pregnant, and on day of visit received EC, syphilis treatment, HIV treatment or HIV prophylaxis; had a negative pregnancy test, and were free of medical contraindications to oral contraceptive pills (OCPs) or Depo-Provera injection (Depo). They were offered 3 months of OCPs or Depo with referral to family planning centers for ongoing contraceptive care. Patients were to return to clinic for follow-up pregnancy testing 2 weeks after the initial visit. Using electronic medical record data, we compared demographics of patients who did and did not initiate Quick Start, and examined reasons for refusal.

Results: Of 160 eligible patients during the interval: 138 (86%) received EC, 17 (11%) received syphilis treatment, and 5 (3%) received antiretroviral medication. Among eligibles, most (81%; 130/160) did not initiate Quick Start. There were no significant differences between initiates and non-initiates regarding race/ethnicity (p=0.8) or age (p=0.4). Common reasons for not initiating included: lack of interest in the available methods (27% n=35) and specific preference for methods not offered (19%, n=24). Over a 7-month timeframe, 2 patients returned for pregnancy testing, thus in May 2017, home pregnancy tests were issued instead.

Conclusion: Only a minority of eligible patients initiated a method of contraception offered during the pilot. To achieve higher uptake, a contraceptive program within SHCs may require a larger menu of contraceptives, and a more acceptable means for follow-up pregnancy testing. Next steps include administering a contraceptive and reproductive health needs assessment among SHC patients to inform programmatic planning.

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POS 303 - W

ASSESSING HEALTHCARE PROFESSIONALS’ RETENTION OF CHANGES TO THE 2015 STD TREATMENT GUIDELINES AND RETESTING GUIDELINES

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1Denver Prevention Training Center, CO, USA, 2Centers for Disease Control and Prevention, GA, USA, 3University of Colorado, CO, USA

Background: In June of 2015, the CDC released the 2015 STD Treatment Guidelines with new diagnostic, treatment, and prevention recommendations for STDs. The National Network of STD Clinical Prevention Training Centers (NNPTC) is a CDC-funded network of eight regional training centers that train healthcare professionals to improve the STD care of patients. These trainings include educating healthcare providers on updates to the CDC’s STD Treatment Guidelines.

Methods: Immediately after training, participants complete an evaluation, on paper or online, to answer specific knowledge items that test their retention of the STD Treatment Guidelines. These items are only asked if the course specifically provided training content on the Treatment Guidelines. Data include responses from 382 trainings conducted between July 2015 and March 2017. A total of 3,277 participants responded to at least one knowledge item.

Results: The results of these evaluations show that 82% - 91% of participants knew the correct responses to treatment for chlamydia, gonorrhea, and syphilis in non-pregnant adults. Only 62% - 77% knew that resteting was recommended three months after chlamydia, gonorrhea, and trichomoniasis infections and 60% knew the correct screening recommendations for HIV-negative MSM. These findings were consistent among providers, regardless of the number of patients seen in a month by a healthcare professional.

Conclusion: Participants had high rates of correct responses to knowledge-based items that were not updates in the 2015 STD Treatment Guidelines. Participants had lower correct response rates to restesting items and recommendations that were updated in the 2015 Guidelines. This discrepancy was maintained in 2017. Although the guidelines have been available since 2015, there is still a low level of awareness of changes to the guidelines regarding STD care recommendations. Clinical training needs to better highlight these guideline changes to increase healthcare professionals’ awareness and knowledge about these treatment guideline changes.

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POS 301 - T

IN•CLUDED THE CLINICS: IMMEDIATE IMPACTS OF AN LGBTQ INCLUSIVE HEALTH CENTER TRAINING

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Background: Real and perceived discrimination create barriers to healthcare for LGBTQ youth, contributing to the disproportionally high rates of teen pregnancy among lesbian and bisexual young women as well as rates of new STI and HIV infections among all LGBTQ youth.

Methods: Through funding provided by the Office of Adolescent Health, Planned Parenthood of the Great Northwest and the Hawaiian Islands is implementing and evaluating IN•cluded: Inclusive Healthcare—Youth and Providers Empowered, an innovative approach to reduce unintended pregnancies and sexually transmitted infections in the LGBTQ youth population. The IN•cluded program takes a dual approach to reducing the inequitable sexual health outcomes for LGBTQ young people by providing both youth and clinic workshops. The workshop for LGBTQ youth focuses on sexual health and accessing health care. The clinic workshop, delivered in two segments, covers best practices for working with LGBTQ youth including creating a LGBTQ youth-friendly environment and ways to effectively engage LGBTQ youth in the exam room so that they feel comfortable sharing their sexual health behaviors and therefore get appropriate care.

Results: The IN•cluded clinic workshop has been delivered to 11 clinics and 202 staff members in Alaska, Massachusetts, Minnesota, Montana, Oregon, Utah, and Washington. Immediate short-term outcomes were measured using baseline and post-program surveys. Clinic staff had highly positive feedback about the program. They also had many positive outcomes including statistically significant improvements in knowledge, comfort, and desire for inclusive work environments.

Conclusion: Results suggest that the IN•cluded program has some immediate success in increasing knowledge, comfort, and desire for inclusive clinics. Other programs may be able to follow this example to help build inclusive clinics across the country.

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POS 302 - T

THE IMPACT OF BUDGET CUTS ON STD PROGRAMMATIC ACTIVITIES IN STATE AND LOCAL HEALTH DEPARTMENTS WITH STAFFING REDUCTIONS IN FISCAL YEAR 2012

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Centers for Disease Control and Prevention, GA, USA

Background: Research has shown that higher levels of US federal public health funding for STD and HIV prevention has been associated with lower levels of gonorrhea and syphilis. An analysis of program-level data may further identify how funding changes translate into programmatic-level changes that could impact STD rates.

Methods: We surveyed 311 local health departments (LHDs) and all state health departments (SHDs) in 2013-2014. Respondents were asked about staffing reductions between fiscal years (FY) 2006 and 2012. Respondents were also asked about budget cuts in FY 2012 and programmatic impacts of budget cuts. LHD responses were weighted for region, jurisdiction population, and non-response. SHD responses were assigned a weight of 1.

Results: Over all, 17.5% of LHDs and 26.9% of SHDs reported staffing reductions in FY 2012. Clinicians (64.9%) and DIS (47.6%) were the most commonly reduced in LHDs compared to DIS (57.1%) and non-managerial administrative staff (57.1%) in SHDs. LHDs with staffing reductions in FY 2012 were more likely to report that fewer STD cases other than early syphilis were followed up for treatment and fewer partner services offered for chlamydia and gonorrhea than LHDs with no staffing reductions (p < 0.05). LHDs with staffing reductions in FY 2012 were less likely to report that there were no budget cuts to the STD program than LHDs with no staffing reductions (p < 0.001). Those LHDs reporting clinical staff reductions were significantly more likely to report STD clinic closures (12.8%, 95% CI 0.0% - 30.9%) than LHDs with no staffing reductions (1.0%, 95% CI 0.0% - 3.1%) (p < 0.05).

Conclusion: These survey findings suggest mechanisms through which funding cuts to STD programs may result in higher STD rates.

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POS 303 - W

RESISTANT TRICHOMONIASIS AND THE IMPORTANCE OF COLLABORATIVE CARE TEAMS AND PATIENT CENTERED TREATMENT PLANS IN URBAN CARE SETTINGS

Amelia Goff, MSN, Alejandra Salazar, PharmD

Boston Medical Center, MA, USA

Background: Real and perceived discrimination create barriers to healthcare for LGBTQ youth, contributing to the disproportionally high rates of teen pregnancy among lesbian and bisexual young women as well as rates of new STI and HIV infections among all LGBTQ youth.

Methods: Through funding provided by the Office of Adolescent Health, Planned Parenthood of the Great Northwest and the Hawaiian Islands is implementing and evaluating IN•cluded: Inclusive Healthcare—Youth and Providers Empowered, an innovative approach to reduce unintended pregnancies and sexually transmitted infections in the LGBTQ youth population. The IN•cluded program takes a dual approach to reducing the inequitable sexual health outcomes for LGBTQ young people by providing both youth and clinic workshops. The workshop for LGBTQ youth focuses on sexual health and accessing health care. The clinic workshop, delivered in two segments, covers best practices for working with LGBTQ youth including creating a LGBTQ youth-friendly environment and ways to effectively engage LGBTQ youth in the exam room so that they feel comfortable sharing their sexual health behaviors and therefore get appropriate care.

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Conclusion: Results suggest that the IN•cluded program has some immediate success in increasing knowledge, comfort, and desire for inclusive clinics. Other programs may be able to follow this example to help build inclusive clinics across the country.

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A 42-year-old man presented to the emergency department, Wendy Stead, MD

Diagnosis of syphilitic cardioaortitis remains difficult to establish two decades, its cardiovascular complications must be considered in the right clinical context. Contact: Aniruddha Hazra / ahaazra@bidmc.harvard.edu

Case Description: A 22-year-old African American woman presented to our STD clinic with symptomatic recurrent trichomoniasis. The patient was diagnosed 2 years before. Over 18 months she received repeated two-day and seven-day courses of 2 g metronidazole without success. Culture and sensitivity tests sent to the CDC demonstrated a significant nitroimidazole resistance pattern: Patient isolate/Aerobic MLC Metronidazole 400 ug/ml Tinidazole 50 ug/ml Tinidazole 1 gram TID daily plus intravaginal paromomycin ± 14 days was recommended. The patient expressed concern about paromomycin, particularly risk of intravaginal ulcerations. The staff was concerned about treatment adherence due to trauma associated with her protracted disease course. A team of MDs, NPs and PharmDs developed an alternative medication regimen to overcome the nitroimidazole resistance. The patient received intravaginal tinidazole 500 mg daily with 3 g of oral tinidazole for 14 days. Using motivational interviewing techniques the patient received medication administration education, adherence counseling, treatment monitoring and successfully completed this course. She was asymptomatic within a week and post-treatment culture did not detect T. vaginalis parasites.

Discussion: Treating resistant Trichomoniasis is challenging given limited medication options. Here, treatment complexity was compounded by providers’ failure to review treatment history, patient anxiety about oral medications and vaginal exams. Our multi-disciplinary medical team collaborated with the patient to devise an acceptable treatment regimen highlighting the importance of collaborative medical care and individualized treatment plans. Providing multi-specialty awareness and training beyond initial curable presentations of trichomoniasis should be considered; this could lead to earlier recognition of potential treatment resistance, expediting appropriate clinical management or specialist consultation.

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POS 304 - W

LOVE IN THE TIME OF SYPHILIS: RE-EMERGING CARDIOVASCULAR COMPLICATIONS OF AN OLD FOE
Aniruddha Hazra, MD. Wendy Stead, MD
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Introduction: Syphilitic aortitis is extraordinarily rare in the age of penicillin. However as the incidence of syphilis continues to increase, its cardiovascular complications are suspected to reappear.

Case Description: A 42-year-old man presented to the emergency department with sudden onset abdominal pain localized to his lower quadrants without radiation. CT-scan of his abdomen demonstrated multiple splenic infarcts, transthoracic echocardiogram revealed an aortic mass, and chest MRI demonstrated circumferential aortic wall thickening concerning for aortitis. The patient emigrated from Cape Verde to Boston in 2005. He was a former smoker, but reported no alcohol or recreational drug use. He did endorse both male and female sexual partners and intermittent condom use.

Blood cultures remained without growth. Fourth-generation HIV screen, fungal markers, anti-nuclear antibody screen, rheumatoid factor, and antineutrophil cytoplasmic antibody were negative. Erythrocyte sedimentation rate was at the upper limit of normal (14 mm/h, n<15 mm/h) and C-reactive protein was elevated (36.9 mg/L, n<5.0 mg/L). Serum rapid plasma reagin (RPR) returned reactive at 1:64; his confirmatory Venereal Disease Research Laboratory (VDRL) testing of CSF was reactive at 1:64 with positive Treponema Pallidum Particle Agglutination (TP-PA) test also returned reactive.

On lumbar puncture, his cerebrospinal fluid (CSF) was found to have a pleocytosis (WBC 54cells/µL, n 0cells/µL) with lymphocytic predominance (88%) and elevated protein (92mg/dL, n 15-45mg/dL). Venereal Disease Research Laboratory (VDRL) testing of CSF was reactive at 1:64 with positive confirmatory testing. Intravenous aqueous crystalline penicillin G at 3million units every 4 hours was initiated for 14 days. Upon conclusion, he received two doses of intramuscular benzathine penicillin at 2.4million units weekly. Patient with non-reactive RPR three months after treatment, however CSF examinations or imaging have not been repeated due to loss of follow-up since.

Discussion: Diagnosis of syphilitic cardioaortitis remains difficult to establish. However, against the backdrop of alarming syphilis rates over the past two decades, its cardiovascular complications must be considered in the right clinical context.
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