

Abstract Book

2024 STI Prevention Conference



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Clinical Case Series

Clinical Case Series I

CCS1.1

NECROTIZING FACIAL MPOX INFECTION COMPLICATED BY PARADOXICAL IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME AND CONCOMITANT CUTANEOUS CMV INFECTION IN A PERSON WITH HIV

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Introduction: Advanced HIV and low CD4 counts are disproportionately associated with severe Mpox infections. Management of Mpox infection may be complicated by (1) worsening Mpox disease due to immune reconstitution inflammatory syndrome (IRIS) with antiretroviral therapy (ART) initiation and (2) the possibility of concomitant infections.

Case Description: A 39-year-old cisgender male with HIV (CD4+ 10 cells/mm³) not on ART developed a pustular skin lesion above his upper lip attributed to trauma while shaving. Over four weeks, the lesion progressed to multiple ulcerated lesions with severe lip swelling before coalescence into a solitary ulcer encompassing the philtrum, exterior nose and part of the left cheek with crusting and superimposed drainage. Symptoms progressed despite empiric courses of cephalexin, trimethoprim-sulfamethoxazole, acyclovir, and corticosteroids. He was admitted for concern for Mpox confirmed by PCR from the facial lesion. Tecovirimat and bictegravir-tenofovir-emtricitabine, corticosteroids and empiric antibiotics were initiated before transfer to our facility. After a 14-day tecovirimat course, no new lesions were noted, and corticosteroids stopped. Two weeks after completing tecovirimat and four weeks after ART initiation, he subsequently developed fever, new lesions on his forehead, and progression of his facial wound with necrotic changes. A second course of tecovirimat was initiated, and a biopsy of the necrotizing lesion identified cytoplasmic and nuclear inclusions consistent with CMV infection. Ganciclovir was initiated. Lesions improved though residual scarring persisted over time.

Discussion: Necrotizing Mpox infections can result in significant morbidity and mortality in people with advanced HIV. Delayed diagnosis due to lack of recognition of atypical presentations, such as on the face, can lead to progression of disease. Paradoxical worsening due to IRIS can complicate Mpox disease. In advanced HIV, multiple opportunistic infections can occur at once, and clinical worsening despite appropriate treatment of known infections requires additional diagnostic evaluation to evaluate for other concomitant infections.

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CCS1.2

MYCOPLASMA GENITALIUM ORAL ULCER DIAGNOSED BY PCR-RT IN A PATIENT USING PREP: CASE REPORT

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Introduction: The uptake of human immunodeficiency virus (HIV) pre-exposure prophylaxis (PrEP), and widespread uptake of highly effective HIV treatment show effectivity to eliminate the risk of onward HIV transmission. However, infection with other STI is a challenge in monitoring these patients.

Case Description: A 47-year-old MSM patient sought our outpatient clinic on November 6, 2023, having been a victim of sexual violence in August 2023, by a homeless stranger (anal penetration); He was already using PrEP (tenofovir disoproxil fumarate-emtricitabine TDF-FTC) since 2020. Background: treatment for anal HPV 2022 (HPV 18) and still being monitored by a proctologist. He reported having been vaccinated for hepatitis B. Physical examination was normal. Laboratory investigation were negative for HIV, HTLV1-2, hepatitis C and syphilis; positive Anti-HBsAg and Anti-HAV IgG; PCR-RT for Gonococci/Chlamydia/Trichomonas/Mycoplasma from urine and anal samples were negative. Upon return on December 4, 2023, he reported a tongue ulcer (1 cm) and a sore throat for two weeks. He sought before an STI clinic where he performed a syphilis rapid test which was negative. There he received benzathine penicillin 2.4 million units IM as a single dose, without clinical improvement. A new PCR-RT for CGMT of the oral, anal and urine sites was then requested, which was positive for oral *Mycoplasma genitalium*. Doxycycline 100 mg 2 times/day for 7 days was then prescribed, with improvement of on the 3rd day and resolution of the lingual ulcer.

Discussion: Patients using PrEP benefit from screening with diagnostic tests and treatment for bacterial STI. Doxycycline post-exposure prophylaxis (doxy- PEP) also should be evaluated for *Mycoplasma genitalium* infection.

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Clinical Case Series II

CCS2.1

A CASE OF SECONDARY SYPHILIS WITH RETINITIS AND LARYNGEAL INVOLVEMENT

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Introduction: Syphilis is a sexually transmitted infection on the rise nationally. Our case is of a 48-year-old Latina cisgender female with substance use disorder (SUD) who presented with a genital lesion, found to have secondary syphilis with laryngeal and ocular involvement.

Case Description: The patient presented to the ER with blurry vision. She felt ill over the prior 4 months with bilateral knee and ankle pain, then hair thinning, vocal and vision changes. She endorsed blurry vision bilaterally and was “seeing smoke.” She reported last sexual intercourse was 9 months prior. She had a history of homelessness, SUD with active fentanyl use and a 30-pack year smoking history. Physical exam was notable for diffuse macular rash, a left labial lesion, and a hoarse voice. Her initial workup was significant for a positive Treponemal Antibody with RPR 1:256 and elevated inflammatory markers. Head imaging showed submandibular and cervical lymphadenopathy. Ophthalmology performed a dilated eye exam and noted an afferent pupillary defect of the left eye with optic disk edema and right eye retinitis, both thought to be due to syphilis. On direct laryngoscopy, ENT found arytenoid and inter-arytenoid notch mucosal lesions, thought to be smoking vs syphilis related. She declined lumbar puncture and was treated empirically for ocular and neurosyphilis with a 14-day course of continuous infusion IV penicillin 24 million units daily. Within a few days of penicillin treatment, the patient noted significant improvement in hoarseness, vision changes, polyarthralgia, and labial pain.

Discussion: Based on clinical presentation and improvement with intravenous penicillin, we believe our patient had a case of ocular and laryngeal syphilis with coexisting manifestations of secondary syphilis (rash, condyloma lata and alopecia). Laryngeal involvement and retinitis are rare manifestations of syphilis. This case highlights rare manifestations of syphilis in an emerging, vulnerable patient population (cisgender Latinas with SUD).

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CCS2.2

SPIROCHETES IN SIGHT: PUBLIC HEALTH RESPONSE TO OCULAR SYPHILIS

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Introduction: As syphilis rates increase, complex cases are being managed by providers with variable experience managing syphilis. Massachusetts Department of Public Health (MDPH) evaluates high-consequence cases, including neurosyphilis and syphilis in pregnant individuals. Field Epidemiologists (FEs), also known as Disease Intervention Specialist (DIS) offer interviews and neurologic symptom screening for all infectious syphilis cases, and a Public Health Nurse (PHN) conducts clinical review of the DIS interview. We present a case of syphilis in pregnancy where treatment was enhanced through public health and clinical collaboration.

Case Description: A 30-year-old pregnant woman initiated prenatal care at 8 weeks gestation. She was diagnosed with early latent syphilis based upon an asymptomatic positive syphilis screening (treponemal antibody positive, RPR 1:128), and a prior negative syphilis screen seven months earlier. HIV testing was negative and she was treated with benzathine penicillin G 2.4 mu intramuscularly. During DIS interview at 11 weeks gestation, she declined partner services, but reported historic symptoms of erythematous, pruritic rash and ocular symptoms three months prior to interview. Subsequent PHN case review with the obstetrician identified that the patient had presented to an emergency department for ocular symptoms and was diagnosed by ophthalmology with non-granulomatous uveitis and received topical steroid treatment, however no syphilis testing was performed, prompting question of undertreated ocular syphilis. An infectious disease consultant recommended empiric treatment for neurosyphilis at 14 weeks in order to minimize risk of complications. The patient gave birth to a healthy term infant; maternal delivery RPR was 1:16, infant RPR was 1:4, infant received a single dose of benzathine penicillin G IM and was discharged home with the family.

Discussion: Syphilis management can be complex. Close collaboration between public health clinicians with syphilis expertise, health care providers, and clinical systems is necessary to address complex cases, ensure appropriate work-up, facilitate timely treatment, and prevent congenital syphilis.

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Oral Sessions

Oral Session (O1) - Forever Young? Identifying Strategies to Scale Up STI Youth Services

O1.1

MEASUREMENT CHARACTERISTICS MODERATING THE EFFECT OF SELF-EFFICACY ON ADOLESCENT CONDOM USE: A META-ANALYSIS

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Background: In spite of HIV/STI risk, only 52% of sexually active U.S. adolescents used a condom at last sex. In a recent meta-analysis, we identified self-efficacy as one important correlate of adolescent condom use with an average correlation of $r=.22$ across studies; significant heterogeneity was observed. Here, we build on this work by evaluating two potential measurement-related moderators of the link between self-efficacy and condom use: 1) degree of condom-specificity in self-efficacy measures, and 2) type of sexual activity assessed.

Methods: A comprehensive search was conducted using PsycINFO, Medline, CINAHL, and Communication Source databases. Studies were included if they: 1) sampled U.S. adolescents ages 13–24 ($M_{age}<19$); 2) assessed condom use and self-efficacy; 3) were conducted between 2000–2023.

Results: Thirty-eight studies with 11,160 adolescents ($M_{age}=15.34$) were included. Condom-specific self-efficacy (operationalized as percent of items specifically referencing condoms) did not moderate the association between self-efficacy and condom use (Coefficient=.002, $SE=.0017$, $p=.913$). However, the type of sexual activity assessed by the condom use measure significantly moderated this relationship [$Qb(3)=46.91$, $p<.001$], with a smaller, null effect found for anal sex ($r=-.01$, $p=.869$, $k=2$) compared to vaginal sex ($r=.13$, $p<.001$, $k=16$), vaginal and anal sex combined ($r=.13$, $p=.022$, $k=5$), or type of sex unspecified ($r=.35$, $p<.001$, $k=15$).

Conclusion: Results suggest the association between adolescents' self-efficacy and condom use differs depending on the type of sexual activity assessed. More research is needed to understand how leaving type of sex unspecified may affect condom use reporting. The nonsignificant result for condom-specificity in self-efficacy measurement aligns with developmental literature on general resiliency factors, and may suggest that bolstering self-efficacy rather than specifically condom self-efficacy is sufficient for increasing adolescent condom use.

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O1.2

TEEN-PARENT DIFFERENCES IN PERCEIVED USEFULNESS AND COMFORT WITH SEXUAL HEALTH INFORMATION — TEEN AND PARENT SURVEYS OF HEALTH, 2022

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Background: Research suggests teens and parents use various information sources to access information about sexual and reproductive health (SRH); however, gaps remain regarding how similar teens and parents' perspectives are regarding usefulness and comfort with specific sources. This study examined perceptions of usefulness and comfort with SRH information sources among a sample of teens and their parents.

Methods: The AmeriSpeak® Panel surveyed a nationally representative sample of adolescents ages 15-17 and their parents (n=522) on teen perceived usefulness of and parent comfort with 12 SRH information sources (e.g., social media, healthcare provider, website). Descriptive statistics and weighted prevalence estimates of teen perceived usefulness of (i.e., useful, non-useful, never used) and parent comfort with information sources were examined. Using dyadic data, we examined the intersection of teens' perceptions of usefulness with their parent's perceptions of comfort for each information source.

Results: According to teens, the top three useful information sources for SRH were parents (46.6%), health education classes (39.9%), and healthcare providers (HCPs) outside school (28.4%). Parents were uncomfortable with their teen seeking SRH information from social media (86.4%), a romantic partner (79.7%), or an internet search (75.0%). The sources with the highest percent of teen-parent pairs who reported both high teen perceived usefulness and parent comfort were parents (41.8%), health education classes (29.9%), and HCPs outside of school (24.7%). Many teens reported never using a romantic partner (86.7%), teen websites (82.3%), and sibling(s) (82.0%) for SRH information.

Conclusion: Findings suggest agreement between teens' perceived usefulness of and their parents' comfort with many SRH information sources. Notably, many sources that parents reported discomfort with were never used by teens. Information sources with higher perceived usefulness and parent comfort could be prioritized by schools and youth-serving providers to help build parent and teen skills for communicating about SRH.

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O1.3

“LET’S TALK ABOUT SEX”: REACHING YOUNG WOMEN 18-24 WITH SEXUAL HEALTH MESSAGING ON TIKTOK

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Background: For Gen Z, TikTok is more than a social media platform. According to Harris Poll, 63% of Gen Z TikTok-ers use the app regularly to learn; they are increasingly turning to TikTok for search over Google. With 65% of Gen Z users engaging with the app several times a day, the platform offers the potential to share accurate information about sexual health.

Methods: We partnered with six relevant TikTok creators—two OBGYNs, one pediatrician, two Gen Z content creators, and one sex educator—on a pilot project targeting women 18-24 years old on the platform. Each creator posted a 30-second TikTok aligning with current TikTok trends that highlighted the importance of STI testing as part of a healthy sex life. We worked with the policy team at TikTok to permit us to use restricted terms including “chlamydia,” “gonorrhea” and “sex,” and promoted content through platform ads over a one-month period (11/15/22 – 12/15/22).

Results: The pilot resulted in a 14.8% video view rate with 3.4M video views and 23.2M impressions. The video view rate outperformed the TikTok benchmark range of 7.26% - 10.90% by 63% compared to the average of the benchmark range (9.08%). The paid campaign drove 16.4K unique visitors to YESmeansTEST.org, resulting in 2.4K on-site clicks to search for a local STI clinic, exceeding TikTok’s average CTR by 183%. Overall, we saw high engagement on all videos, with over 3.5K comments.

Conclusion: The pilot project outperformed TikTok benchmarks and resulted in both engagement as well as action, as evidenced by the number of users who moved from the platform to search for local STI testing options. The pilot suggests the potential for TikTok as a platform to deliver sexual health information to the Gen Z demographic.

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O1.4

MYVOICE: A NATIONAL PERSPECTIVE OF YOUTH PERCEPTIONS ON THE USE OF HOME-BASED STI TESTS

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Background: Adolescents and young adults (AYAs) aged 15–24 years, account for nearly half of all new sexually transmitted infection (STI) cases in the United States. Understanding the perceptions of AYAs on home-based STI testing is critical to informing program development to reduce the growing prevalence of STIs. We aimed to understand youth perspectives on home-based STI testing to improve the accessibility and availability of home-based STI test kits for those most vulnerable to STIs and their reproductive harms.

Methods: We utilized MyVoice, a nationwide text message survey of AYA aged 14–24 years, to pose 5 open-ended questions about their perceptions and use of home-based STI tests. Two independent reviewers used content analysis to develop a codebook and analyzed the responses, and a third reviewer settled coding discrepancies. Prevalent codes, themes, and demographic data were analyzed and summarized using descriptive statistics.

Results: Seven hundred and sixty-three participants responded to at least one question. Nearly all respondents (n=695, 91%) reported that they would use free, home-based STI test kits. Participants who would not use a home-based STI test kit (n=45, 5.9%) cited concerns about test result accuracy (n=147, 21.7 %) and discomfort with specimen collection (n=232, 34.2%). Of those that cited specimen collection as a barrier, 20.9% (n=14) stated general nervousness and 19.4% (n=13) stated concerns about collection error as reasons for discomfort.

Conclusion: Our findings suggest that among our nationwide sample of youth, use of free, home-based STI test kits may be an effective option that increases access to STI testing. Barriers to home-based STI test kit use include concerns about test accuracy and discomfort with specimen collection. These insights can inform implementation strategies that aim to improve STI testing and treatment among youth in the United States.

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O1.5

QUALITY IMPROVEMENT INITIATIVE TO IMPROVE STI SCREENING IN ADOLESCENT AND YOUNG ADULT MALES

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Background: Adolescents and young adults (AYAs) account for approximately half of all new diagnoses of sexually transmitted infections (STIs) in the United States. Screening AYA males is imperative to stopping the spread of infection as well as preventing long-term sequelae. Although our AYA medical practice has consistently screened AYA females at rates above 80% annually, the baseline screening rate for males was less than 70%

Methods: Between May 2021 and October 2023, we conducted a quality improvement initiative among male primary care patients >15 years who had an annual physical within the past 3 years. Interventions included adding a bathroom sign clearly stating urine would not be used for drug testing and creating and implementing a chlamydia and gonorrhea (GC/CT) testing alert in the electronic health record (EHR) for all male medical visits. Our primary outcome was the percentage of patients who received GC/CT screening.

Results: Statistical Process Control p-chart analysis showed special cause variation with a improved GC/CT screening rates among AYA males in primary care, including significant increase in the mean screening rate from 58% to 65% with initiation of the bathroom signage intervention. Following our second intervention, rates of GC/CT screening in AYA males increased to over 75%, demonstrating a mean shift from previous results.

Conclusion: Clinic-level interventions – bathroom signage indicating urine would not be used for drug testing and an EHR prompt for clinic staff regarding need for STI testing – improved GC/CT screening rates among AYA males in primary care. A future initiative includes creating an automated reminder within the EHR for all AYA patients with overdue STI screening.

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O1.6

WHICH HEALTHCARE SETTINGS DIAGNOSE MOST STIS IN YOUTH? A DESCRIPTIVE ANALYSIS IN KING COUNTY, WASHINGTON

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Background: To improve youth sexual health services, it is important to know where youth currently receive STI-related care. Our objective was to identify the contribution of different healthcare settings to bacterial STI diagnoses among youth in King County, Washington.

Methods: We analyzed King County STI surveillance case data for chlamydia (CT), gonorrhea (GC), and syphilis (all stages) in persons aged 15-24 years reported from January 2019-June 2023. Routine surveillance data included patient age, race/ethnicity, gender identity (missing data was excluded), and diagnosing facility type. Data was obtained from both case and laboratory reporting. Healthcare settings were categorized per standard surveillance procedures.

Results: 10,258 STI diagnoses were reported, including 5,204 (52.7%) CT cases, 4,408 (43.0%) GC cases, and 646 (6.3%) syphilis cases; most were among 18–24-year-olds (81.1%). CT diagnosis was most common among White (17.5%), Black (14.8%), and Hispanic/Latino youth (10.9%), while GC was most common among Hispanic/Latino (25.2%), Black (20.9%), and White youth, and syphilis among White (26.2%), Hispanic/Latino (23.1%), and Black (19.3%) youth. Most CT cases were in cisgender females (54.6%), and most GC and syphilis cases were in cisgender males, (53.7% and 68.7%, respectively). Youth identifying as transgender or gender diverse accounted for 1.5% of CT, 2.3% of GC, and 3.9% of syphilis cases. Primary care was the most common STI diagnosing facility overall (30.7%) and for CT (23.4%), GC (29.5%) and syphilis (32.6%), followed by family planning clinics (16.3%), and emergency/urgent care settings (15.4%). STD clinics were the second most common diagnosing site for syphilis (11.8%) and contributed less to GC (9.3%) and CT (6.1%) diagnoses. School-based health centers (SBHCs) accounted for 1.8% of all STI diagnoses, including 2.7% of CT, 0.8% of GC, and 0.3% of syphilis.

Conclusion: Emergency settings may be key places to improve youth services, and SBHCs appear to be underused for sexual health.

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Oral Session (O2) - What Is New in Syphilis in Pregnancy: Diagnosis, Treatment and Policy

O2.1

COST AND COST-EFFECTIVENESS MODEL FOR SYPHILIS SCREENING AT 28 WEEKS OF PREGNANCY IN THE UNITED STATES

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Background: Congenital syphilis (CS) rates in the United States are rising dramatically. Initiating syphilis treatment during pregnancy at least 30 days prior to delivery prevents CS. Universal syphilis screening is recommended at the first prenatal visit and, if there is high local syphilis prevalence or increased individual risk, again at 28 weeks gestation and delivery. In 2022, of the 3,761 total CS cases, 197 (5.2%) occurred after initial negative screening. These cases, and cases occurring after initial positive screening with adequate treatment followed by likely reinfection, may be prevented with universal 28-week screening. As adherence to first trimester screening increases, 28-week screening will be critical to detect people with new syphilis infections as pregnancy progresses. With high enough national CS cases, implementation of universal 28-week screening nationwide could become cost effective.

Methods: Using a decision-tree model and 2021 data for reported female syphilis cases, we estimated the costs for four prenatal screening scenarios (A-No screening; B-First trimester; C-First trimester and 28-week; and D-First trimester, 28-week, and Delivery). We included all direct medical costs for testing, treatment, and CS care, and we used a healthcare system perspective.

Results: Without screening, we would expect 7,775 CS cases. Full adherence to first trimester screening alone would reduce CS to 2,594 cases at an estimated cost of \$36.39 per pregnancy. Adding universal 28-week screening nationally with full adherence would prevent another 2,159 cases at a cost of \$4,516 per case averted, an additional \$1.72 per pregnancy after considering savings from reduced CS treatment. Including universal screening at delivery was estimated to cost an additional \$17.32 per pregnancy.

Conclusion: The model suggests that given 2021 female syphilis and CS case data in the United States, universal national 28-week syphilis screening of pregnant people would be cost-effective and would prevent CS at a low net cost.

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O2.2

ADHERENCE TO EARLY THIRD TRIMESTER SYPHILIS SCREENING DURING PREGNANCY, NEW YORK CITY, 2020

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Background: Syphilis screening during pregnancy is critical for preventing congenital syphilis. In November 2019, New York City added a Health Code mandate for syphilis screening at 28-32 weeks gestation (early third trimester syphilis screening, ETTSS) to existing New York State law. We examined adherence to, and disparities in, ETTSS among pregnancies of Medicaid enrollees.

Methods: We used Medicaid claims data to identify births in 2020 using International Classification of Diseases, 10th Revision codes related to delivery outcome and gestational age. We included people ages >11 years with birth events at >32 weeks gestation, and enrollment in Medicaid for the entire pregnancy. We identified syphilis screening using Current Procedural Terminology codes and enumerated screening timelines. Using log-binomial regression, we examined differences in ETTSS by race/ethnicity, birth outcome, county, and neighborhood poverty level.

Results: Of 34,669 pregnancies identified, 29% received ETTSS. There was little difference in ETTSS comparing live births (29%; 9945/34574) to stillbirths (32%; 30/95) ($p=0.54$). Compared to pregnancies of non-Hispanic (NH) white people (22%; 1367/6316), ETTSS was higher among pregnancies of NH-Asian (25%; 878/3542; $p=0.0003$), NH-Black (28%; 1758/6277; $p<0.0001$), Hispanic (34%; 4931/14548; $p<0.0001$), and NH people of other races (24%; 714/2972; $p<0.001$). ETTSS was the highest among pregnancies of Bronx residents (37%; 3136/8369) and was significantly higher compared with Brooklyn (24%; 3127/13109), Queens (28%; 2080/7391) and Staten Island (16%; 424/1551) residents ($p<0.0001$). ETTSS among pregnancies of high/very high poverty neighborhood residents (31%; 5013/16115) was significantly higher than among those in low/medium poverty neighborhoods (27%; 4542/16992) ($p<0.0001$).

Conclusion: ETTSS was suboptimal in 2020, with seven in ten pregnancies among Medicaid enrollees not screened at 28-32 weeks gestation, and differential screening levels by key socio-demographics. Prenatal screening practices and awareness of the ETTSS mandate may have been impacted by the COVID-19 pandemic, and it will be important to track trends in ETTSS adherence over time.

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O2.3

SYPHILIS TREATMENT AND CONGENITAL SYPHILIS PREVENTION EFFORTS AMONG HIGH-RISK SYPHILIS CASES REFERRED TO A SPECIALIZED INVESTIGATION TEAM IN LOS ANGELES COUNTY, OCTOBER 2022-JANUARY 2024

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Background: Due to the alarming 20-fold rise in congenital syphilis (CS) cases in Los Angeles County since 2012, the Los Angeles County Department of Public Health (LAC-DPH) prioritizes syphilis prevention and control efforts among persons of reproductive potential (assigned female at birth, age 15-44 years). Yet 20% of these prioritized cases are unreached and untreated, which puts them at increased risk for CS outcomes. To facilitate treatment completion for these high-risk syphilis cases and their partners, LAC-DPH launched a specialized investigation team (SIT) for reinvestigation and enhanced case management. The results of the SIT reinvestigations are presented in this analysis.

Methods: Persons of reproductive potential with syphilis that were previously investigated by LAC-DPH but were unable to be reached for treatment were referred to SIT for reinvestigation between October 2022 and January 2024. We assessed socio-demographics characteristics, treatment completion and partner elicitation yield among syphilis cases referred to SIT.

Results: LAC-DPH investigated 2,369 syphilis cases among persons of reproductive potential during the project period. Of these, 102 (4.3%) were referred to SIT for reinvestigation. Nearly half of SIT cases were unhoused and 22% had at least one pregnancy that resulted in CS outcomes in the past 5 years. After the reinvestigations, 42% of SIT cases completed treatment (half were treated because of SIT efforts) and 54% who were contacted named at least one sexual partner. Five SIT cases were pregnant during SIT reinvestigations; 4 received treatment and 2 were treated in time to avert CS birth outcomes.

Conclusion: Syphilis cases referred to SIT are a vulnerable group that may be unhoused and experiencing other challenges that can impede public health intervention. Due to the SIT's intensive reinvestigation efforts, treatment completion and partner services elicitation demonstrate optimism in CS case outcome prevention.

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O2.4

TRENDS IN SYPHILIS PARTNER SERVICES OUTCOMES AMONG WOMEN AND PREGNANT PERSONS IN 6 US JURISDICTIONS, 2015-2022

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Background: Health departments prioritize women of reproductive age for syphilis partner services (PS) to prevent congenital syphilis (CS). We assessed trends in PS effectiveness outcomes among women and pregnant persons in six US jurisdictions.

Methods: We reviewed reported syphilis cases (all stages) between 2015-2022 among women linked to a CS case (CS-linked), pregnant persons not linked to CS (pregnant), or non-pregnant women (NPW) in six US jurisdictions (Florida, Louisiana, Michigan, North Carolina, New York City, and San Francisco). We calculated trends in the proportion of women who were interviewed, reported partners (named or unnamed), named locatable partners, and reported named partners treated for syphilis (preventatively, prior to PS, or due to PS).

Results: During 2015-2022, annual counts of reported syphilis increased in all groups (CS-linked +313 cases, +539.7%; pregnant +803 cases, +153.2%; NPW +5,032 cases, +186.9%). Most reported cases were assigned for PS (CS-linked 99.5%; pregnant 95.8%; NPW 85.2%) and over 90% of assigned cases were interviewed, regardless of year or group. Although the number of interviewed patients increased over time, the proportion reporting ≥ 1 partner decreased (CS-linked 90.4% to 73.5%; pregnant 91.8% to 83.9%; NPW 84.3% to 67.7%) and the proportion naming ≥ 1 locatable partner decreased (CS-linked 73.1% to 45.6%; pregnant 80.6% to 64.1%; NPW 64.9% to 40.6%). Overall, 11,802 of 25,048 named partners had treatment assured during 2015-2022, however the proportion of interviewed patients who had ≥ 1 partner treated decreased in all groups (CS-linked 42.3% to 22.5%; pregnant 44.0% to 33.9%; NPW 34.2% to 21.9%). All outcomes varied by jurisdiction.

Conclusion: As syphilis counts increased, the proportion of women and pregnant persons who reported sex partners who could be identified and were treated declined, despite receiving prioritization for PS. The biggest decreases occurred in CS-linked patients.

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O2.5

CAN SENDING BICILLIN DIRECTLY TO PROVIDERS FACILITATE SYPHILIS TREATMENT FOR PRIORITY POPULATIONS? FINDINGS FROM THE BICILLIN DELIVERY PROGRAM (SHHPDIRECTRX) IN LOUISIANA

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Background: Rates of syphilis in Louisiana have been consistently higher than the U.S. average. The recommended treatment for syphilis is Benzathine Penicillin G (Bicillin) with timely treatment critical for preventing further transmission and mitigating sequelae. Health departments obtain Bicillin at a subsidized cost. However, the cost for private providers, coupled with the short shelf life, is a deterrent for providers to keep it in stock. Patients diagnosed by private providers may be referred for treatment elsewhere and as a result may go untreated.

Methods: In January 2020, Louisiana Department of Health (LDH) implemented a Bicillin delivery program to send doses of Bicillin to eligible providers that do not keep it in stock. Eligibility criteria included having licensed staff on-site who can assess patient suitability for, and safely administer, Bicillin injections. Providers request Bicillin from LDH via phone, and a disease intervention specialist confirms eligibility, documents patient demographics and coordinates delivery.

Results: Between January 2020 – June 2023, 417 doses (2.4 million units/dose) of Bicillin were delivered to 94 providers who treated 161 patients diagnosed with syphilis (15 primary, 25 secondary, 40 early latent, and 81 late latent or unknown duration). Overall, 68% of patients (n=110) were male and 54% (n=59) of those were men who have sex with men only (MSM); 32% (n=51) were female and 49% (n=25) of those were pregnant. Most patients (69%, n=111) were aged 15-34 years; 66% (n=107) of patients were non-Hispanic Black and 25% (n=41) were non-Hispanic White.

Conclusion: Delivering Bicillin to providers in need was feasible and prevented patients from being referred to a different location for syphilis treatment. The program facilitated treatment for high priority populations (e.g., pregnant women) and populations disproportionately affected by syphilis (e.g., MSM and non-Hispanic Black persons) thus playing an important role in syphilis and congenital syphilis prevention.

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O2.6

STATE MEDICAID FAMILY PLANNING POLICIES WERE ASSOCIATED WITH DECREASED RATES OF CONGENITAL SYPHILIS

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Background: Identifying potential determinants of congenital syphilis (CS) can inform public health interventions. Family planning services reduce unintended pregnancies and prevent and treat STIs, thereby improving reproductive, pregnancy, and infant outcomes. Medicaid is a major payer for family planning services among low-income people. State adoptions of Medicaid expansion, State Plan Amendment (SPA) optional family planning eligibility groups, and Medicaid section 1115 waiver demonstration projects have increased eligibility for family planning services. We estimated how variation in state adoption of Medicaid family planning policies was related to reported rates of CS at the state-level.

Methods: The outcome variable was the reported rate of CS per 100,000 live births. Two alternative binary independent variables were defined to characterize Medicaid programs across states and years. A state was considered treated if it had adopted: 1) Medicaid expansion, or 2) a family planning section 1115 waiver, SPA, or Medicaid expansion. We estimated the average effect one- and three-years after the start of each treatment using a modified difference-in-differences estimator developed by de Chaisemartin and D'Haultfoeuille. The models controlled for state-level characteristics including race, education, poverty, unemployment, race, migration, and population change.

Results: Tests for parallel trends validated the model assumptions. Medicaid expansion alone was associated with a CS rate reduction of 3.35 (95% CI [0.69, 6.00]) in year one and 5.22 (95% CI [-2.63, 13.06]) over three years. Having Medicaid expansion or a family planning waiver/SPA was associated with reductions of 3.24 (95% CI [0.24, 6.24]) and 4.89 (95% CI [-0.02, 9.80]) over one and three years, respectively.

Conclusion: Both independent variable definitions were associated with similar declines in rates of CS. The estimated effects grew in magnitude through year 3, but only the 1-year reductions in CS were significant at the 5% level. Increasing access to family planning services through Medicaid might reduce CS.

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Oral Session (O3) - The Not So Basic Science of STIs

O3.1

EVALUATION OF A LIVE GENETICALLY ATTENUATED CHLAMYDIA TRACHOMATIS VACCINE STRAIN IN THE NONHUMAN PRIMATE FEMALE REPRODUCTIVE TRACT MODEL

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Background: *Chlamydia trachomatis* (CT) is the most common bacterial sexually transmitted infection worldwide and responsible for numerous reproductive pathologies. There is urgent need for an effective vaccine; however, these efforts have largely been unsuccessful due to our poor understanding of the human correlates of protection against CT and a lack of whole organism candidates. Our prior work identified a novel CT mutant (Δ garD) that was attenuated for growth in IFN γ -activated cervical epithelial cells and in the macaque lower genital tract.

Methods: Here, we evaluated the vaccine potential of this live attenuated strain in the nonhuman primate model. Three animals were immunized with varying titers of CT Δ garD and followed for 5 weeks with weekly cervical swabs (for CT culture and nucleic acid amplification test, NAAT) and blood draws (for CT-specific antibody and T cell evaluation). Following antibiotic-assisted resolution and a rest period, animals were challenged with a wildtype CT strain to determine the extent of protection elicited by CT Δ garD immunization.

Results: Cervical inoculation with CT Δ garD led to weak infections (peak IFU = 210) in the lower genital tract that were self-resolved by 3 weeks post-infection (wpi). This outcome was in stark contrast to a wildtype CT infection in nonhuman primates, that reproducibly achieves high bacterial burdens (peak IFU = 6,120) and sustained infections (5+ wpi). To assess protection induced by CT Δ garD immunization, we challenged immunized animals with wildtype CT and observed reproducibly weak infections (peak IFU = 320; resolved by 3 wpi) compared to wildtype infection of non-immunized animals. Cervical pathology was not observed after CT Δ garD immunization.

Conclusion: These findings demonstrate that CT Δ garD is attenuated for growth in the female macaque reproductive tract, and displays desirable characteristics of a potential vaccine strain. Our results suggest that a larger safety and efficacy study is warranted with this novel strain.

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O3.2

THE CLINICAL IMPACT AND IMMUNOMODULATION OF CONCOMITANT STIS IN SOUTH CAROLINIAN ADOLESCENTS AND YOUNG ADULT

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Background: STIs have been on a consistent rise for the last decade, with adolescents and young adults counting for half of all new infections. As overall burdens increase, a notable trend of co-occurring STIs has been documented. However, the clinical impact and immunomodulation is unknown.

Methods: To address this important knowledge gap, we performed two complementary studies. First, we performed a matched case-control chart abstraction investigation to evaluate the epidemiology of co-infections on adolescents within the Prisma Health system. Second, we performed a prospective primary data collection investigation of high risk young women to evaluate host-response to co-infections (gonorrhea, chlamydia, trichomonas, and syphilis). Sample collection included serial vaginal swabs, saliva samples, and serum obtained over five time points within a one year time period. Samples were evaluated for vaginal microbiome changes, differences in host immune regulation, and pathogen clearance kinetics by infection status.

Results: South Carolina adolescents and young women are experiencing unprecedented rates of co-STIs. Specifically, 28% of at risk patients tested positive for double infections and 8%, for triple infection: trichomonas, gonorrhea, and/or chlamydia. Notably, half of these patient with concomitant STIs were pregnant. Considerable health disparities were observed as Black women were 3.6 times more likely to have a co-infection and patients with public insurance were significantly less likely to be prescribed comprehensive treatment. Vaginal microbiome, host immune genetic upregulation, and patient immunology profiles varied by patient demographics, STI status, and epidemiologic risk factors.

Conclusion: In summary, co-occurring STIs are a growing clinical concern that have historically been a neglected area of translational research. These collective studies lay the foundation for better understanding the pathophysiology of co-STIs and these results can be used to inform tailored clinical management strategies.

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O3.3

GENOMIC EVIDENCE OF DISTINCT CHLAMYDIA TRACHOMATIS LINEAGES THAT EXHIBIT TROPISM FOR RECTAL VS CERVICAL TISSUE SITES

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Background: Recent genetic analysis of *C. trachomatis* (CT) clinical isolates from cervical, ocular, and rectal sites of infection identified regions of lateral gene transfer-mediated homologous recombination (LGTR) between strains. We reported areas of LGTR in the *pmpEFGH* gene cluster that shared sequence relatedness between rectal and ocular strains, including an expanded lineage of serovar G and J strains isolated from men who have sex with men (MSM) populations. We hypothesize that female rectal isolates may exhibit similar but different genetic features that functionally contribute to their tissue adaptation.

Methods: Specimens were collected from patients attending Seattle King County Health Department STD Clinics from 1982 through 2010. Standard monoclonal serotyping methods were utilized to initially determine serotypes. Genomic DNA were extracted from 112+ specimens and sequenced using Illumina technologies, and read data were assembled and analyzed using the Geneious software suite. A sliding-window-based approach was used to identify regions of LGT in clinical strains.

Results: Through cross-referencing genomic data with the tissue sources of the strains, we identified a distinct rectal lineage separate from known ocular, urogenital, and lymphogranuloma venereum biovars. Isolates of serovars J, D and E collected from the MSM rectum have acquired rectal-tropic signatures in the *pmpEFG* locus through LGTR, which are representative of evolving, transitional stages of tissue tropism. Sliding window analysis of transitional J, D, and E rectal strains demonstrated unique areas of recombination between cervical, ocular and rectal strains resulting in increasing tropism to the rectal site of infection. A subset of female rectal isolates displayed hybrid genetic signatures in the *pmpEFG* locus that distinguished them from MSM rectal and cervical strains.

Conclusion: These findings provide further evidence of the involvement of LGTR between urogenital, ocular and rectal strains in the evolution of CT facilitating variable anatomic site tropism leading toward increased survivability.

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O3.4

CUSTOM PHAGE DISPLAY LIBRARY TO MAP ANTIBODY RESPONSES TO SYPHILIS EXPERIMENTAL VACCINATION

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Background: Understanding the repertoire of anti-*Treponema pallidum* antibodies elicited by treponemal infection or preclinical vaccine candidates is crucial to the rationale design of sensitive, specific diagnostic tests and broadly protective vaccines.

Methods: We developed a 92,473-peptide phage display-immunoprecipitation sequencing (PhIP-seq) library to profile serum antibody reactivity to all 65 amino acid linear epitopes found in all ~1000 open reading frames from 640 whole genome sequences of *T. pallidum* strains. Following binding of serum antibodies to T7 phages “displaying” individual reactive epitopes on their capsid protein, non-reactive phages are washed away and enrichment of phage DNA encoding the bound peptides is detected by next-generation sequencing.

Results: Using PhIP-seq, we’ve shown that vaccination of rabbits with a cocktail of three variants of the OMP TprC (from strains Nichols, MexicoA, and Sea81.4) elicits 6.4-fold more enriched peptides than vaccination with a single highly similar paralog, TprD2 from strain Sea81.4 (mean 234 vs 37 enriched peptides, t-test, $p < 0.05$). Vaccination with the TprC cocktail also elicited a larger proportion of antibodies reactive to a more distantly related subfamily of Tpr paralogs.

Conclusion: These data are consistent with the TprC cocktail inducing a more polyclonal immune response than the single Tpr, TprD2, and may be associated with the more robust protection from challenge infection seen in the TprC-vaccinated group.

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O3.5

CROSS-PROTECTION AGAINST NEISSERIA GONORRHOEAE BY THE SEROGROUP B MENINGOCOCCAL BEXSERO VACCINE IS REDUCED IN CHLAMYDIA-INFECTED MICE

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Background: *Neisseria gonorrhoeae* (Ng) and *Chlamydia trachomatis* (Ct) coinfections are common and epidemiological evidence suggests that the cross-protection afforded by meningococcal outer membrane vesicle-based vaccines [MenZB, 4CMenB (Bexsero®)] against Ng is reduced in Ct-infected individuals. Here we directly tested this hypothesis by comparing the efficacy of 4CMenB against Ng in mice that were or were not pre-infected with *C. muridarum* (Cm), a surrogate mouse pathogen for Ct.

Methods: Female BALB/c mice were immunized three times with 4CMenB (2 groups) or alum (2 groups) (n = 31-39 mice/group, 2 combined experiments). Ten days after the final immunization, one vaccinated and one alum-treated group were vaginally inoculated with Cm, and 8 days later, mice were vaginally challenged with Ng. Differences in the Ng bioburden and percentage of mice colonized over 7 days in Ng-only vs Cm/Ng mice were compared.

Results: Vaccination with 4CMenB significantly accelerated Ng clearance in Ng-only mice compared to alum-only controls (p < 0.0001). A significant difference was also observed in vaccinated Cm/Ng mice versus alum-only, Cm/Ng mice (p value = 0.0007). However, the percentage of Ng-colonized, vaccinated Cm/Ng mice was significantly greater compared to vaccinated Ng-only mice over time (p = 0.003), with 74.5% of Ng-only mice culture-negative by day 7, versus 41% of Cm/Ng mice. Recovery of Ng was higher in Ng/Cm-only mice versus Ng-only mice regardless of vaccination status, and there was no correlation between the number of Cm IFU and Ng CFU recovered from mice given both pathogens. Ng-specific serum and vaginal antibody titers, serum bactericidal activity and opsonophagocytic killing titers did not differ in post-challenge samples between the groups.

Conclusion: Pre-existing chlamydial genital tract infection reduces the efficacy of 4CMenB-mediated protection against Ng in the murine model as predicted by human epidemiological studies. Investigation of the basis of this observation is underway.

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O3.6

IN VITRO ACTIVITY OF ZOLIFLODACIN AGAINST CONTEMPORARY NEISSERIA GONORRHOEAE ISOLATES FROM THE UNITED STATES

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Background: Zoliflodacin is an oral, single-dose antibiotic being developed for patients with uncomplicated gonorrhea, including those infected with multidrug-resistant strains. Zoliflodacin is a first-in-class spiropyrimidinetrione that inhibits bacterial DNA biosynthesis through inhibition of topoisomerase II. Zoliflodacin has a distinct binding mode from fluoroquinolones, allowing zoliflodacin to inhibit the growth of ciprofloxacin-resistant strains. In this study, the in vitro activity of zoliflodacin against *Neisseria gonorrhoeae* collected in the US was measured to verify continued activity against contemporary isolates.

Methods: *N. gonorrhoeae* isolates collected from 2020-2021, provided by the US Centers for Disease Control and Prevention (CDC) as part of the CDC GISP surveillance program, were tested for in vitro susceptibility to zoliflodacin and 8 comparators. Most isolates were sourced from male patients from urogenital body sites. Two additional ceftriaxone-resistant US strains, AR1280 (Nevada) and AR1281 (Massachusetts), harboring the *penA* 60.001 allele were obtained from the CDC and tested for susceptibility to zoliflodacin. Minimum inhibitory concentrations (MICs) were performed using agar dilution according to CLSI guidelines.

Results: The zoliflodacin MIC_{50/90} values were 0.06/0.12 µg/mL (MIC range ≤0.008 – 0.25 µg/mL) against 200 *N. gonorrhoeae* clinical isolates from the US. Susceptibility to ceftriaxone and azithromycin was high at 100% and 95.5%, respectively. Conversely, 10% and 64% of isolates were susceptible to tetracycline and ciprofloxacin, respectively. Against ceftriaxone-resistant isolates, AR1280 and AR1281, zoliflodacin MICs were 0.06 and 0.25 µg/mL, respectively.

Conclusion: Against *N. gonorrhoeae* clinical isolates collected in the US during 2020 and 2021, the zoliflodacin MIC_{50/90} and MIC range were consistent with potency observed during US surveillance of isolates collected during 2012-2013. Additionally, zoliflodacin MICs against isolates harboring the *penA* 60.001 allele, that confers ceftriaxone resistance, were within the wild-type MIC distribution for zoliflodacin. These data complement the recent Phase 3 results and support the continued development of zoliflodacin for patients with uncomplicated gonorrhea.

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Oral Session (O4) - R-E-S-P-E-C-T: STI Testing and Surveillance Among Women

O4.1

SMARTCHART: A FHIR-BASED OPEN-SOURCE ARCHITECTURE TO RETRIEVE AND MANAGE SYPHILIS-RELATED DATA FROM ELECTRONIC HEALTH RECORDS

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Background: Public health departments conduct case investigations and offer partner services to certain patients with syphilitic infection to reduce transmission. The Surveillance for Emerging Threats to Pregnant People and Infants Network (SET-NET) collects syphilis-related information during pregnancy to link the health outcomes of pregnant people and infants.

The adoption of data standards for coding this information and data exchange such as Fast Healthcare Interoperability Resource (FHIR) have allowed us to develop computable phenotypes to automate retrieval of relevant information from electronic health records (EHRs). We utilized a common technology stack to address two use cases: (1) syphilis case investigations; and (2) enhancing surveillance efforts for SET-NET.

Methods:

We developed SmartChart, a FHIR-based interoperable architecture that includes computable phenotypes for data retrieval, logical evaluator, standards-based open-source common data model for data storage, and results viewer. Structured data as well as unstructured data from clinician notes were retrieved.

We deployed SmartChart at the Grady Health System in Atlanta, Georgia, in September 2023. For the case investigations use case, we randomly selected 50 medical records for manual chart review and validation by an infectious disease physician. For the SET-NET use case, we tested the application with 37 test cases of syphilis in pregnancy or congenital syphilis in infants.

Results: Among the included cases, SmartChart returned data on 84% of questions answerable via EHR data. When compared with manual chart review and data validation, SmartChart successfully identified both structured (precision 99.5%, recall 99.9%, F1 score 98.8%) and unstructured (precision 94%, recall 100%, F1 score 96.9%) data. These data represented diagnoses, laboratory test types and results, treatment, and pregnancy status.

Conclusion: The modular nature of computational phenotypes and open-source common data models allowed for distinct but complementary surveillance activities leveraging the same architecture to retrieve and simplify the utilization of data, improve efficiency and enhance the data available for surveillance activities.

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O4.2

OPT-OUT STI/HIV SCREENING AMONG WOMEN OF REPRODUCTIVE AGE WHO ARE INCARCERATED, 2023

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Background: With support from the CDC's Catalyzing Congenital Syphilis Prevention (CCSP) grant, the Colorado Department of Public Health and Environment (CDPHE) partnered with three local public health agencies (LPHAs) to implement opt-out STI screening among women of reproductive age (WRA) who are detained in the county detention center. This partnership sought to increase early identification of syphilis, access to treatment and referrals, and linkage to prenatal care to decrease congenital syphilis (CS) rates.

Methods: Each LPHA provides point-of-care (POC) testing, initiates immediate treatment following a positive test, and provides education and referrals to WRA who are currently detained. LPHAs utilize their 340b designation to treat those who test positive for an STI while detained. LPHA staff collaborate with correctional staff, disease intervention specialist (DIS), and local community-based organizations (CBOs) to provide post-discharge follow-up and increase compliance and completion of treatment.

Results: Opt-out screening began in February 2022. To date, 682 WRA met the criteria and were screened. 34 were pregnant at the time of screening, 6 of whom had a new syphilis diagnosis. 174 (25.5%) of the 682 individuals had a reactive syphilis test; 105 were considered a new case, 33 were previously diagnosed but did not previously complete treatment, 28 were previously diagnosed and not considered a new case, and 8 were considered a probable case, but refused a blood draw. 80.4% of cases were adequately treated, with 95% of those being fully treated prior to release. Positivity rates for CT/GC, HIV and HCV are as follows: CT: 19%, GC: 10%, HIV .80%, and HCV: 2.34%

Conclusion: Implementing POC opt-out screening and rapid linkage to treatment in detention centers and partnering with LPHAs, correctional facilities, DIS, and CBOs for post-discharge follow-up is an effective method of identifying new STI cases and treating individuals who might not otherwise access health care in the community.

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O4.3

AT-HOME EXTRAGENITAL STI TESTING FOR INDIVIDUALS ASSIGNED FEMALE AT BIRTH IN COLORADO

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Background: The Centers for Disease Control and Prevention's Sexually Transmitted Infections Treatment Guidelines, 2021, recommend considering extragenital gonorrhea (GC) and chlamydia (CT) testing in women based on reported sexual behaviors and exposure. This study evaluates the yield of extragenital testing in individuals assigned female at birth (AFAB) accessing at-home STI screening.

Methods: Test Yourself Colorado (TYC) is an online platform that provides free mailed urine and extragenital GC/CT screening to asymptomatic Colorado clients ≥ 18 years old. Clients AFAB who ordered testing between 4/1/2022 and 12/31/2023 were included. Demographics and test results were analyzed through Stata/MP (version 18.0).

Results: Unique clients ordered 3070 kits and 1132 kits (36.8%) were returned. 1066 kits (34.7%) were processed for STI testing including 1018 urine, 222 rectal, and 843 pharyngeal. The median age was 30 (IQR 26-35) with 64.5% White non-Hispanic, 4.0% Black non-Hispanic, and 19.4% Hispanic. Combined GC/CT positivity rates were 53/1018 (5.5%), 18/222 (8.1%), and 29/843 (3.4%) at urine, rectal, and pharyngeal sites, respectively. Of those who requested both urine and rectal testing, there was complete concordance in GC infection (N=4) while 4/206 (1.9%) clients with negative urine CT had positive rectal CT. Of those who ordered urine and pharyngeal testing, 4/812 (0.5%) had negative urine GC with positive pharyngeal GC while 9/776 (1.2%) had negative urine CT with positive pharyngeal CT. 58 clients needed to be screened at both urine and any extragenital site to identify one positive extragenital infection without a concurring urine infection.

Conclusion: Although overall rates of GC/CT infection were low in at-home testers, extragenital infections accounted for a substantial number of GC/CT diagnoses that would be missed with urine-only testing. Appropriate extragenital testing in individuals AFAB can reduce transmission even if not recommended for routine testing.

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O4.4

ANTIMICROBIAL SUSCEPTIBILITY OF GENITAL, PHARYNGEAL, AND RECTAL NEISSERIA GONORRHOEAE ISOLATES AMONG MEN AND WOMEN IN SURRG, 2018-2022

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Background: Antimicrobial susceptibility patterns of *Neisseria gonorrhoeae* among women in the US are infrequently described because surveillance efforts largely focus on male urethral isolates. We examined antimicrobial susceptibility of gonococcal isolates from the Strengthening the US Response to Resistant Gonorrhea (SURRG) project by gender and gender of sex partners and anatomic site to understand how patterns may differ among cisgender women and men.

Methods: During 2018-2022, genital (urethral, urine, endocervical, vaginal), pharyngeal, and rectal gonococcal isolates were collected at eight SURRG sites. Regional laboratories performed antimicrobial susceptibility testing (AST) by agar dilution. We defined reduced susceptibility (RS) using the following minimum inhibitory concentrations: azithromycin ≥ 2 $\mu\text{g/ml}$; ceftriaxone ≥ 0.125 $\mu\text{g/ml}$; cefixime ≥ 0.25 $\mu\text{g/ml}$; tetracycline ≥ 2 $\mu\text{g/ml}$; ciprofloxacin ≥ 1 $\mu\text{g/ml}$; and penicillin ≥ 2 $\mu\text{g/ml}$.

Results: AST data were available for 2,192 isolates from 1,943 women, 7,989 isolates from 7,756 men who have sex with women only (MSW), and 9,210 isolates from 8,439 men who have sex with men (including men who have sex with men and women) (MSM). RS to ≥ 1 antimicrobial agent among isolates from women was 41% (n=901) and was comparable to RS among isolates from MSW (43%, n=3,468); RS among isolates from MSM was higher (61%, n=5,758). The percentage of isolates with RS was consistent when stratified by anatomic site for each gender and gender of sex partners. Overall, ceftriaxone and/or cefixime RS was small (n=76, 0.4%), and $\leq 0.7\%$ for each anatomic site by gender and gender of sex partners.

Conclusion: RS to ≥ 1 antimicrobial agent among isolates from women was similar to RS among isolates from MSW overall and stratified by anatomic site. Findings suggest gonococcal antimicrobial susceptibility patterns among MSW may describe patterns among women. Further research examining epidemiological, phenotypic, and genotypic data is needed to determine whether isolates from MSW can serve as a surrogate for isolates from women.

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O4.5

TRENDS IN SYPHILIS CASE RATES BY STAGE AMONG WOMEN OF REPRODUCTIVE AGE — UNITED STATES, 2013–2022

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Background: Syphilis rates among women of reproductive age (WRA) in the US correlate with congenital syphilis rates, highlighting the importance of monitoring syphilis among WRA. Although public health efforts often concentrate on primary and secondary (P&S) syphilis cases, unknown duration/late syphilis accounts for over half of syphilis cases among WRA. We assessed trends in syphilis case rates by stage among WRA to inform prevention and control.

Methods: We evaluated syphilis case notifications among WRA (aged 15–44 years) in CDC’s National Notifiable Diseases Surveillance System (50 states and D.C.) during 2013–2022 and calculated stage-specific case rates. We conducted joinpoint regression to identify differences in case rate annual percent change by stage. All rates are presented per 100,000 persons.

Results: There were 204,976 syphilis cases in WRA during 2013–2022. P&S syphilis case rates were generally lowest among all stages and increased from 1.9 to 18.5, growing on average 28.7% (95% confidence interval [CI]: 27.0%–30.3%) yearly during 2013–2022. Early non-primary, non-secondary syphilis case rates increased from 3.1 to 16.6, growing on average 20.8% (95% CI: 19.4%–22.2%) yearly during 2013–2022.

In contrast, unknown duration/late syphilis case rates were highest throughout and increased from 6.8 to 40.3 during 2013–2022, with three distinct phases of growth: initial moderate growth during 2013–2015 (6.9% per year; 95% CI: 0.9%–16.1%); faster growth during 2016–2020 (20.4% per year; 95% CI: 15.6%–27.1%) and a sharp increase during 2021–2022 (44.9% per year; 95% CI: 32.5%–54.2%).

Conclusion: Unknown duration/late syphilis in WRA increased sharply after 2020. More research is needed to understand whether this increase is due to mis-staging of early, transmissible cases, expansion of screening, COVID pandemic care gaps, or other causes. Careful histories and physical examinations are important for accurate staging to guide treatment and partner services in all syphilis cases.

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O4.6

PRIMARY AND SECONDARY SYPHILIS TRENDS AMONG NON-HISPANIC AMERICAN INDIAN/ALASKA NATIVE WOMEN OF REPRODUCTIVE AGE — UNITED STATES, 2018–2022

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Background: During 2018–2022, rates of congenital syphilis (CS), a preventable disease transmitted perinatally from a pregnant person with untreated or inadequately treated syphilis to their fetus, increased more than fivefold among non-Hispanic American Indian or Alaska Native (AI/AN) birthing parents in the United States (U.S). Given that CS can be prevented through timely treatment during pregnancy, examining the geography of syphilis among women of reproductive age (WRA) may help focus CS prevention efforts.

Methods: Using 2018–2022 syphilis case notification data provided to CDC through the National Notifiable Diseases Surveillance System, we examined primary and secondary (P&S) syphilis. We restricted our analysis to WRA (women aged 15–44 years) who were categorized as non-Hispanic AI/AN and used their county of residence at syphilis diagnosis to describe geographic trends, including estimating the proportion of cases residing in an Indian Health Service (IHS) delivery area.

Results: During 2018–2022, the annual number of P&S syphilis cases among non-Hispanic AI/AN WRA in the U.S. increased from 103 to 642 cases, reflecting a 515.3% increase in rates of reported cases (20.2 to 124.3 per 100,000 persons). Most P&S syphilis cases among non-Hispanic AI/AN WRA were reported from counties with an IHS delivery area (annually 89% to 94% of cases). Further, each year, two thirds of all P&S syphilis cases among non-Hispanic AI/AN WRA were identified in just 1% of the 3,149 U.S. counties (range 19 to 29 counties annually).

Conclusion: U.S. P&S syphilis cases among non-Hispanic AI/AN WRA are increasing and geographically concentrated. The high proportion of non-Hispanic AI/AN WRA with P&S syphilis living in or near IHS delivery areas may offer an opportunity to direct resources to maximize syphilis testing and treatment services in these areas to help prevent CS, especially given the recent IHS recommendation for annual syphilis testing among persons 13–64 years old.

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Oral Session (O5) - Put Some More PEP in Your (STI Prevention) Step Implementation Rollout

O5.1

USE OF DOXYPEP BY MEN WHO HAVE SEX WITH MEN IN ATLANTA

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Background: Use of doxycycline as post-exposure prophylaxis (DoxyPEP) is a powerful public health tool to decrease bacterial sexually transmitted infections (bSTIs) in men who have sex with men (MSM). However, standard guidelines for the implementation of this preventive therapeutic have not been established nationwide. We sought to assess DoxyPEP utilization in Atlanta.

Methods: We conducted an incentivized convenience survey in 2023 at Black Pride and Atlanta Pride festivals in Atlanta, Georgia. The questionnaire assessed sexual health practices and knowledge of STI and HIV preventive methods. Out of 749 responses, 197 were from men who had sex with a man in the past year. Out of 197 of those, 194 were complete and therefore eligible for this analysis. We performed cross-sectional analysis to identify factors associated with DoxyPEP utilization.

Results: 25% (49/194) of participants indicated that they “used doxycycline to prevent onset of a bSTI in the past 12 months”. Of those, 80% (37/49) indicated that they took doxycycline “24 to 72 hours after sex” as prescribed in *off-label* trials. Therefore, 19% (37/194) of all participants used DoxyPEP, as intended. DoxyPEP utilization was associated with recent testing for syphilis (PR=4.94 [95%CI:1.44-17.0]), for gonorrhea or chlamydia (PR=3.38 [95%CI:1.13-10.1]) and recent use of HIV pre-exposure prophylaxis (PrEP) (PR=3.2 [1.5-7.1]). There was no association with recent HIV screening or by race.

Conclusion: *Off-label* use of doxycycline as DoxyPEP is occurring amongst the MSM population in Atlanta. Use was associated with recent testing for bSTIs and use of HIV PrEP, but not with HIV screening. We found similar associations in our 2022 Pride surveys. However, we did not detect racial disparities in DoxyPEP use in this study, which is inconsistent with our 2022 results. We conclude that MSM who already access comprehensive sexual health services are more likely to utilize and benefit from DoxyPEP.

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O5.2

EARLY IMPLEMENTATION OF DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS AT PUBLIC SEXUAL HEALTH CLINICS IN BALTIMORE, MD

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Background: Doxycycline post-exposure prophylaxis (doxyPEP) has demonstrated efficacy in preventing chlamydia, gonorrhea, and syphilis among sexual/gender minorities (i.e., cisgender men who have sex with men and transgender women, SGM) in clinical trials. More information is needed about doxyPEP implementation in public health settings.

Methods: Baltimore City Sexual Health Clinics established a doxyPEP protocol in July 2023. Sociodemographic and clinical characteristics were obtained from medical records of SGM patient-visits occurring between July 1, 2023- December 31, 2023. Characteristics of SGM with and without documented doxyPEP discussions and prescriptions were compared using Chi-squared and Fisher's Exact tests.

Results: Of 6450 patient-visits during the observation period, 20.9% (1350) were among SGM. Among SGM visits, 63.0% were among Black SGM (851/1350), 46.4% (627/1350) aged 25-34 years. Overall, 11.5% (115/1350) had a documented doxyPEP discussion. Among the 407 with bacterial STI history (past 6 months), only 15.2% (62/407) had discussed doxyPEP. More doxyPEP discussions occurred among White, Latino/Latina, and other racial/ethnicity patient-visits compared to Black patient-visits (16.0%, 14.5%, 20.2%, 8.6%; $p < 0.0001$). The greatest proportion of doxyPEP discussions (23.6%) were among patients using HIV pre-exposure prophylaxis (PrEP), compared to patients not living with HIV and not on HIV-PrEP (10.1%), patients living with HIV in (10.5%) and not in care (2.2%) ($p < 0.0001$). Once discussed, doxyPEP was readily accepted- 89.0% of SGM patient-visits with a doxyPEP discussion accepted a prescription. Prescriptions did not significantly differ by race/ethnicity, age, gender identity, or HIV care/HIV-PrEP care engagement.

Conclusion: Documented discussions may underestimate actual discussions, and acceptance of doxyPEP prescriptions was high. However, early adoption of doxyPEP discussions in a public health clinic demonstrated racial disparity, reminiscent of HIV-PrEP implementation. DoxyPEP discussions should be uniform among SGM patients with a recent bacterial STI. As provider practices can be subject to bias, additional strategies are needed to ensure equitable awareness of and access to doxyPEP.

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O5.3

IMPLEMENTATION OF DOXY-PEP IN A DIVERSE SEXUAL HEALTH PROGRAM IN NORTHERN MANHATTAN

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Background: As the incidence of gonorrhea, chlamydia, and syphilis increases and disproportionately affects marginalized groups, Doxy-PEP offers hope for reducing disease burden and disparities. The NYP Sexual Health Program (NYP-SHP) provides comprehensive sexual health services at low or no cost and began prescribing Doxy-PEP in June 2023.

Methods: We reviewed the first 100 patients starting Doxy-PEP and retrospectively collected demographic data (age, race, ethnicity, HIV status, HIV-PrEP use), and gonorrhea (GC) and chlamydia (CT) results in the 12 months prior to starting Doxy-PEP. We used descriptive statistics to describe initiators of Doxy-PEP. A Chi-squared test was used to compare the overall and anatomic site-specific GC and CT rates in the 12 months before and any available time after initiating Doxy-PEP.

Results: Doxy-PEP initiators had a median age of 35.2 (IQR 31.1 – 38.6) and self-identified as Hispanic (41%), Black (20%), White (33%), and other race (38%). 85% were taking daily HIV PrEP, while 12% were living with HIV on antiretroviral therapy. 73 patients had 156 encounters in the 12 months before starting Doxy-PEP while 54 patients had 64 encounters after starting Doxy-PEP. There was no significant reduction in overall gonorrhea positivity (7.4% vs 5.9%, $p=0.7$); however, there was a significant reduction in overall chlamydia positivity (5% vs 1.6%, $p = 0.048$), primarily rectal chlamydia (14% to 1.7%). 42 patients had pre and post Doxy-PEP initiation visits included, which was driven by a reduction in rectal CT (10% vs 2.2%), demonstrating a smaller effect appreciated (3.6% vs 2.1%).

Conclusion: The NYP-SHP was able to quickly provide Doxy-PEP to underserved groups frequently left out of comprehensive sexual health services. The clinics' overall chlamydia rate decreased, mainly rectal chlamydia; a trend observed but less pronounced at the individual level. Further research is needed on implementing Doxy-PEP to ensure maximum benefit for underserved populations while reducing potential risks.

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O5.4

EARLY ADOPTERS OF DOXYCYCLINE AS POST-EXPOSURE PROPHYLAXIS TO PREVENT BACTERIAL STIS IN A REAL-WORLD CLINICAL SETTING

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Background: Doxycycline as post-exposure prophylaxis (DoxyPEP) is a novel prevention approach which has demonstrated efficacy in preventing bacterial sexually transmitted infections (STIs) in men who have sex with men (MSM) and transgender women (TGW) including people who are living with HIV and those on HIV pre-exposure prophylaxis (PrEP). We evaluated patient knowledge and interest of DoxyPEP as well as early adopters of use.

Methods: Patients presenting for HIV and STI services at a primary care and sexual health clinic in Providence, Rhode Island were asked about DoxyPEP knowledge, interest, and use. Bivariate and multivariate analyses were used to evaluate demographics and behaviors associated with these outcomes.

Results: A total of N=421 people presented for care. Of these, 314 were MSM/TGW. Fifteen percent were Black/African American, and 21% were Hispanic/Latino. A total of 50% of MSM/TGW had heard of DoxyPEP, 49% were interested, and 18% reported prior DoxyPEP use. Having a history of STI infection ever (aOR: 5.95, 95% CI: 2.69-13.13) and in the past 12 months (aOR: 2.99, 95% CI: 1.56-5.72), were all associated with DoxyPEP use. Individuals who had ever used HIV PrEP had nearly three times the odds of ever taking DoxyPEP (aOR: 2.88, 95% CI: 1.56-5.30). There was no association with using DoxyPEP and race, ethnicity, or HIV status.

Conclusion: Conclusions: Among MSM and TGW, there is already significant awareness, interest, and use of DoxyPEP to prevent bacterial STIs. Public health efforts should focus on improving access and delivery of this STI prevention intervention among MSM and TGW.

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O5.5

RAPID DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXYPEP) UPTAKE AND SUBSEQUENT BACTERIAL SEXUALLY TRANSMITTED INFECTIONS (BSTI) IN A BOSTON COMMUNITY HEALTH CENTER (BCHC)

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Background: DoxyPEP has decreased bSTI incidence in clinical trials of people assigned male at birth. We assessed doxyPEP uptake and bSTIs in a BCHC with sexual health expertise

Methods: Health record data were extracted from 1 Jan 2022 to 31 Dec 2023. We estimated doxyPEP uptake among male patients who in 2022 were diagnosed with a bSTI, prescribed PrEP, and/or people with HIV (PHIV). Chi-square tests compared sociodemographics between doxyPEP users and non-users in 2022-2023. Poisson regression was used to compute risk ratios (RRs) comparing mean quarterly STI positivity in the 9 months post-doxyPEP vs 12 months pre-doxyPEP (baseline window of -90 to +14 days of first doxyPEP prescription excluded). To assess clinic-level bSTI changes, we calculated quarterly STI positivity among all males and computed RRs comparing mean quarterly positivity in Q4 2023 vs 2022.

Results: In 2023, 1712 patients received doxyPEP. The median age of doxyPEP users was 39.6 years, with 21.0% ≤ 30 . Most (94.8%) identified as male. Over a quarter (26.1%) identified as non-white (14.6% Latine). Most (84.2%) used PrEP; 9.2% were PHIV. Compared to people diagnosed with a bSTI in 2022 who did not start doxyPEP (n=762), doxyPEP users were older (mean age, 40.4 vs 33.9, $p=0.026$); a lower proportion of users were Latine (14.6% vs 22.3%; $P<0.001$) and a higher proportion were privately insured (70.5% vs 62.8%, $p<0.001$). Among doxyPEP users, quarterly chlamydia test positivity was 66.8% lower (RR=0.33, 95%CI:0.25-0.44; $p<0.001$) and syphilis positivity 64.6% lower (RR=0.35, 95%CI:0.12-0.71; $p=0.004$) post- vs pre-doxyPEP; gonorrhea positivity was unchanged (RR=0.95, 95%CI:0.78-1.15; $p=0.751$). Clinic-level chlamydia positivity in Q4 2023 was 26% lower (RR=0.74, 95%CI:0.63-0.87; $p<0.001$) compared with 2022; syphilis and gonorrhea were unchanged.

Conclusion: In a BCHC, doxyPEP uptake was associated with decreased chlamydia incidence clinic-wide, and decreased chlamydia and syphilis incidence among doxyPEP users.

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O5.6

AWARENESS AND ATTITUDES OF DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS AMONG BATHHOUSE CLIENTELE

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Background: Doxycycline post-exposure prophylaxis (doxyPEP) is a novel biomedical intervention which can decrease bacterial STIs, especially among high burden populations. We examined awareness of and attitudes towards doxyPEP among patrons of Steamworks, a collective sex venue with US and Canadian locations.

Methods: An anonymous, web-based survey was sent to the Steamworks newsletter list-serve to assess demographics, self-perceived STI risk and worry, as well as doxyPEP awareness, perceptions, and concerns between December 12, 2023 through March 12, 2024.

Results: A total of 135 surveys were analyzed. Participants identified as: 39.1% aged 18-49 years, 73.6% White, 80.2% gay, 16% bisexual, 93.2% with some college education, 14.1% with HIV. Three-fourths (73.7%) reported ever taking HIV PrEP, and of 93 (77.5%) reporting STI testing in the past 3 months, 25.8% (24/93) reported testing positive. Nearly two-thirds (61.5%, 83/135) of all respondents were aware of doxyPEP with the majority citing friends (28.9%) and medical providers (21.5%) as primary sources of information. Of those aware of doxyPEP, 44.6% (37/83) reported current or past use; 13.5% (5/37) reported experiencing an allergy or side effect related to its use. Respondents listed adverse effects on health (34.1%) antimicrobial resistance (37.8%), drug-drug interactions (17%) as potential concerns regarding doxyPEP; notably, 15.6% (21/135) did not have any concerns using doxyPEP. Respondents agreed that more people in their community should be aware of and take doxyPEP (86.8%), that sex partners would support use (75%), and that they would feel more confident if their sex partners took doxyPEP (83.6%).

Conclusion: Clientele of a large collective sex venue held generally positive attitudes about doxyPEP despite some concerns. Multiple public health agencies have recognized the critical role of doxyPEP in STI prevention. Bathhouses could be ideal locations for community-led implementation to help adapt city-wide sexual health messaging and service delivery in real-time during this pivotal public health period.

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Oral Session (O6) - Well, This Is a Surprise: Non-Traditional Settings for STI Testing and Services

O6.1

ADDING NALOXONE DISTRIBUTION TO AN EXISTING ONLINE HIV/STI SELF-TESTING PROGRAM IN SAN FRANCISCO

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Background: TakeMeHome is an online ordering platform for mailed HIV/STI self-collection and lab-based testing which launched in 2020 and is active in 30 locations across the US. We are interested in expanding support for drug user health amongst participants currently accessing sexual health services.

Methods: Working with our partners at San Francisco Department of Health (SFDPH), we implemented an option to add a free Naloxone kit after they completed their order process. Staff at SFDPH were able to procure Naloxone and manage shipping based on weekly order reports received from TakeMeHome.

Results: From July 2023 through February 2024, among 823 orders placed in San Francisco, 498 (61%) accepted the offer of free naloxone. Among that group, 287 (58%) also had a Hepatitis C test included as part of their order, based on a risk questionnaire in the ordering process. Among those that ordered naloxone, 45% identified as white, 21% as Asian, 19% as Latino, 11% as Black, 1% as Indigenous, and 1% as other. 50% identified as cis men, 42% as cis women, and 8% as trans or nonbinary. 12% had never tested for HIV and 33% had not tested in at least a year. 9% reported being on PrEP. In our open-ended feedback, we received the following comments: “This is amazing and I so appreciate the Narcan option!!” and “I like that you also included Narcan. I actually had to use the dose I previously had on a friend and now I need another one.”

Conclusion: With a 61% uptake, this pilot has demonstrated demand for this free service. We hope to expand the offer to other TakeMeHome locations, and include procurement and shipping through our regular process in the future.

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O6.2

CLIENT PERSPECTIVES ON A NOVEL SELF-COLLECTION SCREENING INITIATIVE FOR SEXUALLY TRANSMITTED INFECTIONS IN THE EMERGENCY DEPARTMENT

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Background: Rising rates of sexually transmitted infections (STIs) remain a significant public health concern, particularly among underserved populations in urban areas who rely heavily on emergency department (ED) services. At-home STI self-screening has been proposed to address stigma and gaps in healthcare access, but it is limited by cost and lack of awareness. A large, urban ED in Chicago implemented no-cost, confidential self-screening for gonorrhea, chlamydia, and trichomoniasis through testing stations placed in ED bathrooms.

Methods: An optional, anonymous survey was available to participants in the self-screening program utilizing a QR code on the testing stations. Participation was incentivized via raffle for \$25 gift cards. Surveys elicited basic demographic information and experiences with and opinions about various STI screening modalities. Surveys were not linked to participants' STI screening results. Data were summarized using basic descriptive statistics.

Results: From September 2023 to March 2024, 45 individuals participating in STI self-screening completed the survey. Of these, 16 (35.5%) identified as male and 29 (64.5%) as female, and 39 (86.7%) identified as Black. One third of participants reported they would not have sought testing for STIs if not for the self-screening program. According to 28 (62.2%) participants, self-collection was "better" than going to a clinic for testing, and "better" than home testing for 20 (44.4%). 38 (84.4%) participants reported it was somewhat or very easy to use the testing station, citing convenience (81.6%) and avoiding discussion of embarrassing topics (50.0%). 39 (86.7%) reported they would "probably" or "definitely" be interested in using such a program again.

Conclusion: Self-screening for STIs in the ED was highly acceptable to patients using the program and reached individuals who would not otherwise have been screened. Further research should explore the long-term sustainability of this STI screening approach and its effect on STI diagnosis among high-priority populations.

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O6.3

OUT OF THE CLINIC: A LOCAL HEALTH DEPARTMENT AND COMMUNITY PHARMACY COLLABORATION TO ADDRESS STIS

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Background: Community partnerships help STI clinics redistribute demand for services, reduce patient wait times, and expedite time to treatment. Richmond Henrico Health Districts (RHHD) and Bremo Pharmacy collaborated to develop and pilot an STI service model for referrals. RHHD referred patients to Bremo for treatment, including those with chlamydia and gonorrhea (CT/GC), patients diagnosed with latent syphilis to receive additional Benzathine penicillin G (BP) doses, and partners of patients who tested positive for CT/GC (Expedited Partner Therapy (EPT)).

Methods: RHHD and Bremo developed a protocol and workflow for referring and integrating STI treatment at the pharmacy. Eligible RHHD patients with STIs were given the choice to receive treatment at Bremo. Patient eligibility was determined by a positive test result for either CT/GC, or a latent syphilis diagnosis (for 2nd and 3rd BP doses). Once patients opted in, RHHD staff scheduled appointments through the pharmacy's online portal, and prescriptions were sent to Bremo. If patients had EPT-eligible partners, additional prescriptions were sent. Patients bore no cost. RHHD and Bremo recorded/tracked patient data in a secure REDCap database.

Results: During the pilot period (Dec '22—Sept '23), 83/100 eligible patients accepted a treatment referral to Bremo: 37 for chlamydia, 32 for gonorrhea, 5 for syphilis, 7 for comorbid CT/GC, and 9 for other infections. Of those referred, 75 received STI treatment (including 9 BP doses), 16 were linked to PrEP, 1 received nPEP, and 16 EPT partners received treatment. Anecdotal reports from patients suggest they preferred the shorter visit time at the pharmacy over RHHD (5-10 min vs. 1-hour). Challenges with uptake included patient unfamiliarity with Bremo and the need for a referral champion at RHHD.

Conclusion: Integrating community pharmacies into STI clinic treatment and referral models is feasible. Plans for expansion include the addition of a 340B-eligible pharmacy more conveniently located to Richmond City patients.

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O6.4

YOUR CHOICE: 24/7 ACCESS SEXUAL, REPRODUCTIVE, AND DRUG USER HEALTH SUPPLIES VIA HARM REDUCTION VENDING MACHINES IN RHODE ISLAND – A TWO-YEAR PILOT PROJECT

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Background: The Rhode Island Harm Reduction Vending Machine (RIHRVM) pilot program was one of the first programs of its kind in the United States. Using an innovative syndemic approach, the vending machines provide supplies that support the health of people who use drugs, prevents transmission of sexually transmitted diseases, including congenital syphilis, and much more.

Methods: We analyzed two years of data from RIHRVM pilot program between January 1, 2022 and December 31, 2023. At each transaction, the date/time, location, client code (when applicable), and product dispensed was recorded. This analysis used descriptive statistics to compare the total transactions, types of products vended, transactions by day of week, and transactions by time of day for each of the 12 vending machines in operation during the pilot program.

Results: The vending machines are being well utilized by targeted client populations (i.e., people who use drugs that are accessing SUD care, clients of harm reduction programs, low-income, and justice-involved) in various settings (i.e., SUD site, FQHCs, transit hub, SSP site). The popularity and selection of products varies across settings illustrating that all products are in demand and that providing a comprehensive set of products is important. For example, safer injection kits are the most popular item at syringe services fixed sites and condoms are consistently accessed across all locations. Utilization of the vending machines is occurring 24/7, confirming that day/evening/night/ weekend access should be supported.

Conclusion: We recommend that the RIHRVM program be sustained and expanded.

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O6.5

NURSE-LED SEXUAL HEALTH CLINIC IMPLEMENTATION IN AN FQHC

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Background: Sexually transmitted infections (STIs) greatly impact both mental and physical health. STI/HIV(Human Immunodeficiency Virus) rates in Baltimore City are well above national averages. To address this, Chase Brexton Health Care (CBHC), a Federally Qualified Health Center in Baltimore City, established a registered nurse (RN) led sexual health clinic (SHC) funded by the CDC (Centers for Disease Control and Prevention) Enhancing STI and Sexual Health Clinic Infrastructure (ESSHCI) cooperative agreement. The CBHC SHC provides STI testing/treatment and counseling, HIV PrEP (Pre-Exposure Prophylaxis) starts, and contraception/emergency contraception starts under an RN-led model.

Methods: CBHC implemented protocols and standing orders to shift basic sexual health services to RNs. These services include STI/HIV testing, treatment, and counseling, presumptive treatment, HIV PrEP starts, contraception starts, and emergency contraception starts. The clinic opened on 1/22/2024. Visit and safety data for the first two months was obtained by chart review.

Results: The CBHC SHC saw 190 patient visits from 1/22/2024-3/22/2024. Existing CHBC patients accounted for 106 (72%) of visits while 41 (28%) were community patients. PrEP starts accounted for 15 (8%) of visits, of which 3 (20% of PrEP starts) were in people assigned female at birth, 3 (2%) visits were to start contraception, and 87 (46%) were for treatment. Of the treatment visits, 31 (36%) were for known exposures, 42 (48%) were for a positive result, and 14 (16%) were for presumptive treatment of which 6 (42%) returned positive results. Per chart review by the overseeing NP, there were no major safety concerns.

Conclusion: The results from the first two months of the CBHC SHC show that implementing an RN-led sexual health clinic model is feasible and safe. This model has the potential to increase routine STI screening, treatment of STIs, PrEP starts, and other sexual health services without extra burden on providers.

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O6.6

VIRTUAL PARTNER SERVICES – IS THIS THE FUTURE OF PARTNER NOTIFICATION?

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Background: Traditional partner services (PS) for syphilis involves interviewing people diagnosed with syphilis to enable partner notification of exposure and facilitate access to testing and treatment. Interviews are typically conducted in-person or by phone with a disease intervention specialist (DIS). Technological advancement has now allowed for an additional method: virtual partner services (VPS) utilizing secure software with live video.

Methods: In June 2022, VPS was piloted in two public health regions in Louisiana. Patients were allowed to choose between an in-person, phone, or VPS interview. Those choosing VPS received a secure link via text or email that provided access to a virtual meeting room with the DIS. We compared PS indices (number of partners identified and number tested and treated) by type of interview method.

Results: During July 2022 - June 2023, 766 early syphilis cases (male=577; female = 189) were reported from the pilot regions and 535 (70%) were interviewed: 26% (138/535) in-person, 50% (266/535) by telephone, and 24% (131/535) by VPS. A total of 110 partners were identified from in-person interviews yielding a partner index of 0.8 (110/138); telephone interviews yielded a partner index of 0.3 (82/266) and virtual interviews yielded a partner index of 0.6 (73/131). In-person interviews resulted in 46 partners newly diagnosed with syphilis and treated or preventively treated yielding a treatment index 0.3 (46/138); telephone interviews resulted in a treatment index of 0.1 (36/266) and VPS resulted in a treatment index of 0.3 (38/131).

Conclusion: VPS resulted in higher partner indices than telephone interviews for both identifying and treating infected partners and preventively treating partners at risk of syphilitic infection. While VPS partner indices were similar to those resulting from in-person interviews, VPS is more efficient and less expensive as travel is not required. VPS can be an effective option for providing partner services.

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Oral Session (O7) - Sexual Health in Trans- and Gender Diverse Populations

O7.1

BACTERIAL STI TESTING AND DIAGNOSES AMONG TRANSGENDER WOMEN — TRANSGENDER WOMEN'S INTERNET SURVEY AND TESTING, 2022–2023 CYCLE

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Background: Transgender women (TGW) are at high risk of bacterial sexually transmitted infections (STI). Testing and diagnosis are critical to bacterial STI prevention and control but estimates of bacterial STI testing and diagnoses among U.S. TGW are sparse. We evaluated self-reported bacterial STI (gonorrhea, chlamydia, and syphilis) testing and diagnoses in the past 12 months among sexually active TGW.

Methods: We analyzed data from the Transgender Women's Internet Survey and Testing (2022–2023 cycle), an online survey of TGW. The analytical sample included TGW ≥ 15 years old who reported sex in the past 12 months. We calculated unadjusted prevalence ratios (PR) and 95% confidence intervals (95% CI) using log-binomial regression.

Results: Among 3057 TGW, 33.1% reported bacterial STI testing and 15.7% reported ≥ 1 bacterial STI diagnosis (gonorrhea=9.4%; chlamydia=8.5%; syphilis=6.3%). Most samples for testing were urethral (80.5%), followed by rectal (31.2%), pharyngeal (34.8%), and neovaginal (3.0%). STI testing was positively associated with condomless anal sex (CAS) (PR=1.49, 95% CI=1.35–1.65) and gender identity disclosure to a healthcare provider (PR=2.25, 95% CI=1.80–2.82) but negatively associated with younger age (PR=0.72, 95% CI=0.60–0.85) and moderate/severe depression (PR=0.78, 95% CI=0.71–0.87). No statistically significant racial differences in testing were observed. STI diagnosis was greater among Black (PR=2.28, 95% CI=1.58–3.29) and Hispanic TGW (PR=1.55, 95% CI=1.01–2.38) compared to white TGW. CAS (PR=1.51, 95% CI=1.12–2.04), moderate/severe depression (PR=1.55, 95% CI=1.16–2.09), alcohol use disorders (PR=1.65, 95% CI=1.20–2.26), and HIV status (PR=4.51, 95% CI=3.34–6.09) were associated with STI diagnosis.

Conclusion: TGW in this sample reported a low bacterial STI testing prevalence but high STI diagnosis prevalence, with heterogeneity in testing and diagnosis prevalence by socio-demographic and behavioral factors. STI prevention interventions tailored to TGW are needed to increase testing and detection, prevent new STIs, and reduce disparities in this population.

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O7.2

A COMPARISON OF PREP KNOWLEDGE AMONG INDIVIDUALS OF DIFFERENT GENDER IDENTITIES AND SEXUAL ORIENTATIONS

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Background: The CDC estimates that one in every 50 transgender individuals is living with diagnosed HIV. Pre-exposure prophylaxis (PrEP) reduces the risk of contracting HIV through sex by over 99%. Less is known about transgender individuals' attitudes towards PrEP than attitudes among cisgender men who have sex with men (MSM). Sex and gender are frequently blurred in the literature and the conflation of transgender women with MSM obscures specific needs of the transgender population, including lack of trans-specific marketing of PrEP.

Methods: Given the lack of information available regarding specific knowledge toward PrEP, especially among transgender individuals, a PrEP knowledge survey was collected from individuals participating in Colorado-based Pride month events over two years. 130 individuals answered a series of true/false items about PrEP, including items specific to PrEP efficacy, eligibility, safety, and the interaction between gender-affirming hormones and PrEP.

Results: Among respondents who had heard of PrEP (79%), one-way ANOVA analyses revealed that cisgender MSM had the highest overall scores and were significantly better-informed than transgender women. Heterosexual cisgender women and transwomen had the least accurate responses. "Don't know" responses (40-50%) were most common for novel items related to transgender-specific PrEP information. Median splits were used to create four knowledge categories. Transwomen respondents were all either "poorly informed" or "underinformed," while all other groups had individuals in the "well-informed" cluster.

Conclusion: Survey findings highlight the need to distinguish between transmen and transwomen in preventive care settings addressing sexual health, rather than considering all transgender individuals as a homogenous entity. They also emphasize the need to consider both gender identity and sexual orientation in the provision of preventative care for HIV. The results support an extension messaging about HIV prevention beyond targeting MSM to ensure that all individuals at risk for contracting HIV are well-informed about the benefits and relatively safety of PrEP usage.

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O7.3

DYNAMICS OF GENDER IDENTITY WITH STI DIAGNOSES AND BEHAVIORAL OUTCOMES AMONG SEATTLE SEXUAL HEALTH CLINIC ATTENDEES, 2016-2023

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Background: Non-binary/genderqueer (NB/GQ) individuals are a distinct but understudied population within the LGBTQ+ community. We sought to characterize sociodemographics, behaviors, and STI outcomes for NB/GQ Sexual Health Clinic (SHC) patients.

Methods: We used Seattle-King County SHC data from 2016-2023 to examine temporal changes in gender identity. We compared sociodemographic characteristics among Cisgender, Transgender, and NB/GQ patients using chi-squared tests. We used generalized estimating equations to compare NB/GQ to both Cisgender men who have sex with men (MSM) and Transgender patients for incident syphilis, urogenital gonorrhea, rectal chlamydia, methamphetamine use, and non-prescribed injection drug use.

Results: Of 82,384 visits between 2016-2023, 1672 (2.0%), 867 (1.1%), and 79845 (96.9%) were among NB/GQ, Transgender, and Cisgender patients, respectively. The proportion of visits among NB/GQ and Transgender patients increased over time, from 0.7% to 3.5% and 0.7% to 1.7%, respectively ($p\text{-trend}<0.001$). NB/GQ identity was more frequent among patients assigned female vs. male sex at birth (3.2% vs 1.8%, $P<0.001$), younger vs older patients (14-25 years: 3.1% vs 46+: 0.2%, $p<0.001$), and patients of White (2.3%) vs Black (1.0%) race ($p<0.001$). We found no significant differences in injectable drug and methamphetamine use across NB/GQ, Cisgender MSM, and Transgender patients. In models adjusted for age, sex assigned at birth, race, ethnicity, insurance, and housing status, we observed a slightly lower prevalence of syphilis among NB/GQ patients (aPR:0.98, 95% CI:0.97-0.99) compared to MSM. STI outcomes did not differ between NB/GQ and Transgender patients.

Conclusion: Given rapidly increasing gender diversity among clinic attendees, continued monitoring of behaviors and STI outcomes of distinct gender-diverse groups is imperative to tailor STI and HIV prevention strategies appropriately.

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O7.4

ATTITUDES AND BARRIERS AROUND MPOX VACCINATION AMONG MSM, TRANSGENDER, NON-BINARY, AND GENDER DIVERSE INDIVIDUALS IN NYC, 2023

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Background: New York City (NYC) was the US epicenter of the 2022 global mpox outbreak among gay, bisexual, and other men who have sex with men (MSM). Limited research has explored reasons and barriers to vaccination.

Methods: We conducted a cross-sectional survey (June-December 2023) among a purposive sample of MSM, transgender, non-binary, and gender-diverse individuals who have sex with men, recruited primarily from outdoor venues in neighborhoods with large LGBTQ+ populations in NYC. Descriptive analyses were conducted using data from questionnaires.

Results: Of 570 persons screened, 308 participants were enrolled from 16 venues. Median age was 37 years with 72% identifying as cis-male, 58% gay/same-gender loving, 36% White, 24% Black, 18% multi-racial, 11% Latinx, and 6% Asian. Overall, 56% reported receiving at least one mpox vaccine dose. Top reasons for vaccination were: “To protect myself and my community” (51%); “People in my social network were getting vaccinated” (36%); and “Recommendation from my healthcare provider” (19%). Top reasons for not receiving the vaccine were: “I do not think I am at risk for mpox” (19%); “I do not know where or how to get vaccinated” (13%); “I am worried about the vaccine side effects” (11%); and “Mpox cases are low in New York City” (11%). Among unvaccinated participants with low confidence in their ability to access a vaccine (n=29), top barriers were: “Not knowing where to get vaccinated” (72%); “Getting an appointment” (38%); “Vaccine sites are not open at convenient times” (24%); “Vaccines are currently not available in my area” (24%); and “Do not think I am eligible” (21%).

Conclusion: Protecting oneself and one’s community were major reasons for mpox vaccination. Low risk perception and structural barriers were key reasons for not receiving the vaccine. Continued efforts to raise awareness and reduce barriers may enhance mpox vaccination acceptance and uptake.

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O7.5

AMONG GENDERQUEER ADULTS, PERSONAL BARRIERS MEDIATE THE RELATIONSHIP BETWEEN DEMOGRAPHIC CHARACTERISTICS AND STI TESTING

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Background: STI rates are at an all-time high. A critical component of STI control is testing. Some populations, including genderqueer, rural, and racial/ethnic minority adults, are less likely to be tested compared to others. Barriers to testing may play a mediating role in the relationship between these demographic characteristics and testing rates.

Methods: We recruited 480 genderqueer adults using social media from a five-state region in the mid-Atlantic US. Eligible participants were 18 years or older and identified as transgender or nonbinary. Via an online survey, participants reported their demographics, history of STI testing, and personal barriers to getting tested for STIs. Barriers included concerns about gossip, disgracing family, being perceived as "dirty," being seen at a testing facility, along with financial concerns and consequences of a positive test result. We evaluated whether a summative index of these barriers act as a mediator between race/ethnicity, rural status, gender identity and STI testing within the past year. Mediation paths were estimated using linear and modified Poisson regression and the indirect effects were estimated using the Monte Carlo method.

Results: Among participants, 50% lived in a rural county. 62% identified as nonbinary, 21% trans men, and 17% trans women. 20% were non-Hispanic Black and 7% Hispanic. Median age was 26. 33% were tested for STIs in the past year. The indirect effects of being rural, Black, and transgender on STI testing mediated through barriers were significant [PR: 0.91 (95% CI: 0.82, 0.98), 0.88 (0.77, 0.97), and 0.88 (0.76, 0.97) respectively].

Conclusion: These findings reveal that personal barriers vary by demographics and act as a significant mediator on the pathway to STI testing. Addressing or removing these barriers may improve STI testing rates among transgender women and rural and Black adults. Future interventions should consider targeting these barriers among this underserved population.

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O7.6

CORRELATES OF STI UPTAKE AND DIAGNOSES AMONG TRANSFEMININE PEOPLE

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Background: Transgender women and transfeminine individuals face barriers to healthcare access, including STI testing. We assessed the association between individual, socioeconomic, and structural factors and STI testing in this population.

Methods: We analyzed cross-sectional data from the Transgender Women's Internet Survey and Testing study, conducted from June 2022 to October 2023. A total of 3,314 participants were recruited via social media who were U.S. residents; assigned male at birth; identified as female, transgender women, or transfeminine nonbinary; and had a history of sexual activity. Participants reported on demographics, healthcare access, behavioral and psychosocial factors, and history of STI testing. Multivariable Poisson regression with robust variances was employed to estimate prevalence ratios (PRs) and 95% confidence intervals (CIs) for factors associated with STI testing.

Results: Participants had a mean age of 30.4 years, with 72.3% identifying as non-Hispanic white. Half (50.2%) reported ever testing for bacterial STIs. Factors positively associated with STI testing were age above 24 years (e.g., PR=1.16, 95% CI: 1.04-1.30 for ages 25-29 vs <24), healthcare provider visits in the past year (PR=1.63, 95% CI: 1.28-2.08), use of hormonal therapy (PR=1.32, 95% CI: 1.18-1.47), and HIV PrEP usage (PR=2.35, 95% CI: 2.10-2.63). Lower education levels (e.g., high school or lower, PR=0.70, 95% CI: 0.63-0.79) and significant depressive symptoms (PR=0.78, 95% CI: 0.69-0.88) were negatively associated with testing. No significant associations were observed with race, employment, income, insurance status, or substance use.

Conclusion: This study's findings underscore gaps in the provision of HIV testing for transfeminine individuals based on age, education, healthcare access, hormonal therapy, and HIV prevention practices. Depressive symptoms significantly hinder STI testing, highlighting the necessity for integrated mental and sexual health support, including personalized counseling and educational programs. Such integrated care has the potential to improve STI testing and sexual health outcomes.

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Oral Session (O8) - Shake It Off: Swift Solutions and Advancements in STI Testing

O8.1

COMPARING THE SENSITIVITY OF STRATEGIES TO MONITOR THE PREVALENCE OF TETRACYCLINE RESISTANCE IN *NEISSERIA GONORRHOEAE*

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Background: Doxycycline post-exposure prophylaxis (Doxy-PEP) reduces bacterial sexually transmitted infections (STIs) among men who have sex with men (MSM) and transgender women (TGW) with a recent history of STIs, leading to its implementation across the United States. There is concern that increased use of doxycycline, a tetracycline class antibiotic, will increase resistance in *Neisseria gonorrhoeae*, highlighting the need for strategies that efficiently monitor the prevalence of resistance.

Methods: We developed a mathematical model to compare two strategies to sample gonorrhea isolates for tetracycline susceptibility testing: (1) phenotypic testing of cultured isolates and (2) PCR for *tetM*, which correlates with high-level tetracycline resistance (8µg/mL), in remnants from Nucleic Acid Amplification Tests (NAATs) used for gonorrhea diagnosis. With a starting prevalence of 10.4% high-level tetracycline resistance, we simulated varying doxy-PEP update scenarios (10-90% of the population). We sampled 25 monthly cultured samples, consistent with the levels monitored as part of the CDC's Gonococcal Isolate Surveillance Project, and sampled from 5-80% of positive NAATs. For each sampling strategy, we implemented 100 simulations and estimated the time it would take to be 95% confident that high-level tetracycline resistance had crossed resistance thresholds ranging from 11% to 30% of all infections.

Results: While both strategies produced similar estimates of the resistance proportion, *tetM* PCR from remnant NAATs had narrower confidence intervals than phenotyping cultured isolates, attributable to the much larger numbers of specimens available for PCR than phenotyping. To be 95% confident that high-level tetracycline resistance crossed the 15% threshold took 1 month when sampling 20% of remnant NAATs versus 10 months with 25 monthly cultured samples (representing 0.2-1.0% of observed symptomatic infections, depending on incidence).

Conclusion: Given the substantially larger available sample size, PCR for *tetM* in remnant NAATs detected increased high-level tetracycline resistance with high confidence faster than phenotypic testing of cultured specimens.

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O8.2

TREPONEMA PALLIDUM NUCLEIC ACID AMPLIFICATION TESTING DOES NOT IDENTIFY SERONEGATIVE CASES OF SYPHILIS

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Background: Serological testing for syphilis may fail to identify infections in persons with incubating syphilis who have yet to produce antibody. Screening patients with incubating syphilis using a nucleic acid amplification test could identify infected patients before they become RPR positive.

Methods: We used an experimental transcription-mediated amplification (TMA) assay for *Treponema pallidum* (TP TMA) to test remnant sera and rectal and pharyngeal swabs from persons assigned male at birth and transgender men who have sex with men (MSM) seeking syphilis screening in a sexual health clinic in Seattle, WA, USA, March 2022 to May 2023. The study population excluded persons with primary or secondary syphilis.

Results: A total of 1,247 persons underwent screening using the TP TMA. Screening included testing of 1,208 sera, 1,013 rectal swabs, and 1,145 pharyngeal swabs. Nineteen (1.4%) participants had RPR positive latent syphilis. Fifteen had early latent syphilis, 3 (20%) of whom had at least one positive TP TMA, and 4 had latent syphilis of unknown duration, none of whom had a positive TP TMA. Five (0.4%) of 1,228 RPR negative or serofast participants without a clinical syphilis diagnosis had a positive TMA test, all of whom had TMA positive rectal specimens. Among these persons, 3 were RPR negative at enrollment and had repeat negative RPR tests 62-135 days after TMA testing; we classified these 3 cases as uninfected. One participant was serofast at enrollment, TMA positive, and had a decline in his RPR after receiving ceftriaxone and doxycycline for exposure to gonorrhea at enrollment; we classified this person as being of uncertain syphilis status. The final participant was RPR negative/TMA positive at enrollment and was lost to follow up.

Conclusion: Integrating TP TMA screening into standard serological screening does not identify MSM with early, seronegative syphilis.

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O8.3

SINGLE-USE GRAPHENE BIOSENSORS FOR RAPID, LOW-COST, DETECTION OF CHLAMYDIA AND GONORRHEA FOR USE IN POC AND OTC SETTINGS

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Background: Sexually transmitted infections (STIs) are a growing public health concern. Greater access to diagnostic testing at the point-of-care or at home will identify more patients who are positive for STIs, allowing for appropriate treatment and counseling. We describe a novel diagnostic test (GrapheneDx CT/NG Test) using a graphene field effect transistor to detect and differentiate Chlamydia and Gonorrhea using urine. The form factor is a fully integrated single-use disposable with onboard power and the ability to transmit results via NFC.

Methods: The GrapheneDx CT/NG Test was evaluated against the Hologic Panther nucleic acid amplification test for males and females using a urine sample collected in Hologic Aptima buffer. The sample was tested on the GrapheneDx CT/NG Test and results were compared to the Hologic Panther, with the Hologic Panther being considered the gold standard.

Results: For 28 patients tested by Hologic Panther for Chlamydia, the GrapheneDx CT/NG Test detected 15/17 positives for 88% sensitivity and correctly identified 11/11 negatives for 100% specificity. For the two false negatives, PCR Ct values were 37.5 and >40, indicating low bacterial load. For Gonorrhea, the GrapheneDx CT/NG Test detected 8/10 positives for 80% sensitivity and correctly identified 10/10 negatives for 100% specificity.

Conclusion: The GrapheneDx CT/NG Test performs well compared to the Hologic Panther test and has the added benefit of an instrument-free form factor that can be used in the point-of-care or home settings. Using a non-invasive urine sample, it delivers results in approximately 5 minutes. The company is optimizing the assay to further improve upon this clinical sensitivity and specificity. This novel STI test has the potential to increase access to testing and rapid treatment to improve health outcomes for the patient and for public health. The rapid time to result allows immediate clinical intervention and could prevent loss to follow up.

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O8.4

VALIDATION OF MPOX FOURPLEX (NVO, MPXV CLADE I & CLADE II, RNASE P) REAL-TIME PCR ASSAY

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Background: In 2022, there was a global outbreak of Mpox in non-endemic areas and it concentrated in the global gay, bisexual, and men who have sex with men community (MSM). To date, California has had 6,181 positive cases and most of the disease burden is concentrated in San Francisco with the highest cumulative state case rate of 105.2 cases per 100,000.

Methods: We developed and validated a fourplex real-time PCR assay that can simultaneously detect the following targets: non-variola Orthopoxvirus (NVO), MPXV Clade I and Clade II and RNase P. Primers, probes, and synthetic controls were designed according to published sequences. Accuracy was determined by testing 125 previously tested lesion swab specimens received dry or in VTM. Positive MPXV Clade I specimens were contrived in previously tested negative specimens using Clade I synthetic DNA (gBlock™). Precision was determined by testing 5 specimens in triplicate over 3 days. The specimens were extracted using the Revvity Chemagic 360 and PCR amplification was performed on the AJ qTower.

Results: The analytical sensitivity for the MPXV Clade I and Clade II targets was 7 copies/μl and for the non-variola Orthopoxvirus target was 5 copies/μl. The sensitivity and specificity of the assay was 100%. The MPXV Clade I target intra-run precision ranged from 0.3-2.3 CV% and the inter-run precision ranged from 1.5-4.7 CV%. The intra-run precision for the MPXV Clade II target ranged from 0.3-2.8 CV% and the inter-run precision ranged from 1.1-4 CV%.

Conclusion: To our knowledge this is the only fourplex PCR assay in the United States that can simultaneously detect NVO, MPXV Clade I, II and RNase P. Due to the recent outbreak of MPXV Clade I in the Democratic Republic of Congo. Our assay design was shared with 18 LRN laboratories to help increase testing capacity in the U.S.

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O8.5

EXAMINING CULTURE RECOVERY OF NEISSERIA GONORRHOEAE BY ANATOMIC SITE IN THE STRENGTHENING THE US RESPONSE TO RESISTANT GONORRHEA PROJECT, 2018-2022

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Background: Recovering *Neisseria gonorrhoeae* isolates from clinical specimens for antimicrobial susceptibility testing (AST) is challenging but essential for detection of antimicrobial resistant gonorrhea (ARGC). Same-day nucleic acid amplification test (NAAT) and culture specimen collection yields the highest culture recovery but same-day collection is not always feasible. We examined culture recovery over time by anatomic site and symptom status to understand how culture recovery declines over one week.

Methods: NAATs and culture specimens were collected from genital and extragenital sites from clinic patients as part of the Strengthening the US Response to Resistant Gonorrhea (SURRG) project. Our analytic sample included patients with a positive NAAT and corresponding culture specimen from the same anatomic site collected within seven days of the NAAT. We calculated time between NAAT and culture collection and the percentage of culture specimens that were positive by days since NAAT collection (0 -7), anatomic site, and patient symptom status.

Results: From 2018-2022, 12,553 urethral/urine, 979 endocervical/vaginal, 5,215 pharyngeal, and 4,223 rectal culture specimens were collected. Culture recovery was highest with same-day collection (urethral/urine: 95%, endocervical/vaginal: 71%, rectal: 55%, pharyngeal: 44%), and declined over time for all anatomic sites. Recovery declined sharply for urethral/urine specimens (one day from NAAT collection: 75%, seven days from NAAT collection: 45%). Recovery for rectal and pharyngeal declined modestly (rectal: one day: 47%, seven days 38%; pharyngeal: one day: 33%, seven days: 24%), and endocervical dropped overall but hovered around 50%. Urethral and rectal recovery was higher for symptomatic patients than asymptomatic across all days.

Conclusion: Culture recovery appeared to drop steadily for urethral specimens within seven days of NAAT collection. However, recovery for rectal, pharyngeal, and endocervical specimens declined modestly, suggesting that collecting culture specimens for AST within one week of NAAT collection should still be attempted to maximize detection of ARGC.

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O8.6

POINT-OF-CARE DIAGNOSTIC DEVICE DETECTING *NEISSERIA GONORRHOEAE* AND DRUG RESISTANCE MARKERS

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Background: The Visby Medical Sexual Health test is a single use, point-of-care multiplex PCR device which provides accurate diagnostic results for CT, NG, and TV in under 30 minutes that is 510k cleared and CLIA waived. We have adapted this test to detect not only *Neisseria gonorrhoeae* (NG), but also sensitivity/resistance to Ciprofloxacin in NG. Though ~70% of US NG infections are sensitive to Cipro, rising rates of Cipro-resistance have led the CDC to recommend ceftriaxone, a “last-resort” antibiotic, for NG infections instead.

Methods: The Visby test platform was modified to detect both Visby’s highly sensitive and specific NG assay to indicate NG and also a single nucleotide polymorphism at Ser-91 in the NG *gyrA* gene that has been shown to confer Cipro-resistance. A prototype opto-electronic detection system and decision algorithm were developed for test interpretation.

Results: Eleven frozen remnants, NG positive vaginal swab samples were tested on this prototype device, and all returned results (9 NG+, Cipro-S; 2 NG+, Cipro-R). For the 8 of these samples that were sent for sequencing confirmation, 100% of the Visby results matched the sequencing results. Ten NG strains from the CDC AR library were also tested on the device, and 100% matched the published result. Additionally, sensitivity, inclusivity and exclusivity were characterized.

Conclusion: The prototype device discussed here sensitively and accurately detects both NG infection and Cipro sensitivity/resistance in a rapid, convenient, single-use platform. Such a platform could be critically enabling technology to extend the appropriate use of Cipro and preserve the effective lifespan of ceftriaxone. This prototype was the sole winner of the NIH/BARDA AMR Diagnostic Challenge competition.

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Oral Session (O9) - Use of a Compass: Navigating STI Challenges and Solutions in a Changing World

O9.1

MULTI-LEVEL DRIVERS OF CONGENITAL SYPHILIS, OREGON, 2013-2021

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Background: Despite the availability of evidence-based treatments, congenital syphilis (CS) cases have surged in the United States, highlighting systemic failures in healthcare. In Oregon, cases of CS have risen sharply, mirroring national trends.

Methods: We conducted a retrospective analysis of individual and county-level predictors among pregnant people with confirmed or probable syphilis in Oregon from 2013-2021. Data were pulled from the Oregon Public Health Epidemiology User System (ORPHEUS), county health rankings and other sources with upstream county-level data. Multi-level Poisson regression models were used to assess associations.

Results: Among 343 pregnant individuals, 95 (27.6%) were associated with CS cases. Individual-level predictors of CS included injection drug use, corrections involvement, and gonorrhea diagnosis. County-level factors such as methamphetamine overdose deaths, violent crime rates, and income inequality were also associated with CS. Higher county-level disadvantage exacerbated CS risk, particularly among individuals with corrections involvement.

Conclusion: Injection drug use, corrections involvement, and county-level disadvantage significantly increased CS risk among pregnant individuals with syphilis in Oregon. Urgent interventions are needed, including innovative care models, policy reforms targeting systemic issues, and enhanced collaboration with community services to address the escalating CS crisis.

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O9.2

INCIDENCE OF RECTAL SYMPTOMS AND THEIR ASSOCIATION WITH RECTAL SEXUALLY TRANSMITTED INFECTIONS (STI) AMONG MEN WHO HAVE SEX WITH MEN (MSM)

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Background: Rectal STIs are commonly diagnosed among MSM, but limited prospective data exist on the incidence of rectal symptoms and their association with rectal STIs.

Methods: From March 2016 to December 2018, we enrolled 140 MSM in a 48-week cohort study in Seattle, Washington. Participants self-collected weekly rectal specimens which were tested at the end of the study for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC), and *Mycoplasma genitalium* (MG) using nucleic acid amplification tests (NAATs). We defined incident rectal infections as >2 consecutive weeks of a positive NAAT. Participants reported rectal symptoms (rectal discharge, pain, itching, blood in stool, and pain on defecation) in a weekly survey. We performed log-binomial regression to calculate the adjusted relative risk (aRR) of the association between rectal STIs and rectal symptoms, adjusting for HIV status, baseline rectal symptoms, and number of sex partners.

Results: Participants reported rectal symptoms during 12 (37.5%) of 32 incident CT infections, 6 (30.0%) of 20 incident GC infections, and 9 (37.5%) of 24 incident MG infections. Participants tested positive for rectal CT, GC, or MG during 685 weeks and tested negative for all three during 2,456 weeks. Rectal symptoms were significantly more likely to be reported during positive weeks (6.7% [46/685]) compared to negative weeks (3.9% [97/2,456]) (aRR=2.4; 95%CI=1.4-4.2). Rectal itching was the most common symptom for positive (3.8%) and negative (1.7%) weeks, followed by rectal pain (2.0% vs 1.6%), blood in stool (1.8% vs 0.8%), pain on defecation (1.2% vs 0.5%) and rectal discharge (0.7% vs 0.2%). The median duration of symptoms was 1 week for CT (interquartile range [IQR]=1-2.5) and GC (IQR=1-2) and 2 weeks for MG (IQR=1-5).

Conclusion: About one-third of individuals have rectal symptoms at some point during rectal GC, CT, and MG infections, though symptoms are typically short duration and also present when men are negative for STIs.

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O9.3

MORE THAN MONEY: THE FALLOUT FROM THE DIS WORKFORCE DEVELOPMENT FUNDING RESCISSION

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Background: As the nation began expanding Disease Intervention Specialists (DIS) workforce to strengthen a key public health function exposed by COVID-19, Congress passed the Fiscal Responsibility Act in 2023, which rescinded \$400 million of DIS workforce funding, shocking the public health community and further exacerbating STI rates. To understand the scope of the rescission, the National Coalition of STD Directors (NCSD) surveyed its members across the country to learn about the impact on their workforce and to inform data-driven policy.

Methods: In 2023, NCSD distributed two surveys containing multiple choice and text box answers to 59 state and city funding recipients residing in high, medium and low morbidity jurisdictions. Qualitative and quantitative responses were received through an online survey platform, analyzed in Excel, and shared publicly in NCSD's newsletter.

Results: NCSD received data from 47 out of 59 surveyed jurisdictions resulting in an 80% response rate. Results showed that funding for DIS is desperately needed across the country and that this reduction will negatively impact STI preparedness and response and result in significant job losses. By January 2025, 56% of respondents are expected to lay off 805 positions, and by January 2026, 90% of respondents are expected to lay off an additional 190 positions, for total loss of 995 DIS positions. Jurisdictions also reported that the rescission will impact HIV, viral hepatitis, tuberculosis, and drug user health programs, state laboratories, and outbreak and emergency response.

Conclusion: DIS played a lifesaving role during COVID-19, helped affected communities respond quickly to the mpox outbreak, and they continue to combat rising rates of congenital syphilis. Without investment in the DIS workforce to prevent the loss of 995 positions, the nation will be left to deal with a reeling sector, unprepared to mitigate current infectious disease outbreaks or address other outbreaks that occur in the future.

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O9.4

COST-EFFECTIVENESS OF HPV VACCINATION AMONG GBMSM AGED 27–45 YEARS IN THE UNITED STATES

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Background: The Advisory Committee on Immunization Practices (ACIP) recommends routine human papillomavirus (HPV) vaccination for males and females at age 11–12 years with catch-up through age 26 years in the United States. Vaccination is not recommended for older ages. Instead, ACIP recommends shared clinical decision-making regarding HPV vaccination for persons aged 27–45 years who are not adequately vaccinated. The purpose of this study was to examine the cost-effectiveness of vaccinating gay, bisexual, and other men who have sex with men (GBMSM) aged 27–45 years in the United States.

Methods: We used an age-specific compartmental susceptible-infectious-susceptible (SIS) model of GBMSM to estimate HPV, anogenital wart, and HPV-attributable cancer incidence among GBMSM if catch-up vaccination among GBMSM was capped at ages 26, 30, 35, 40, or 45 years. We then estimated changes in the number of quality-adjusted life years (QALYs) and costs (due to vaccination and treatment of HPV-attributable disease) with each incremental increase in the age group for catch-up vaccination, with a 3% annual discount rate. We conducted a range of scenario analyses, including one with widespread anal cancer screening among GBMSM.

Results: Preliminary results indicate that each incremental increase in the age group for catch-up vaccination through age 45 years would both decrease the number of QALYs lost among GBMSM (up to 42 QALYs per 100,000 GBMSM over the next century) and save healthcare costs (up to 960,000 dollars per 100,000 GBMSM over the next century). Further, preliminary results indicate that vaccination would remain cost-saving under a range of alternative scenarios, including one of widespread anal cancer screening among GBMSM.

Conclusion: Our study results indicate that HPV vaccination among GBMSM through age 45 years in the United States would likely be cost-saving.

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O9.5

ACCEPTANCE OF AND EXPERIENCES WITH DELIVERY OF EXPEDITED PARTNER THERAPY FOR STIS AMONG ADOLESCENT GIRLS AND YOUNG WOMEN USING ORAL PREP IN JOHANNESBURG, SOUTH AFRICA

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Background: Adolescent girls and young women (AGYW) utilizing oral PrEP for HIV prevention frequently experience high rates of sexually transmitted infections (STIs). The South African national guidelines recommend syndromic STI management at PrEP visits. We conducted a prospective cohort study to assess implementation of same-day lab-based STI testing, treatment and expedited partner therapy (EPT) among AGYW in Johannesburg, South Africa.

Methods: Between February 2022 to December 2023, HIV-negative, non-pregnant, sexually active, cisgender AGYW aged 18-25 years, interested in or already using oral PrEP underwent same-day testing for *C. trachomatis* (CT) and *N. gonorrhoeae* (GC) by GeneXpert and *T. vaginalis* (TV) by OSOM. AGYW with STIs received treatment and were eligible to enroll. Participants were offered EPT and those who accepted engaged in counseling to support delivery. Those who declined were offered partner referral cards (standard of care). Participants were scheduled to return for repeat STI testing one month later. Descriptive statistics were used to summarize EPT acceptance and repeat STI positivity (positive test for the same STI at enrollment and one-month visit).

Results: Among 305 AGYW enrolled, 271 (89%) returned for the TOC visit. Median age was 21 years and 41% reported ≥1 male sexual partner in the past three months. At enrollment, 79% had CT, 19% had GC and 19% had TV, with only 35% reporting STI-related symptoms. Overall, 93% of participants accepted EPT and the majority (95%) reported successful EPT delivery to their primary sex partner. Repeat STI positivity was 11%, 6% and 10% for CT, GC and TV, respectively.

Conclusion: Among AGYW using oral PrEP, EPT acceptance was high, with a substantial proportion reporting successful delivery to partners and high cure rates for all three STIs. As access to STI testing improves, EPT should be considered as part of a comprehensive STI treatment and prevention package for AGYW using PrEP.

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O9.6

A SIMPLE-X QUESTION: SHOULD NEONATAL HERPES SIMPLEX VIRUS INFECTION BE NATIONALLY NOTIFIABLE?

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Background: Neonatal herpes simplex virus infection (nHSV), transmitted primarily during delivery from a birthing parent with genital herpes, can result in significant infant morbidity and mortality. Administrative claims data suggest increases in nHSV incidence in the United States; however, the latest national data available are from 2019. More timely data, such as from routine case-surveillance, could help guide public health action. However, nHSV is only reportable in eight U.S. states and is not a nationally notifiable condition. Using a standardized framework, we assessed whether nHSV should be considered for the nationally notifiable conditions list.

Methods: Using previously published criteria for evaluating surveillance systems from CDC and the Pan American Health Organization, we assessed seven criteria for making a condition nationally notifiable (indices of frequency, indices of severity, disparities or inequities associated with health-related event, costs associated with the health-related event, preventability, communicability, and public interest) and nHSV case definitions currently in use. For indices of severity, frequency, and cost, we compared estimates to those of congenital syphilis, a nationally notifiable perinatal infection.

Results: Based on available published data, nHSV meets 6 out of 7 criteria for conditions of public health importance that warrant surveillance. When compared directly to congenital syphilis (a perinatal infection that has been nationally notifiable since 1944), nHSV is as or more frequent of an infection, similarly severe, and has almost twice the associated health care costs. Infants with congenital syphilis and nHSV may also experience similar patterns of health disparities with the highest rates of nHSV among neonates in the South, of Black race, and on Medicaid.

Conclusion: Based on current frameworks for evaluating surveillance systems, there is evidence to support making nHSV nationally notifiable. Additional work is needed to engage state and local STD programs to understand potential barriers to routine case-based surveillance.

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Oral Session (O10) - Congenital Syphilis: Focus on Infant Diagnosis and Prevention

O10.1

TRENDS IN FETAL GROWTH VELOCITY AND GROWTH PARAMETERS AMONG NEONATES AT RISK FOR CONGENITAL SYPHILIS

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Background: Fetal sonographic evaluation is an underutilized tool to determine fetal congenital syphilis (CS) status. This study aims to describe fetal growth parameters among fetuses exposed to syphilis and the relationship of these measures with neonatal clinical CS categories.

Methods: This was a prospective study of pregnant people with syphilis presenting to care at a large academic institution in Houston, Texas between 05/2023-02/2024. Serial sonographic evaluation of all exposed fetuses >20 weeks gestational age (GA) was initiated within 7 days of maternal treatment initiation and monthly thereafter. Estimated fetal weight (EFW) and other biometric parameters were defined based on standard growth nomograms.

Results: Forty-two patients underwent fetal sonographic evaluation for CS and 34 (81%) had complete neonatal information. Median GA at first scan was 20 weeks and at the last scan 35 weeks with a median of three total scans. Median EFW percentile at the first scan was 39% with 66.6% of fetuses <50% and 3.7% <10%. At the last scan, the median EFW was significantly lower than expected at 23% percentile, with 71.4% <50% and 14.3% <10%. A 20% decrease in EFW was observed in 57.1% (24/42) of fetuses, and a severe decrease of 40% in 42.8% (18/42) with femur length most affected. Of the 6 (17%) neonates categorized as “confirmed/highly probable CS,” 3 (50%) had a decrease in EFW of $\geq 20\%$. Of 4 with “possible CS,” 2 (50%) had a severe decrease in EFW ($>40\%$). Of 18 newborns categorized as “CS less likely,” 9 (50%) had a decrease in EFW, with 7 (39%) experiencing a severe drop of $\geq 40\%$.

Conclusion: Fetuses exposed to CS experience growth abnormalities that may not be reversed with maternal treatment, even among newborns categorized in low-risk neonatal clinical categories. These findings underscore the value of fetal ultrasound as a contributor to the CS diagnostic algorithms.

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O10.2

FREQUENCY OF 4-FOLD NON-TREPONEMAL TITER DIFFERENTIALS BETWEEN INFANTS AND BIRTH PARENTS AMONG INFANTS EXPOSED TO SYPHILIS IN UTERO AND IMPLICATIONS ON CONGENITAL SYPHILIS CASE CLASSIFICATION

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Background: The Sexually Transmitted Infection (STI) treatment guidelines use a 4-fold higher infant to maternal non-treponemal titer to guide treatment of congenital syphilis (CS). However, titer increase is not a criterion in the Council of State and Territorial Epidemiologists (CSTE) CS case definition. We examined the frequency of 4-fold titer differentials among syphilis-exposed infants by CS classification criteria to inform how inclusion of a 4-fold titer differential might impact case ascertainment.

Methods: Data are collected via the Surveillance for Emerging Threats to Pregnant People and Infants Network from six jurisdictions (Arizona, Michigan, New Jersey, Georgia, Washington, and New York State) conducting enhanced surveillance of people with syphilis during pregnancy and their infants. Non-treponemal results of infants (regardless of CS status) are compared to maternal non-treponemal results at delivery. Dyads with reported non-treponemal infant results within 28 days of delivery, maternal results within 7 days before or after delivery, and with outcome dates during 2018–2021 were included in this analysis.

Results: Of 1587 infants, 978 (62%) had both maternal and infant non-treponemal titers reported within testing windows. Twenty of 978 (2%) infants had a 4-fold or higher titer than their birth parent. Of infants with a 4-fold higher titer, 13 (65%) met the probable CS case definition and 7 infants (35%) were classified as not a case.

Conclusion: The majority of infants with a 4-fold titer higher differential had additional findings and were already being classified as probable cases by the current CSTE CS case definition. Inclusion of the titer differential would ascertain some additional cases while providing increasing agreement between the STI Treatment Guidelines and surveillance classifications. With the ongoing syphilis epidemic, improvements in clarity of clinical guidelines and surveillance may improve efficiencies in reporting.

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O10.3

ASSESSMENT OF NEONATAL JAUNDICE AND ELEVATED CEREBROSPINAL FLUID WHITE BLOOD CELL COUNT OR PROTEIN AS EVIDENCE OF CONGENITAL SYPHILIS, SET-NET, 2018-2021

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Background: Currently, the surveillance case definition for probable congenital syphilis (CS) utilizes the presence of non-specific signs of syphilis (jaundice and elevated cerebrospinal fluid [CSF] white blood cell [WBC] count or protein). To inform the upcoming revision of the Council of State and Territorial Epidemiologists (CSTE) CS standardized surveillance case definition, we assessed the proportion of probable CS cases that also had non-specific signs of syphilis.

Methods: We identified infants with CS reported to the Surveillance for Emerging Threats to Pregnant People and Infants Network (SET-NET) from Arizona, Georgia, Michigan, New Jersey, New York, and Washington, and assessed the proportion meeting confirmed or probable CSTE CS case definition. Among infants with probable CS, we described the frequency of the mother having untreated or inadequately treated syphilis at delivery and non-specific signs of syphilis with reactive non-treponemal tests in infants, two of the major criteria for the probable case definition.

Results: As of September 2023, of 624 infants reported as CS cases in this cohort, 11 cases (1.8%) were reported as confirmed CS, and 613 cases (98.2%) were reported as probable CS. Among probable cases, 474 cases (77.3%) were reported to have mothers with untreated or inadequately treated syphilis at delivery. Of the remaining 139 probable cases, 25 cases did not have supporting evidence for their classifications, and 114 cases had reactive non-treponemal tests, of which 34 (5.5% of probable cases) presented only with non-specific signs of syphilis (jaundice only=18, elevated CSF WBC count/protein only=13, both=3).

Conclusion: Probable cases represent most CS cases in this cohort, yet a small fraction met the probable criteria through reactive non-treponemal tests and only a non-specific sign such as jaundice or elevated CSF WBC count/protein. The future iteration of CS case definition provides an opportunity to reassess non-specific criteria as the basis for classification.

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O10.4

BREAKTHROUGH CONGENITAL SYPHILIS IN FLORIDA, 2016-2022

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Background: Congenital syphilis (CS) can be prevented by treating the mother adequately with penicillin initiated ≥ 30 days before delivery. However, evidence of CS can occur even with adequate treatment (breakthrough cases). Reasons for breakthrough cases are not well-defined; explanations include treatment failure or misclassification (e.g., undocumented maternal re-infection, overly sensitive CS case definition). We examined the prevalence of reported breakthrough CS cases in Florida and compared maternal characteristics by breakthrough case status.

Methods: All adequately treated (i.e., penicillin-based regimen given with appropriate timing, dosing, and spacing) maternal syphilis cases in Florida between 2016 and 2022 were included. Breakthrough cases were defined as any CS case from a mother who received adequate syphilis treatment initiated ≥ 30 days before delivery and lacked evidence of reinfection. To determine factors associated with breakthrough CS cases, we used log-binomial regression models to calculate prevalence ratios (PR) for maternal characteristics (age, race, ethnicity, drug use, HIV status) and infection factors (stage of disease at diagnosis, maximum non-treponemal titer during pregnancy, time from treatment initiation to delivery, and doses of penicillin).

Results: Between 2016-2022, 49 CS cases in Florida were classified as breakthrough, representing 2.5% (n=1,979) of adequately treated maternal syphilis cases. Mothers with primary or secondary syphilis (PR=3.18, 95% CI 1.68–5.69), high titers ($\geq 1:32$) (PR=5.02, CI=2.72–9.99), and treatment initiated closer to delivery (30–59 days vs. ≥ 130 days) (PR=4.21, CI=2.11–8.31) were more likely to have a breakthrough CS case. Maternal demographic factors and the number of penicillin doses administered were not significantly associated with having a breakthrough case.

Conclusion: Increased prevalence of breakthrough CS among certain maternal syphilis clinical profiles, and not demographic factors, suggest that many are true breakthrough cases and not misclassification. Advocating for timely syphilis testing and treatment during pregnancy is critical for preventing CS.

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O10.5

CHARACTERISTICS OF PEOPLE DELIVERING A BABY WITH CONGENITAL SYPHILIS AND MISSED OPPORTUNITIES TO PREVENT CONGENITAL SYPHILIS, NYC, 2018-2022

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Background: Congenital syphilis (CS) increased 260% from 2013-2022 in New York City (NYC). Each CS case is reviewed for missed opportunities (MO) for prevention. To help inform tailored interventions to prevent congenital infection, we examined trends in MOs by syndemic factors that may exacerbate birthing parent barriers to preventive health care during pregnancy.

Methods: We reviewed characteristics of people who gave birth to an infant with CS from 2018-2022. Using the CDC MO framework, we identified the primary MO (no/non-timely testing; no treatment; inadequate treatment; seroconversion late in pregnancy; clinical evidence despite birthing parent treatment), and examined MO distribution overall and by syndemic factors, including birthing parent's report of homelessness, substance use, and recent arrival to the U.S.

Results: Of 96 CS cases reported, 13.5% (13/96) were born to people who reported homelessness, 15.6% (15/96) substance use, and 3.1% (3/96) injection drug use (IDU). Over one-third of birthing parents (38.5%; 37/96) were born outside the U.S., with 7.3% arriving <6 months before delivery. Overall, seroconversion late in pregnancy was the most common MO (44.8%; 43/96), followed by no/non-timely testing (34.3%; 33/96), inadequate treatment despite timely testing (9.4%; 9/96), no documented treatment despite timely testing (6.3%; 6/96) and clinical evidence of infection despite birthing parent treatment (5.2%; 5/96).

The relative distribution of MO did not vary by syndemic risk factors. Seroconversion late in pregnancy and no/non-timely testing were identified as the most common MOs for birthing parents reporting homelessness, substance use, IDU, and recent arrival to the U.S.

Conclusion: People delivering babies with CS in NYC, particularly those who have recently moved to the city, face myriad social issues that may make it difficult to access adequate preventive health care during pregnancy. Better understanding of barriers to testing during pregnancy and opportunities to prevent infection late in pregnancy is needed to tailor prevention interventions.

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O10.6

MISSED PREVENTION OPPORTUNITIES IN CONGENITAL SYPHILIS CASES IN A SANCTUARY CITY

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Background: Congenital syphilis (CS) cases in Chicago have been increasing since 2020. Since August 31, 2022, Chicago welcomed over 37,000 new arrivals, many of reproductive age. To better understand the changing landscape of syphilis in Chicago, we accessed missed opportunities for CS cases in Chicago in 2023 stratified by migrant status.

Methods: The Chicago Department of Public Health reviewed all probable CS cases reported during 2023 using case investigation reports, maternal interviews, field notes, and electronic medical records. Missed prevention opportunities were classified according to CDC categories. Migrant status was obtained through the Chicago Health Information Management System (CHIMS).

Results: As of March 26, 2024, in total, 52 probable CS cases were reported in 2023, representing a 14.6% increase in comparison with 2022. Of these cases, 14 (24.1%) were in new arrivals, with four such cases in children aged one year or older. Of 48 cases in newborns, the most common missed opportunity was no adequate maternal treatment despite receipt of timely diagnosis, in 21 (55.3%) US citizens and 5 (50.0%) new arrivals. Based on self-report, 5 (100%) of the new arrivals in this category had syphilis treatment in the past, and 7 (33.3%) Chicagoans had documented syphilis prior to pregnancy. Inadequate prenatal care was more common among new arrivals 4 (40%) than Chicagoans 10 (26.3%), and late identification of seroconversion was more common in Chicagoans 6 (15.8%) than new arrivals 1 (10%). Other categories were scarce in both populations.

Conclusion: CS cases continue to increase in Chicago, with over half resulting from failure to treat known infection in a timely manner. Among new arrival cases, many result from a lack of adequate prenatal care, and half are a result of failure to document prior treatment. There is an urgent need to address the changing epidemiology of CS cases and allocate additional resources for more in-depth case investigations.

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Oral Session (O11) - Syphilis Knows No Bounds: Understanding the Effects of Syphilis Among All Genders and Sexualities

O11.1

SEXUAL ORIENTATION AND SEX OF SEX PARTNERS AMONG MEN WITH PRIMARY AND SECONDARY SYPHILIS, 2022

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Background: Interpreting sexual orientation data in disease surveillance systems can help shed light on unique health needs of sexual minority populations. Sexual orientation (SO), which relates to identity, may not align with recent sexual behaviors, such as sex of sex partners (SOSPs). To understand how to best integrate data on orientation and recent sexual behaviors into syphilis intervention efforts, we examined the level of agreement between SO and SOSPs variables in national primary & secondary (P&S) syphilis case notifications.

Methods: We extracted P&S syphilis case notifications for men in 2022 from CDC's National Notifiable Diseases Surveillance System. To minimize bias from incomplete reporting, we restricted our analysis to case notifications from jurisdictions reporting both SO and SOSPs for $\geq 70\%$ of P&S syphilis cases among men. We calculated concordance between reported SO (gay, straight, bisexual, unknown) and SOSPs (men only, women only, both, unknown) from the prior 12 months.

Results: Among the 11 jurisdictions reporting SO and SOSPs for $\geq 70\%$ of cases, there were 7,197 male P&S syphilis cases during 2022. Overall, reported SO aligned with recent SOSPs for 81% of cases, but percent agreement between SO and SOSPs varied by jurisdiction (range: 70–93%). Among men reported as gay ($n=2,602$), 3% were reported as having recent female partners, and among men reported as straight ($n=3,151$), 5% were reported as having recent male partners. For men reported with an unknown SO ($n=896$), 29% had information on SOSPs; 9% were reported with only male partners, 17% with only female partners, and 3% with both male and female partners.

Conclusion: Among persons with P&S syphilis, SO and SOSPs did not align perfectly. When utilizing surveillance data to guide syphilis prevention and control activities, it is important to understand differences between SO and SOSPs and use the variable or variables most appropriate for informing a given intervention.

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O11.2

SEX OF PARTNERS REPORTED BY WOMEN DIAGNOSED WITH PRIMARY AND SECONDARY SYPHILIS IN NEW YORK CITY, 2013 TO 2022

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Background: Nationally, there are large increases in primary and secondary (P&S) syphilis cases among women. There were 252 reported female P&S syphilis cases in New York City in 2022, representing a 168% increase over five years. Men who have sex with men have had historically high rates of P&S syphilis. Increased exposure to syphilis from sex with men who have sex with both men and women (MSMW) may be a driver of the surge in female P&S syphilis.

Methods: Using partner services data collected through investigating reported P&S cases diagnosed between 2013 and 2022, we described demographics and sex of partners reported by female cases and examined reported sex of partners among male P&S syphilis cases. Cases whose sex assigned at birth differed from their reported sex were excluded.

Results: Among 960 female cases from 2013-2022, fifteen (1.6%) reported having sex with MSMW. Most women with MSMW partners were non-Hispanic Black (10/15, 66.7%) and half were ages 20-34 (8/15, 53.3%). Most female cases with MSMW partners (12/15, 80.0%) occurred between 2018-2022. While not statistically significant, the proportion of female P&S cases reporting MSMW partners increased from 1.2% (3/248) during 2013-2017 to 1.7% (12/711) during 2018-2022. The proportion of male P&S cases reporting sex with both men and women increased from 2.9% during 2013-2017 to 3.5% during 2018-2022.

Conclusion: Although few women with P&S reported having male partners who also had sex with men, the number of such cases has increased in recent years. The contemporaneous rise in number of male cases who report having sex with both men and women suggests potential for spread between sexual networks. Understanding sexual partner dynamics is important for crafting appropriate and effective messaging around sexual health.

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O11.3

PRELIMINARY RESULTS FROM A CLINICAL TRIAL COMPARING THE EFFICACY OF CEFIXIME VERSUS PENICILLIN G FOR THE TREATMENT OF EARLY SYPHILIS

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Background: Syphilis has reemerged as a global health concern. Recommended treatment for syphilis at all stages is injectable benzathine penicillin G. Cefixime – an oral antibiotic widely available, low-cost, and safe in pregnancy – is proposed as an alternative to penicillin. A previous pilot study showed cefixime was likely efficacious in treating early syphilis. This study aims to assess the efficacy of cefixime in comparison to benzathine penicillin G.

Methods: We are conducting a randomized, multisite, open-label, non-inferiority clinical trial to assess cefixime (400mg, orally, twice daily for 10 days) compared to benzathine penicillin G (2.4 million units, intramuscularly) in 400 participants from 11 clinical sites in the United States and Peru, including participants living with and without human immunodeficiency virus (HIV) infection.

Participants undergo follow-up visits post-treatment at 3-, 6-, and 9-months, involving clinical evaluation and rapid plasma reagin (RPR) testing. The primary outcome is a ³4-fold decrease in RPR titer from baseline, by 3- or 6-months post-treatment.

In the event of a penicillin shortage, participants randomized to penicillin receive doxycycline hyclate (100mg, orally, twice daily for 14 days).

Results: As of March 18, 2024, 133 participants are enrolled, 67.7% living with HIV and 91.7% men who have sex with men or transgender women. The current cefixime adherence rate is 92.2% (59/64) at the 10 day mark. Evaluable data is available from 102 participants with 3- or 6-month follow-up visits, including 51 cefixime, 44 penicillin, and 7 doxycycline participants. By 3- or 6-month post-treatment, 88.2% (95% CI, 76.1% - 95.6%; 45/51) of cefixime participants, 90.9% (95% CI, 78.3% - 97.5%; 40/44) of penicillin participants, and 100.0% (95% CI, 59.0% - 100%; 7/7) of doxycycline participants achieved a ³4-fold RPR titer decrease.

Conclusion: Similar efficacy was observed across treatment arms. Enrollment and data collection continue, with study completion expected by June 2025.

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O11.4

ASSESSMENT OF CHANGING SYPHILIS DYNAMICS IN MEN AND WOMEN, NORTH CAROLINA, 2023

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Background: In 2023, syphilis cases among men decreased in North Carolina (NC) while continuing to increase among women. To understand this divergence, we disaggregated men into men reporting sex with men only (MSMO), men reporting sex with men and women (MSMW) and men reporting sex with women only (MSWO) and assessed case trends in these groups. To describe whether changes in timely treatment via HIV care or other provider affect this divergence, we assessed trends in the proportion treated within 7 days, by gender and partner gender and provider type.

Methods: NC syphilis surveillance data (all stages) for 2019-2023 were used to assign gender/partner gender categories: MSMO, MSMW, MSWO, women. Men with unknown partner gender were excluded. The proportion treated within 7 days of diagnosis was compared by stage (symptomatic (primary, secondary); non-symptomatic (early non-primary non-secondary, late/unknown duration)), gender/partner and provider type.

Results: Cases in all groups increased 2019-2022, then decreased in 2023 among MSMO (2022:2,051 to 2023: 1,678), remained stable among MSMW (181 to 179) and increased among MSWO (1,275 to 1,411) and women (1,608 to 1,798). The proportion treated within 7 days was stable between 2019-2023 (56% in each year) and, for all years together, differed by gender (MSMO: 62%, MSMW and MSWO: 63%; women: 49%) and stage (symptomatic: 73%; non-symptomatic: 45%). The proportion treated within 7 days was unchanged across this period for provider types. MSMO were more likely to be treated by a private provider (42%) than MSMW (31%), MSWO (23%) or women (32%).

Conclusion: Decreases in the number of early syphilis cases among MSMO were not paralleled in MSMW, suggesting the decrease in MSMO may not cross over to women. Treatment did not change over time; however, fewer women were treated within 7 days, suggesting that interventions should focus on decreasing time to treatment for women.

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O11.5

SYPHILIS AMONG TRANSGENDER WOMEN — UNITED STATES, 2022

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Background: Stigma and structural barriers to care contribute to the disproportionate burden of sexually transmitted infections (STIs) among transgender persons in the United States. Gender identity has been an optional variable for STI case notifications sent to CDC via the National Notifiable Diseases Surveillance System (NNDSS) since 2018. However, descriptions of syphilis cases among transgender women using national case-based surveillance data are limited. We describe characteristics of syphilis cases among transgender women to inform prevention strategies.

Methods: We identified syphilis cases (all stages) among transgender women sent to CDC via NNDSS during 2022 and characterized cases by age group, race and Hispanic ethnicity, syphilis stage, HIV status, diagnosing facility type, and sex of sex partner(s).

Results: In 2022, 29 jurisdictions provided at least one syphilis case among a transgender woman. Among these jurisdictions, 2,717 syphilis cases were among transgender women. A plurality of cases occurred among persons aged 25–34 years (46%), followed by 35–44 years (24%) and 15–24 years (19%). About 40% were reported as non-Hispanic Black/African American, followed by Hispanic/Latino (31%), and non-Hispanic White (14%). Most were staged as early non-primary non-secondary (45%) or unknown duration/late (31%) syphilis. Approximately 45% of cases were reported to have HIV. Only 7% of cases were diagnosed from an STD clinic. About 71% reported male sex partners only in the past 12 months.

Conclusion: Most syphilis cases among transgender women were diagnosed outside of STD clinics, emphasizing the need to bolster syphilis screening and gender affirming care across a variety of healthcare settings. Further, the high proportion of cases with HIV and the high proportion of cases among Black/African American and Hispanic/Latino transgender women suggest a syndemic approach to syphilis and HIV prevention and care are needed to address existing disparities.

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O11.6

SYPHILIS AMONG WOMEN WHO HAVE SEX WITH WOMEN: IS IT AS RARE AS WE THINK?

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Background: Examining trends in syphilis by sex of sex partners (SofSPs) has been used to guide prevention efforts and address concurrent syphilis epidemics among men who have sex with men and heterosexual populations. Given assumed low incidence among women who have sex with women, trends among women are not usually stratified by SofSPs in national surveillance reports, potentially masking intervention opportunities.

Methods: We reviewed primary and secondary (P&S) syphilis case notification data provided to CDC through the National Notifiable Diseases Surveillance System during 2018–2022. We investigated trends in P&S syphilis among women based on available information on SofSPs from the prior 12 months: women who reported sex with women only (WSWO); women who reported sex with women and men (WSWM); women who reported sex with men only (WSMO); and women with unknown sex of sex partners (WSU).

Results: During 2018–2022, 46,306 P&S syphilis cases were reported among women; 33,264 (71.8%) were categorized as WSMO, 2,294 (5.0%) as WSWM, 293 (0.6%) as WSWO, and 10,455 (22.6%) as WSU. Over time, the proportion of cases that were identified among WSWO was stable (0.5% to 0.8%); however, given increasing cases among women overall, the absolute case count increased (24 to 111 cases). Trends among WSMW were similar: stable proportion over time (5.6% to 5.1%) and increasing case counts (277 to 743 cases). During 2018–2022, the number of areas that reported ≥ 1 case among a woman who reported any sex with women increased from 30 states to 47 states and DC.

Conclusion: P&S syphilis cases are reported relatively infrequently among women who have sex with women; however, increases in reported cases among this population suggests routine display of SofSPs data among women may be warranted. Ensuring all persons diagnosed with syphilis are provided appropriate risk reduction education is critical to addressing the U.S. syphilis epidemic.

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Oral Session (O12) - Resistance May Not Be Futile: Finding Hope in the Surveillance of Antimicrobial Resistance in GC and Mgen

O12.1

GEIS GONOCOCCAL GLOBAL SURVEILLANCE SHOWS MULTI-DRUG RESISTANT ISOLATES WITH COMMON AND NOVEL PATTERNS OF RESISTANCE.

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Background: *Neisseria gonorrhoeae* (NG) infections are responsible for a high global disease burden and are the second most common bacterial sexually transmitted infection in the United States. This study analyzes trends in the susceptibility of NG isolates from five different geographical regions, Kenya, Uganda, Thailand, Peru and Georgia to different antibiotics and the distribution of antibiotic resistance alleles as part of the Department of Defense Global Emerging Infections Surveillance Program (GEIS).

Methods: Samples were collected from subjects enrolled in clinical care or public health surveillance activities from 2012 to 2022, and, included military populations, civilians, and high-risk populations. Isolates were tested for eight different antibiotics using ETEST. Whole genome sequencing was performed to define the prevalence of specific antimicrobial resistance determinants in different geographic regions.

Results: Phenotypic AMR data for all 962 isolates showed multi-drug resistance was common amongst all sites. The frequency of resistance to any 3 antibiotics ranged from 11% (Ghana) to 92% (Peru). AMR data showed that resistance to benzylpenicillin, ciprofloxacin and tetracycline was 95.3%, 91.7% and 93.7% respectively. The frequency of isolates with reduced susceptibility to ceftriaxone, cefixime, and gentamicin was 3.6%, 2.5%, and 15.0% respectively. Molecular typing identified a high number of novel NG-MAST ST (706/92 isolates). All isolates with high-level tetracycline resistance (MIC >8 µg/mL) harbored the *tetM* gene and the *rpsJ* V57M mutation [676 (75%) of TetR isolates]. Four different β-lactamase resistance genes (*bla*TEM-1, *bla*TEM-135, *bla*TEM-239 or *bla*TEM-22) were detected. The most common type was *bla*TEM-1 (75.7% of isolates).

Conclusion: NG isolates collected through the GEIS program displayed a high frequency of resistance to penicillin, tetracycline, and ciprofloxacin, and an increasing number in resistant isolates to current treatments such as cefixime and gentamicin. Continued surveillance of AMR NG is needed to identify genetic determinants of AMR and inform appropriate treatment recommendations.

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O12.2

PUBLIC HEALTH AND LABORATORY ACTIVITIES FOR STRENGTHENING THE U.S. RESPONSE TO RESISTANT GONORRHEA (SURRG), 2021-2022

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Background: Antimicrobial-resistant gonorrhea (ARGC) remains an urgent threat. CDC's Strengthening the U.S. Response to Resistant Gonorrhea (SURRG) funds eight jurisdictions to improve local capacity to rapidly detect and respond to the threat of ARGC. We describe programmatic outcomes and milestones achieved in the sixth and seventh years of SURRG.

Methods: Jurisdictions collected clinical and epidemiological data, and specimens for gonococcal culture and local antimicrobial susceptibility testing (AST) via Etest® for all anatomic sites, from patients of all genders attending participating STD and non-STD clinics. Jurisdictions conducted investigations for patients with isolates with reduced cephalosporin susceptibility (RS), defined by minimum inhibitory concentrations of ceftriaxone ≥ 0.125 $\mu\text{g/ml}$ and cefixime ≥ 0.25 $\mu\text{g/ml}$. Jurisdictions completed multiple activities to strengthen ARGC response coordination and align local epidemiology, clinical, and laboratory efforts.

Results: During 2021-2022, jurisdictions collected 33,509 specimens for culture from 25,616 patients. AST by Etest® was performed on 98% of all isolates (endocervical/vaginal $n=422$; rectal $n=1,211$; pharyngeal $n=1,094$; urine/urethral $n=4,551$). Overall, few isolates had RS to ceftriaxone ($n=38$, 0.5%) and/or cefixime ($n=46$, 0.6%); all were successfully treated with CDC-recommended therapy. To bolster preparedness for ARGC outbreak response, jurisdictions established Centers for Gonorrhea Excellence which created comprehensive ARGC outbreak response plans, treatment failure reporting systems, expanding clinician access to culture and AST, and developing communication strategies. Four jurisdictions successfully piloted response plans via tabletop exercises. Six jurisdictions successfully validated a molecular assay using remnant NAAT specimens to detect known molecular markers conferring antimicrobial resistance, and established novel partnerships with university and commercial laboratories for access to remnant NAATs that would be valuable to test during an ARGC outbreak.

Conclusion: SURRG jurisdictions successfully developed and piloted comprehensive practices to detect and rapidly respond to ARGC. Few isolates with RS to cephalosporins were detected, and SURRG jurisdictions' robust detection and preparedness activities continue to inform future ARGC prevention and control efforts.

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O12.3

CHARACTERIZATION OF MACROLIDE AND FLUOROQUINOLONE RESISTANT MYCOPLASMA GENITALIUM IN CANADA, 2018-2023

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Background: Background: *Mycoplasma genitalium* (Mgen) is a leading cause of non-gonococcal persistent urethritis in men. In women, infections may cause cervicitis, pelvic inflammatory disease, preterm birth, and female infertility. Overall prevalence is unknown, as Mgen is not notifiable in Canada, however some Canadian studies of STI clinic attendees have shown a prevalence of 4.2-9.6%. Mgen has developed resistance to both currently recommended therapeutics, azithromycin and moxifloxacin. The MgPa adhesion protein (*mgpB*) and MG309 lipoprotein make up a typing scheme, which may be valuable for investigating Mgen transmission patterns in Canada.

Methods: Methods: Between 2018 and 2023, 2078 Mgen-positive urogenital specimens were tested from eight provinces in Canada. PCR and Sanger sequencing were performed on these specimens to detect mutations associated with macrolide (23S rRNA A2058/A2059) and fluoroquinolone (*gyrA* 95/99/108 and *parC* 83/87/97) resistance. Samples from 2022-2023 were genotyped using the *MgpB*/MG309 typing scheme.

Results: Results: Of 2078 specimens, 37% (n=769) were from females, 61% (n=1268) from males, two were gender diverse, and 39 unspecified. Of specimens with antimicrobial resistance (AMR) results, 68.2% (1386/2031) contained SNPs associated with macrolide resistance across all years, with 81% (248/306) resistance in 2023. Fluoroquinolone resistance-associated mutations were found in 19% (364/1912) of specimens across all years, with 26.1% (77/295) resistance in 2023. Both macrolide and fluoroquinolone-associated resistance markers were found in 16% (301/1885) of specimens, while 29.3% (543/1851) were susceptible to both. Unique STs were identified in 270/557 (48%) samples *mgpB*/MG309 genotyped. ST-78 was the most prevalent type, observed in 11.7% (65/557) of samples. Other commonly observed STs include ST-16, ST-69, and ST-98.

Conclusion: Conclusions: While true prevalence cannot be determined without a surveillance program, the high proportion of antimicrobial resistant Mgen received from 2018-2023 is of great concern. Enhanced surveillance of AMR-Mgen is necessary to identify clusters, inform treatment guidelines and mitigate the impact of resistant Mgen.

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O12.4

ANTIMICROBIAL ACTIVITY OF GEPOPIDACIN AGAINST NEISSERIA GONORRHOEAE ISOLATES COLLECTED BETWEEN 2018-2021

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Background: Gepotidacin is a broad-spectrum, first in class, triazaacenaphthylene antibacterial that inhibits bacterial type II topoisomerases by a unique mechanism of action, distinct binding site and for most pathogens provides well-balanced inhibition of two different Type II topoisomerase enzymes. Gepotidacin recently completed a Phase III clinical trial to assess its effectiveness for the treatment of uncomplicated urogenital gonorrhea. The activity of gepotidacin and comparator agents was evaluated against *Neisseria gonorrhoeae* isolates from three countries.

Methods: A total of 711 *N. gonorrhoeae* clinical isolates collected between 2018-2021 from sites in three countries (n/percent of total), United States (298/41.9%), Australia (300/42.2%), and India (113/15.9%) were included in this analysis. Isolates were tested for susceptibility to gepotidacin and comparator agents by agar dilution using the CLSI M07 (2018) reference method and results were interpreted based on CLSI M100 2023 breakpoints.

Results: Minimum inhibitory concentration (MIC) values for gepotidacin against all 711 *N. gonorrhoeae* isolates ranged from ≤ 0.06 $\mu\text{g/mL}$ to 2 $\mu\text{g/mL}$. The MIC_{50/90} value was 0.5/1 $\mu\text{g/mL}$ with 96.2% of isolates inhibited at ≤ 1 $\mu\text{g/mL}$. Activity was consistent across the countries included in the study, although isolates from India (MIC_{50/90} = 1/1 $\mu\text{g/mL}$) had a modal MIC value 1-doubling dilution higher than isolates from the United States or Australia. Susceptibility to comparator agents ranged from 7.3% for penicillin, 26.7% for tetracycline, 35.7% for gentamicin, 51.5% for ciprofloxacin, 95.9% for azithromycin, 99.6% for spectinomycin to 100% for ceftriaxone and cefixime. Gepotidacin MIC_{50/90} values were consistent at 0.5/1 $\mu\text{g/mL}$ for all nonsusceptible/resistant subsets, except for azithromycin-non-susceptible isolates (MIC_{50/90} = 0.5/2 $\mu\text{g/mL}$).

Conclusion: Gepotidacin demonstrated potent *in vitro* activity against *N. gonorrhoeae* from three countries including isolates nonsusceptible/resistant to azithromycin, tetracycline, ciprofloxacin, penicillin, and gentamicin. These data support the continued development of gepotidacin as a potential new treatment option for challenging infections due to drug-resistant *N. gonorrhoeae*.

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O12.5

SURVEILLANCE FOR DISSEMINATED GONOCOCCAL INFECTIONS, ACTIVE BACTERIAL CORE SURVEILLANCE – UNITED STATES, 2015-2023

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Background: The current epidemiology of disseminated gonococcal infections (DGI), a rare yet serious complication of *Neisseria gonorrhoeae* infection, remains poorly described due to limited case surveillance. Surveillance through the Active Bacterial Core surveillance (ABCs) system was used to understand the population-level burden of culture-confirmed DGI.

Methods: DGI was defined as isolation of *N. gonorrhoeae* from a normally sterile anatomic site. Retrospective surveillance of DGI cases was conducted in California's San Francisco Bay Area (SF) and Atlanta, Georgia's 20-county metropolitan statistical area (GA-MSA) during 2015-2016. Prospective surveillance was conducted in these areas, including all remaining GA counties (GA-DPH) starting in 2017 and Minnesota (MN) starting in 2020. Available DGI isolates were collected and demographic, clinical, and treatment information were obtained through medical record abstraction. Antibiotic susceptibility testing (AST) of DGI isolates was performed using agar dilution.

Results: During 2015-2023, 196 cases of DGI were identified for a rate of 0.13/100,000 population and accounting for 0.06% of all reported gonorrhea cases in the four surveillance areas. Rates varied across the ABCs sites, ranging from 0.07/100,000 population in MN to 0.23/100,000 population in the GA-MSA. The majority of DGI cases were male (58.2%) and non-Hispanic Black (61.2%), and ages ranged from 16-69 years. The most common infection sites were blood (54.1%) and joints (42.3%). Approximately one-third (38.7%) of cases had an underlying condition, including 13.3% with past or current drug and/or alcohol misuse and 10.7% with HIV. Most cases (83.7%) received ≥ 1 dose of ceftriaxone, the recommended first-line therapy per the CDC STI Treatment Guidelines. Among 104 isolates with AST results, all were susceptible to ceftriaxone.

Conclusion: Although DGI is infrequent, given the ability of *N. gonorrhoeae* to develop antimicrobial resistance, continued surveillance of DGI cases, along with AST of DGI isolates, will help to better understand risk factors and to monitor susceptibility to recommended treatment.

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O12.6

UTILISING WASTEWATER-BASED EPIDEMIOLOGY FOR ENHANCED SURVEILLANCE OF NEISSERIA GONORRHOEAE IN NORTH EASTERN ONTARIO COMMUNITIES.

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Background: The escalating global incidence of sexually transmitted infections (STIs), particularly *Neisseria gonorrhoeae*, underscores the urgent need for innovative surveillance methodologies. Our research employs wastewater-based epidemiology to assess *Neisseria gonorrhoeae* prevalence across six communities in North Eastern Ontario, Canada. This approach facilitates the detection and quantification of the pathogen in wastewater. It aims to correlate these measurements with clinically reported gonorrhea cases, thereby broadening the scope of public health surveillance.

Methods: Our study harnessed the sensitivity and specificity of digital polymerase chain reaction to analyze wastewater samples from the inflow of wastewater treatment plants. To achieve accurate and equitable comparisons across sites, we normalized our measurements of wastewater concentration using a weighted media based on the population size, Pepper mild mottle virus and flow rates. We then conducted a statistical analysis, employing correlation coefficients and linear regression models to examine the relationship between the concentration of *Neisseria gonorrhoeae* in wastewater and the number of gonorrhea cases reported by the public health unit of a particular community.

Results: The application of the non-parametric Kendall's Tau rank correlation analysis revealed a statistically significant moderate correlation ($p < 0.05$) between the concentration of *Neisseria gonorrhoeae* in wastewater and the reported gonorrhea cases within the community, especially in the medium-sized urban population. The correlation persisted even after adjustments for population size and the integration of normalization factors.

Conclusion: Our findings corroborate wastewater-based epidemiology as an effective tool for *Neisseria gonorrhoeae* surveillance, enhancing standard public health monitoring. These results facilitate STI detection and recommend more frequent sample collections to better reflect gonorrhea prevalence and distribution within communities. The insights gained stress the methodology's power to inform targeted interventions and strategies for STI control and prevention and show significant potential in public health applications strategies.

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O13.1

ORAL ZOLIFLODACIN FOR TREATMENT OF UNCOMPLICATED GONORRHEA: SUBGROUP ANALYSES BY RACE AND REGION OF A GLOBAL PHASE 3 RANDOMIZED CONTROLLED CLINICAL TRIAL

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Background: A global randomized controlled Phase 3 trial, enabled through a public-private partnership, evaluated the efficacy and safety of zoliflodacin (first-in-class oral bacterial topoisomerase inhibitor with potent *in vitro* activity against *Neisseria gonorrhoeae*, including multidrug-resistant strains) for uncomplicated gonorrhea treatment. Zoliflodacin was non-inferior to ceftriaxone-azithromycin (5.31%, 95% confidence interval: 1.38-8.65) with urogenital microbiological cure rates of 90.9% (88.1-93.3) and 96.2% (92.9-98.3), respectively. Cure rates for extragenital infections were comparable between treatment arms.

Methods: Microbiological cure was determined by culture from urethral/endocervical sites at Day 6±2 in the microbiological intention-to-treat (micro-ITT) population (randomized participants with baseline cultures positive for *Neisseria gonorrhoeae* and no resistance to both ceftriaxone and azithromycin). Descriptive demographic subgroup analysis was conducted in micro-ITT and evaluable populations (EP), defined as micro-ITT participants with assessable microbiological outcome at Day 6±2.

Results: In participants assigned male at birth, urogenital cure rates were 90.4% (412/456; 87.3-92.9) vs 96.8% (213/220; 93.6-98.7) in the micro-ITT and 96.7% (412/426; 94.5-98.2) vs 100% (213/213; 98.3-100) in the EP, for zoliflodacin vs ceftriaxone-azithromycin, respectively. In females at birth, urogenital cure rates were 96.0% (48/50; 86.3-99.5) vs 88.9% (16/18; 65.3-98.6) (micro-ITT) and 98.0% (48/49; 89.1-99.9) vs 100% (16/16; 79.4-100) (EP), for zoliflodacin vs ceftriaxone-azithromycin respectively. Urogenital cure rates by region were 100% (EP) for ceftriaxone-azithromycin in all regions and, for zoliflodacin, were 94.5% in South Africa (188/199; 90.3-97.2), 97.7% in the US (84/86; 91.9-99.7), 97.7% in the EU (42/43; 87.7-99.9) and 99.3% in Asia (146/147; 96.3-100). Urogenital cure rates by race were 100% (EP) for ceftriaxone-azithromycin in all races and for zoliflodacin, were 94.9% in Black/African American (241/254; 91.4-97.2), 98.1% in White (51/52; 89.7-100), 99.4% in Asian (158/159; 96.5-100) and 100% in Other participants (10/10; 69.2-100).

Conclusion: Cure rates for zoliflodacin vs ceftriaxone-azithromycin in subgroups, including by sex at birth, race and region, were comparable to the primary endpoint analysis.

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O13.2

ESTIMATING THE PUBLIC HEALTH IMPACT OF A VACCINE AGAINST GONOCOCCAL DISEASE USING A STRATIFIED DYNAMIC TRANSMISSION MODEL IN THE UNITED STATES

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Background: Left untreated, gonorrhea, a sexually transmitted infection caused by *Neisseria gonorrhoeae*, can lead to severe long-term consequences. Between 2011-2021, infection rates increased rapidly in the United States (US), with an estimated incidence of 1.6 million cases in 2018. Incidence differs by gender, race/ethnicity, and sexual behavior. With no vaccine available and only one first-line treatment in the US, this study assessed the potential public health impact of a hypothetical gonorrhea vaccine.

Methods: We developed a dynamic transmission model, stratified by age, gender, ethnicity, and sexual behavior/networks, to simulate the transmission dynamics of *N. gonorrhoeae* and estimate the public health impact of different vaccination strategies in young adults and high-risk individuals. The model incorporated hypothetical vaccine characteristics: 26-49%/40-75% efficacy and 31%/17% uptake for 1st/2nd doses, respectively, and 1-4 years average duration of protection. We compared a 2-dose schedule in 16-29-year-olds in the general population (Strategy 1), 16-29-year-olds in the general population plus 30-50-year-old men-having-sex-with-men and men-having-sex-with-men-and-women (MSM/MSMW; Strategy 2), and 16-50-year-old MSM/MSMW (Strategy 3), against no vaccination.

Results: Substantial reductions in gonorrhea cases were observed over a 10-year time horizon versus no vaccination: 9.80-33.13% incidence reduction (1,589,105-5,372,741 total cases averted) and 6.97-23.46 doses per case (DPC) averted (Strategy 1); 11.11-36.80% incidence reduction (1,801,014-4,816,850 total cases averted) and 8.52-21.62 DPC averted (Strategy 2); 4.08-16.06% incidence reduction (662,160-2,604,684 total cases averted) and 1.34-5.21 DPC averted (Strategy 3). Benefits were greatest in women-having-sex-with-men compared to men-having-sex-with-women in Strategies 1 and 2 and in racial or ethnic minorities across all strategies.

Conclusion: This model demonstrated that introducing a gonorrhea vaccine could confer a considerable public health impact in the general population, particularly among disadvantaged minorities. A broad recommendation with inclusion of key risk groups may result in more pronounced effects while maintaining efficient resource allocation and facilitating equitable access across populations.

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O13.3

GEOTIDACIN AND CEFTRIAZONE/AZITHROMYCIN EFFICACY BY BASELINE PHENOTYPES AND GENOTYPES OF NEISSERIA GONORRHOEA RECOVERED FROM A CLINICAL TRIAL FOR UNCOMPLICATED UROGENITAL GONORRHEA (EAGLE-1)

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Background: Gepotidacin, a novel, bactericidal, first-in-class triazaacenaphthylene antibiotic, inhibits bacterial replication with a distinct binding site, unique mechanism of action and, for most pathogens, well-balanced inhibition of two enzymes. Gepotidacin is active *in vitro* against *Neisseria gonorrhoeae* (NG), including isolates resistant to current antibiotics.

Oral gepotidacin 2x3000mg demonstrated non-inferiority to 500mg intramuscular ceftriazone and 1000mg oral azithromycin for the treatment of uncomplicated urogenital gonorrhea (uUGC) in a recently concluded pivotal Phase 3 clinical trial (EAGLE-1 [NCT04010539]; primary results reported previously).

Methods: Pretreatment swab specimens were obtained from all enrolled participants for culture by standard methods. Susceptibility testing of NG was conducted at a central laboratory, utilizing Clinical and Laboratory Standards Institute guidelines. All NG were molecularly characterized. For inclusion in the microbiological-intent-to-treat (micro-ITT) population, a participant was required to receive ≥1 dose of study drug and have ceftriazone-susceptible NG from baseline culture of their urogenital specimen. Microbiological success at the Test-of-Cure (Day 4–8) visit was defined as culture-confirmed bacterial eradication of urogenital NG.

Results: For 406 participants that met micro-ITT population criteria, gepotidacin microbiological success rates (when ≥10 isolates in both treatment arms) ranged from 85.7–100%, including against NG nonsusceptible/resistant to ciprofloxacin (103/110, 93.6%), penicillin (35/36, 97.2%), tetracycline (42/49, 85.7%), or azithromycin (17/17, 100%). In the ceftriazone/azithromycin treatment arm, success rates ranged from 88.7–100% against NG nonsusceptible/resistant to ciprofloxacin (101/109, 92.7%), penicillin (30/33, 90.9%), tetracycline (47/53, 88.7%), or azithromycin (19/20, 95%). No NG were ceftriazone-nonsusceptible. Gepotidacin and ceftriazone/azithromycin success rates ranged from 66.7–100% and 57.1–100%, respectively, against all genotypes recovered. No failures were due to bacterial persistence.

Conclusion: For most NG phenotypes and genotypes, including those nonsusceptible/resistant to available therapies, gepotidacin efficacy was similar to ceftriazone/azithromycin, demonstrating the potential of this oral, first-in-class, novel antibacterial for the treatment of uUGC caused by a broad range of NG phenotypes and genotypes.

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O13.4

AN IRRADIATED, WHOLE-CELL CHLAMYDIA VACCINE CONFERS SIGNIFICANT AND LONG-LASTING PROTECTION IN A MURINE GENITAL TRACT CHALLENGE MODEL

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Background: *Chlamydia trachomatis* is a global health priority responsible for millions of sexually-transmitted infections annually. The development of a killed, whole-cell, multivalent vaccine has been stymied by coincident epitope destruction during inactivation. Here we report a prototype *Chlamydia* vaccine consisting of elementary bodies (EBs) of the related mouse pathogen, *Chlamydia muridarum* (*Cm*) that were inactivated by γ -rays (Ir-*Cm*) in the presence of Mn²⁺-decapeptide (DEHGTAVMLK) antioxidant (MDP), which protects from epitope damage but not DNA damage. This technique effectively prevents the destruction of immunologically important surface antigens during inactivation.

Methods: *Cm* EBs were subjected to a 1kGy dose of γ -rays in the presence or absence of the MDP, and mice were immunized with these inactivated EBs and the TLR9-stimulatory adjuvant CpG utilizing an intranasal prime, subcutaneous boost regimen. *Cm*-specific IgG and IgA from serum and vaginal washes were compared between immunization and control groups, spleens were harvested from immunized animals and splenocyte restimulation assays were performed to assess and compare cell-mediated responses. Immunization / challenge studies were performed to evaluate the effect of immunization on infectious burden, time-to-clearance, and disease-associated pathology compared to mice pre-exposed to *Cm* (2-way ANOVA).

Results: Mice vaccinated with Ir-*Cm* (+MDP) exhibited high levels of *Cm*-specific IgG and IgA antibodies, lower bacterial burdens ($p < 0.0001$), faster time-to-clearance ($p < 0.0001$), and distinctive cytokine responses compared to unvaccinated controls in an MDP-dependent manner. Area under the curve (AUC) analysis of infectious burdens found no statistical difference in inclusion-forming units (IFU) between mice that were pre-exposed to *Cm* and vaccinated with Ir-*Cm* (+MDP).

Conclusion: *Cm* EBs that are γ -inactivated in the presence of MDP remain structurally intact and are highly protective in a genital tract infection model. Preserving EB epitopes with MDP during γ -inactivation has the potential to yield a long-lasting, polyvalent, whole-cell vaccine against *C. trachomatis*.

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O13.5

PERFORMANCE, FEASIBILITY, AND ACCEPTABILITY OF USING CLINIC- AND HOME-COLLECTED, MAILED DRIED BLOOD SPOTS (DBS) FOR HIV AND SYPHILIS TESTING

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Background: Rates of syphilis/congenital syphilis have dramatically increased in the U.S. HIV and syphilis testing from dried blood spot (DBS) is increasing in popularity, but validation studies of DBS are limited. We report on the performance, feasibility, and acceptability of using mail-in DBS for HIV and syphilis testing.

Methods: Participants were recruited and consented at the Johns Hopkins Hospital Emergency Department (ED), self-collected a DBS in the ED or at home, and completed a survey about DBS self-collection. DBS were mailed to a research laboratory, tested using the DPP® HIV-Syphilis test, and results compared to serological results. Using spiked DBS, the feasibility of using DBS for rapid plasma reagin (RPR) testing was evaluated.

Results: DBS were collected by 97.3% (71/72) of enrolled participants; all DBS were received by mail in the laboratory. The majority of participants were Black (65.3%), female (52.8%), and between the ages of 20 and 73 (median = 47). HIV and/or syphilis serology was positive in 44.4% (32/72) of participants; 10 were positive for HIV, 4 for syphilis, and 18 for HIV and syphilis. When compared to reference serological results, mailed DBS samples had a sensitivity and specificity of 96.4% (95%CI; 82.3%,99.4%) and 100% (92.0%,100%) for HIV, and 95.5% (78.2%,99.2%) and 97.9% (89.1%,99.6%) for syphilis. RPR from spiked DBS samples had a two-fold lower titer than blood samples. Participants ($\geq 95\%$) felt somewhat to very comfortable with DBS collection, somewhat or very confident about collecting at DBS at home, and trust the results using DBS. Participants (88%) encountered no problems collecting the DBS at home.

Conclusion: Self-collected, mail-in DBS samples are a suitable specimen type for HIV and syphilis testing. Acceptability of self-collected DBS is very high both in the clinical setting and at home. Additional studies are warranted to assess the diagnostic accuracy of performing RPR testing directly from DBS.

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O13.6

PROTECTIVE EFFECT OF REPORTED MENINGOCOCCAL B VACCINATION, BEXSERO, AGAINST SUBSEQUENTLY REPORTED GONORRHEA INFECTIONS, TENNESSEE, 2015–2022

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Background: Meningococcal Group B vaccine, Bexsero, has been hypothesized to offer cross-protective immune response for subsequent gonorrhea infection. Studies have shown consistency in the protective effect of the Bexsero vaccine,¹ reducing the risk of gonorrhea by ~40% for individuals who received two doses and ~26% for individuals who received one dose.² We used statewide Tennessee surveillance and immunization data to evaluate this protective effect in a state with a largely rural population.

Methods: A retrospective case-control study was conducted. Surveillance data from 2015–2022 was used to identify cases (gonorrhea-infected) and controls (chlamydia-infected). Exposure status was determined by matching infections to the Tennessee vaccination registry. Exposure was defined as Bexsero receipt ≥ 30 days prior to chlamydia or gonorrhea infection. Multivariable logistic regression with a generalized estimating equation calculated adjusted odds ratios (aOR) and 95% confidence intervals (CI) for the effect of vaccination on subsequent case status (conducted in SAS 9.4).

Results: During 2015–2022, 97,091 gonorrhea cases met inclusion criteria, with 2,938 (3.02%) reporting a Bexsero vaccination. Among 169,567 chlamydia controls, 5,031 (2.97%) reported Bexsero vaccination. A significant protective effect against subsequent gonorrhea infection was calculated for those receiving two vs. no doses (aOR=0.71; 95% CI: 0.56–0.91). However, the adjusted odds of gonorrhea infection were not different for those receiving one vs. no vaccine dose (aOR=1.04; 95% CI: 0.84–1.28).

Conclusion: Using statewide reportable disease and immunization data, we observed a protective effect against gonorrhea infection among persons who were immunized with two or more doses of Bexsero, resulting in 29% reduced odds of gonorrhea infection compared to no vaccination. These analyses are the first to report statewide population effects including urban and rural areas. Gonorrhea vaccination may be an effective method to decrease the burden of infection in the U.S. and its implementation should be evaluated in prospective studies.

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Oral Session (O14) - This Is Not a Test: Meeting the Needs of Communities Through Syphilis Intervention

O14.1

EVALUATING AN ELECTRONIC HEALTH RECORD (EHR) OPTIMIZATION TOOL TO IMPROVE SYPHILIS TREATMENT FOR PATIENTS LOST TO FOLLOW-UP

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Background: Congenital syphilis rates are rising in San Francisco. Case reviews revealed missed syphilis treatment opportunities during visits to the San Francisco Department of Public Health (SFDPH) emergency department, urgent care, jail health, and the municipal sexual health clinic, which all utilize the same electronic health record (EHR), Epic. We evaluated whether an EHR prompt would alert providers about patients needing treatment.

Methods: Epic IT built a function to allow a provider to manually add a chart “alert” entitled “Lost to follow-up: syphilis treatment needed”. The alert includes information about syphilis diagnosis, stage, and treatment needed, and can be manually removed once the patient is treated. We examined patient demographics, syphilis diagnosis, and treatment information for patients with an alert. Gender, race, and housing status were from Epic. All patients with alerts were matched to the SFDPH STI Registry to identify syphilis stage, pregnancy status, and reported syphilis treatment where available.

Results: From 9/1/2021-2/29/2024, 276 syphilis alerts were added of whom 48% were male, 43% female, 69% non-white, 55% experiencing homelessness and 5% pregnant. Of 226 (82%) patients that matched to the Registry, 34% had early syphilis diagnosis. As of 3/21/24, 148 (54%) of patients for whom an alert was created either had the alert removed (n=92) or still had the alert but had evidence of treatment in the Registry (n=56) after the alert was added.

Conclusion: Over half of patients with untreated syphilis for whom an EHR alert was added had evidence of receiving treatment after the alert was created, as evidenced by removal of the alert or treatment in the Registry. Whether the alert prompted treatment is unknown. Next steps include educating providers about the alert to increase proper use, assure alerts are removed once patient has completed treatment, and case review to evaluate discrepancies between alert status and Registry treatment information.

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O14.2

IMPLEMENTATION OF NURSING PROTOCOLS FOR PENICILLIN ALLERGY RISK ASSESSMENT AND AMOXICILLIN CHALLENGE IN AN STI-CLINIC SETTING

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Background: Reported penicillin allergies are common while true penicillin allergy is rare. Penicillin is the recommended treatment for syphilis and reduces potential adherence and confidentiality barriers in treatment compared to the alternative doxycycline.

Methods: We implemented the use of the PEN-FAST score in nursing protocols at the Keenan Sexual Health Center (Milwaukee, WI) to assess reported penicillin allergy in April of 2022. Clients with a score of ≤ 1 were then offered an amoxicillin challenge with 500mg given once orally in clinic, followed by treatment dose benzathine penicillin G if no reaction was observed with amoxicillin. Chart review was performed for clients that received an amoxicillin challenge in clinic starting in April 2022. For this analysis, we also gathered data on total treatments provided for STI-clinic clients with a syphilis diagnosis from the Wisconsin Electronic Disease Surveillance System.

Results: 23 clients with reported penicillin allergy were given an oral amoxicillin challenge following allergy assessment protocol implementation over a 2 year period. There were no adverse reactions and all clients subsequently were treated with benzathine penicillin G. In the year following protocol implementation, there were 13 clients given an oral amoxicillin challenge, all who passed, allowing benzathine penicillin G to be given. This reduced the use of alternative treatment that year by 17 % (13/77).

Conclusion: Nursing protocols for penicillin allergy assessment using validated risk scoring tools (PEN-FAST) and implementation of in-clinic oral amoxicillin challenge can safely and effectively increase treatment with preferred penicillin regimens in clients with syphilis.

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O14.3

IMPLEMENTING A 24/7 CONGENITAL SYPHILIS HOTLINE FOR CALIFORNIA CLINICIANS: FEASIBILITY AND PRELIMINARY DATA

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Background: The National Network of STD Clinical Prevention Training Centers (NNPTC) operates the STD Clinical Consultation Network (STDCCN), an online platform connecting clinicians with experts to address complex STI consults. Due to rising congenital syphilis (CS) rates, the NNPTC collaborated with its regional partner, the California Prevention Training Center, and launched a 24/7 CS Hotline pilot for California clinicians. We discuss implementation and preliminary data from this pilot.

Methods: During the planned three-month pilot (1/1/24-3/31/24), STDCCN portal asked California clinicians to categorize their syphilis in pregnancy/CS (SiP/CS) consults as “urgent” (same day) or “non-urgent” (1-5 business days). NNPTC triage staff reviewed consults to confirm urgency and assigned consults to one of four on-call physicians. Marketing of the hotline via websites, social media, and email blasts was performed before and throughout the pilot project.

Results: As of 2/29/24, there have been 34 SiP/CS consultations -- 17 self-reported as urgent and 17 as non-urgent. Triage staff verified 88% (n=15/17) were CS urgent consults (excluding n=2 questions from non-clinicians). Most of the urgent consult (12/15, 80%) involved pregnant patients at 32+ weeks gestation or recently born infants. In contrast, only 30% (n=5/17) of non-urgent consults were third-trimester or beyond. Among 15 urgent consults, physicians represented 67% (n=10), NPs 20% (n=3), and RNs 13% (n=2); these consultations came from hospitals 53% (n=8), community health centers 27% (n=4), local health departments 13% (n=2), and academic institution 7% (n=1). Seventy-five percent of urgent consults were during business hours, and all urgent consults (100%) were returned in <24 hours.

Conclusion: We successfully implemented a 24/7 CS hotline, demonstrating both feasibility and utility. Most consultations were submitted during business hours (8:00 am – 5:00 pm) by physicians in hospitals, but use of the hotline indicates that quick response times are desired. Jurisdictions should consider implementing consultation systems to expediently address CS consults.

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O14.4

EVALUATING THE PERFORMANCE OF THE SYPHILIS HEALTH CHECK RAPID TEST AS A SCREENING TOOL FOR PEOPLE WHO INJECT DRUGS (PWID), ENCOUNTERED IN NON-CLINICAL SETTINGS IN LOS ANGELES COUNTY (LAC), 2022

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Background: Very limited data exists on the performance of the Syphilis Health Check (SHC) rapid test in non-clinical settings. The primary objective of this study was to compare the performance of the SHC in detecting treponemal antibodies in non-clinical field sites against “gold standard” laboratory-based syphilis testing.

Methods: PWID in LAC were recruited using respondent driven sampling as part of National HIV Behavioral Surveillance. For each consenting participant, a SHC rapid test was performed in the field at the enrollment encounter, while a paired sample of whole blood was transported to the LAC Public Health Laboratory for laboratory-based syphilis testing. Syphilis testing in the laboratory was performed using the Reverse Algorithm (RA): DiaSorin Liaison® Treponemal assay followed by a quantitative Rapid Plasma Reagin and (RPR) the ARCHITECT Syphilis TP test if the RPR was nonreactive. The SHC rapid test results were compared with RA tests for concordance.

Results: Of the 416 PWID tested, 63 were reactive on both SHC and RA, 18 were nonreactive on SHC but reactive on RA, 21 were reactive on SHC but nonreactive on RA and 313 were nonreactive on both SHC and RA. One participant’s SHC result was invalid. Compared with the “gold standard”, SHC sensitivity was 78% (63/81), while specificity was 94% (313/335). The positive predictive value was 75% (63/84) and the negative predictive value was 95% (313/331).

Conclusion: The observed sensitivity of the SHC rapid test in this field setting implies that approximately 1 in 5 PWID with treponemal antibodies would go undetected. These results raise concerns about the effectiveness of the SHC rapid test as a screening tool, especially in marginalized populations, such as PWID, with limited service provider engagement. This study emphasizes the need for high-sensitivity syphilis rapid tests, that can simultaneously screen and confirm syphilis and facilitate point-of-care diagnosis and treatment in field settings.

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O14.5

REDUCING CONGENITAL SYPHILIS THROUGH BI-WEEKLY CASE REVIEW SESSIONS IN PHILADELPHIA, PA

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Background: In 2022, Philadelphia experienced a 160% increase in congenital syphilis with 26 cases reported, an increase of 16 cases reported in 2021 and the highest number reported in over three decades. In response, the Philadelphia Department of Public Health, STD Control Program implemented twice-monthly case review sessions, beginning in November 2022. These sessions include the Disease Intervention Specialists (DIS), DIS supervisors, and STD Control Program upper management. The aim was to address this crisis by analyzing and optimizing prevention strategies.

Methods: The sessions are structured as collaborative forums where DIS present their assigned pregnant person cases with syphilis. Supervisors and upper management provide constructive feedback and collectively determine the next steps to enhance prevention efforts. This approach ensures a comprehensive review of each case focusing on critical factors such as timely diagnosis, proper and rapid treatment, in-person partner services, aggressive contact tracing, and working with the patient and providers to ensure adherence to prenatal care.

Results: Since the implementation of the case review sessions, the number of reported congenital syphilis cases in Philadelphia decreased in 2023, with 9 cases reported. We surmise the collaborative nature of the sessions, which included the expertise of DIS and input from supervisors and upper management, played a pivotal role in identifying and decreasing gaps in prevention.

Conclusion: This case review model, characterized by collaboration and feedback between DIS, supervisors, and upper management, presents an effective strategy for addressing the public health challenge of increasing cases of congenital syphilis. A longer evaluation period will help determine if the case reviews and subsequent touch points with the patient will continue to reduce the number of reported congenital syphilis cases.

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O14.6

A SCOPING REVIEW OF IGM TREPONEMA PALLIDUM TESTS: A POTENTIAL STRATEGY TO IMPROVE THE DIAGNOSIS OF CONGENITAL SYPHILIS IN THE UNITED STATES

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Background: Over the past 10 years, the prevalence of congenital syphilis has increased by more than 1,000% in the United States. In the absence of diagnostic tests, infants born to mothers with syphilis require hospitalization and treatment with IV penicillin for 10 days. The European Union and the British Association for Sexual Health and HIV guidelines include testing for the presence of IgM antibodies to *Treponema pallidum* antigens among newborns. Such tests are CE marked in Europe and TGA approved in Australia, but no FDA approved test exists. Further, the United States Centers for Disease Control and Prevention recommends against using commercially available IgM tests.

Methods: We conducted a scoping review of commercially available IgM tests for *Treponema pallidum*. We included both Immunoblot (modified western blot) and enzyme-linked immunosorbent assay (ELISA) tests. We searched both PubMed Central and manufacture websites to compile a performance profile for each IgM assay. We report types of antibodies detected, target antigens, and performance characteristics (sensitivity and specificity) for active syphilis regardless of stage among all commercially available assays.

Results: Our search identified four immunoblot-based assays and three ELISA-based assays, all targeting similar *Treponema pallidum* recombinant antigens (47 kD, 45 kD, 41 kD, 17kD, and/or 15 kD) – one ELISA included two additional antigens (tp257 and tp453). The reported sensitivity of immunoblot assays ranged from 87.4% to 99.6%; the reported specificity ranged from 95.2% to 99.9%. The reported sensitivity of ELISAs ranged from 59.8% to 95.7%; the reported specificity ranged from 95.2% to 100%.

Conclusion: Commercial IgM tests for *Treponema pallidum* are available, with many demonstrating promising performance for detecting active syphilis. Evaluation of the utility of such tests for diagnosing congenital syphilis is warranted. Manufacturers should undertake efforts to pursue FDA approval of IgM tests in newborns.

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Oral Session (O15) - Late-Breakers: A Focus on Doxy PEP and Syphilis

O15.1

VARIABLE IMPACT ON CLINIC-LEVEL STI BURDEN AFTER DOXYCYCLINE PEP IMPLEMENTATION IN AN URBAN SEXUAL HEALTH CLINIC

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Background: Doxycycline post-exposure prophylaxis (doxyPEP) reduced the incidence of bacterial sexually transmitted infections (STIs) among men who have sex with men (MSM) and transgender women (TGW) in clinical trials. We assessed the association between doxyPEP roll-out and STI burden in a Boston sexual health clinic.

Methods: DoxyPEP was routinely offered to MSM or TGW beginning April 2023, regardless of HIV status or PrEP use. We compared monthly positivity rates for gonorrhea, chlamydia, and syphilis testing performed October 2022-March 2023 (before-doxyPEP) to October 2023-March 2024 (after-doxyPEP). Syphilis was defined by a combination of test results and treatment. Positive results for the same STI from multiple sites at the same visit were counted once. We used Poisson regression with robust standard errors to estimate relative risk (RR).

Results: There were 3227 patient visits in the before-doxyPEP period: 43% aged 18-29, 82% cisgender men, 51% MSM, 11% Black, 21% Hispanic. There were 2862 visits in the after-doxyPEP period; demographics were similar except 60% identified as MSM. By March 31, 2024, 673 people started doxyPEP: 40% aged 18-29, 93% MSM, 0.6% TGW, 8% Black, 22% Hispanic, 4% living with HIV, and 88% taking PrEP. In the after-doxyPEP period, 427 people started doxyPEP (24.2% of all patients seen). From before- to after-doxyPEP, clinic positivity rates decreased for chlamydia: 8.3% to 3.8%, RR 0.46, 95%CI 0.36-0.59; and syphilis: 2.4% to 1.4%, RR 0.59, 95%CI 0.38-0.91; gonorrhea did not change significantly (6.0% to 5.4%, RR 0.90, 95%CI 0.73-1.14). Gonococcal culture results were available for 65 and 16 people before- and after-doxyPEP, respectively; tetracycline susceptibility was not assessed, but all isolates were ceftriaxone susceptible.

Conclusion: Real-world implementation of doxyPEP in a sexual health clinic demonstrated high doxyPEP uptake and was associated with a significant reduction in overall chlamydia and syphilis burden, but not gonorrhea.

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O15.2

AWARENESS AND UPTAKE OF DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXYPEP) AMONG SEXUALLY ACTIVE BLACK MSM IN LOS ANGELES COUNTY, 2024

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Background: Doxycycline Post-Exposure Prophylaxis (DoxyPEP) is an emerging strategy for preventing sexually transmitted infections (STIs) like chlamydia, syphilis, and gonorrhea. This study evaluates awareness and uptake of DoxyPEP among sexually active Black men who have sex with men (BMSM) in Los Angeles County (LAC).

Methods: From January through March 2024, venue-based sampling was used to recruit BMSM for a locally funded extension of National HIV Behavioral Surveillance (NHBS) in LAC. Participants completed the NHBS survey and rapid HIV testing. A local questionnaire was also administered to assess DoxyPEP awareness, discussions with healthcare providers (HCPs), and uptake over the past 12 months.

Results: The median age of the 199 BMSM participants was 32 years (range: 22 to 66). Participants reported a median of 6 male sex partners in the past 12 months. Sixty-six percent of participants were aware of DoxyPEP, 32% had discussed DoxyPEP with HCPs, and 19% (n=37) had used it in the previous 12 months. Among DoxyPEP users, 65% took it once a month or less. Of the 35% (n=67) diagnosed with an STI in the past year, 79% were aware of DoxyPEP, 43% discussed it with HCPs, and 28% had used DoxyPEP.

Comparing 3 groups-HIV-negative on PrEP (n=85), HIV-positive (n=37), and HIV-negative not on PrEP (n=77)-we observed higher DoxyPEP awareness, discussions, and use among these on PrEP (85%, 47%, 31%), followed by HIV-positive (70%, 30%, 16%) and HIV-negative not on PrEP (42% 13%, 4%).

Conclusion: In this 2024 study, 35% of BMSM in LAC reported an STI within the previous 12 months, but among these, only 28% reported DoxyPEP use. These results highlight the existing gap between CDC's clinical recommendations and current DoxyPEP use. Lower levels of DoxyPEP awareness and use among LAC HIV-negative BMSM not on PrEP and BMSM living with HIV suggest a need for prioritization among these groups.

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O15.3

TRENDS IN NEISSERIA GONORRHOEAE TETRACYCLINE RESISTANCE BEFORE AND AFTER DOXY-PEP IMPLEMENTATION IN SEATTLE, WASHINGTON

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Background: Doxycycline postexposure prophylaxis (doxy-PEP) has the potential to increase the prevalence of tetracycline resistance (tetR) in *Neisseria gonorrhoeae* (NG). We investigated overall trends in NG-tetR from 1/2018–12/2023 and measured the association between tetR and doxy-PEP use among men who have sex with men (MSM).

Methods: NG isolates were collected from Public Health Seattle & King County Sexual Health Clinic patients, where doxy-PEP was offered to eligible patients beginning 5/2023. Antimicrobial susceptibility testing was performed by agar dilution. We defined tetR as minimum inhibitory concentration (MIC) ≥ 2.0 $\mu\text{g/mL}$ and high-level tetR (HL-tetR) as MIC ≥ 16 $\mu\text{g/mL}$. We used chi-square and Fisher's exact tests to evaluate trends in the proportion of isolates with tetR and the association of tetR with recent (past month) doxy-PEP use.

Results: 2,593 NG isolates were collected 1/2018–12/2023. The overall proportion of isolates with tetR increased from 23% in 2018 to 38% in 2023 ($p < 0.0001$) while HL-tetR increased from 5% to 33% ($p < 0.0001$). This increase was first evident in the second half of 2021, with tetR consistently increasing since that time. Absolute and temporal increases in tetR and HL-tetR were greater in MSM (25% tetR in 2018 and 43% in 2023 $p < 0.0001$; 5% HL-tetR in 2018 and 40% in 2023, $p < 0.0001$) compared to heterosexuals (tetR 10% in 2018 and 13% in 2023, $p = 0.0187$; and HL-tetR $\leq 7\%$). From 5/2023 to 2/2024, 281 isolates were collected from MSM, including 19% (54/281) who reported recent doxy-PEP use. Both tetR and HL-tetR were higher among MSM doxy-PEP users than nonusers (tetR 57% [31/54] vs. 49% [100/205], $p = 0.2593$, HL-tetR 56% [30/54] vs. 45% [92/205], $p = 0.162$).

Conclusion: NG-tetR in Seattle-King County has rapidly increased since 2021 and is higher among men using doxy-PEP. This finding suggests that doxy-PEP is unlikely to be effective for gonorrhea prevention among MSM in our jurisdiction.

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O15.4

INCREASING PREVALENCE OF TETRACYCLINE RESISTANT GONORRHEA AMONG SEXUALLY TRANSMITTED INFECTION (STI) CLINIC PATIENTS IS CORRELATED WITH INCREASING USE OF DOXYCYCLINE FOR TREATMENT AND POST-EXPOSURE PROPHYLAXIS (DOXY-PEP), SAN FRANCISCO, 2002-2023

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Background: Doxycycline is increasingly used for STI treatment and prevention in San Francisco (SF). Whether this has contributed to an increase in tetracycline-resistant (TCN-R) gonorrhea is unknown.

Methods: Using results of phenotypic antibiotic susceptibility testing from urethral gonorrhea cultures collected at SF City Clinic (SFCC) for GISP, we describe the prevalence of gonococcal isolates with low (MIC 2-8) and high (MIC $\geq$ 16) TCN-R. We analyzed the number of SFCC patient-visits at which doxycycline was prescribed for treatment or prevention, per half-year (HY) of 2002-2023. We describe recent trends comparing January 2019-June 2022, when doxycycline became preferred for treating rectal chlamydia and then for chlamydia and urethritis, to July 2022-December 2023, after the release of SF doxy-PEP guidelines and during a bicillin shortage. We assessed the ecologic association between the proportion of TCN-R gonorrhea cultures in each six-month period for 2003-2023 and the number of patient-visits with doxycycline prescriptions in the same six-month period the year prior using logistic regression.

Results: During 2019-2023, 1047 gonorrhea cultures from SFCC patients had TCN MIC results. From HY1:2019-HY1:2022, the number of patient-visits at which doxycycline was prescribed increased 372% (191 to 902), the prevalence of gonorrhea with low-level TCN-R declined (21% to 4%) and the prevalence with high-level TCN-R increased (8% to 15%). From HY1:2022 to HY2:2023, the number of patient-visits at which doxycycline was prescribed increased 102% (902 to 1822), the prevalence of gonorrhea with low-level TCN-R continued to decline to 1%, and the prevalence with high-level TCN-R increased to 39%. The number of 2002-2023 visits at which doxycycline was prescribe each half-year was a significant predictor of the proportion of cultures with any TCN-R a year later ($p < 0.0001$).

Conclusion: Increased use of doxycycline is strongly correlated with increases in TCN-R gonorrhea. This could decrease the effectiveness of doxy-PEP for gonorrhea prevention.

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O15.5

IMPACT OF PREGNANCY ON THE ASSOCIATION BETWEEN METHAMPHETAMINE USE AND SYPHILIS TREATMENT IN LOS ANGELES COUNTY

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Background: In the United States, congenital syphilis (CS) has increased tenfold over the last decade, although 90% of the cases are preventable with timely treatment. This study examines the association between methamphetamine (meth) use and syphilis treatment among persons of reproductive potential (PRP) aged 15-44 years, focusing on how pregnancy status may impact treatment outcomes.

Methods: The study analyzed PRP syphilis cases in Los Angeles County using STD surveillance data from 2011-2020 from the Division of HIV and STD Programs, employing logistic regression to assess the impact of meth use on syphilis treatment, stratified by pregnancy status.

Results: We identified 6,027 syphilis cases among PRP, including 1,670 pregnant individuals. Among these cases, the average age was 29 years, with 50% Latinx and 24% Black individuals. Meth use was reported in 9.7% of non-pregnant individuals and 11.7% of pregnant individuals. Meth use was associated with higher odds of treatment in non-pregnant individuals (OR:1.37, 95%CI:1.10-1.72) and lower odds in pregnant individuals (OR:0.57, 95%CI:0.41-0.78) compared to non-users. In adjusted models, controlling for age, race, homelessness, incarceration history, and syphilis stage, meth use was not a significant predictor of treatment among non-pregnant individuals (aOR:1.14, 95%CI:0.88-1.48), while it was associated with decreased treatment odds in pregnant individuals (aOR:0.53, 95%CI:0.37-0.76). Multiple imputation was used to account for missing meth use data (17%), confirming these findings (aOR_MI_non-pregnancy:1.19: 95%CI:0.94-1.52, aOR_MI_pregnancy:0.52, 95%CI:0.36-0.75).

Conclusion: Meth use is associated with lower odds of syphilis treatment in pregnant individuals, compared to other PRP, demonstrating treatment disparities even after adjusting for age, race, homelessness, incarceration, and syphilis stage. The heterogeneity may stem from unmeasured variables and barriers related to meth use during pregnancy, such as fear of legal repercussions and loss of child custody. Further research is needed to address these gaps among pregnant people with syphilis.

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O15.6

SYPHILIS IN KING COUNTY, WA WOMEN IS IMPACTING AN INCREASINGLY MARGINALIZED POPULATION

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Background: Syphilis in King County, WA has reemerged among cisgender women (hereafter women) and men who have sex with women. We sought to characterize the sociodemographics of women with syphilis over time.

Methods: We used syphilis (all stages) surveillance and partner services (PS) data for cases diagnosed Jan 1, 2016 – April 30, 2024. Syphilis treatment was categorized as adequate or inadequate (no or partial treatment). Analyses of some PS data were restricted to March, 2020 – April, 2024. We examined trends in characteristics of women with syphilis over time using exact and chi-square tests.

Results: The number of King County women with syphilis increased from 48 (3% of all cases) to 437 (30% of all cases) from 2016- 2023. Women were more likely to be inadequately treated in 2024 (21%) compared to 2016 (0%, $p=0.003$). The proportion of women diagnosed in emergency rooms, corrections, or drug treatment settings increased ten-fold, from 3% in 2016 to 34% in 2024 ($p<0.001$). Women diagnosed in these settings were more likely to have inadequate treatment (24%) than those diagnosed in FQHCs (10%), sexual health clinics (3%), or women's health settings (10%, $p<0.001$). The proportion of women of White and American Indian/Alaskan Native race increased over time, from 29% to 44% ($p<0.001$), and from 2% to 11% ($p=0.003$), respectively. The proportion of women not located for PS interview rose from 26% in 2016 to 41% in 2023, and then dropped to 28% in 2024. Among 464 women interviewed for PS from March, 2020-April, 2024, 30% reported housing instability; this was unchanged over time ($p=0.81$). The proportion of women who reported previous syphilis increased from 0% to 14% from 2016-2024 ($p=0.02$).

Conclusion: Syphilis is increasingly concentrated among marginalized women in King County. Additional resources are required to successfully reach women with syphilis for prevention, treatment, and partner services.

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Oral Session (O16) - The Multi-“Culture” World of Gonorrhea

O16.1

TRENDS IN FREQUENCY OF EXTRAGENITAL AND MULTI-SITE GONORRHEA TESTING PRACTICES DURING COVID-19 PANDEMIC

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Background: Extragenital and multi-site testing practices are crucial to the successful diagnosis and prevention of sexually transmitted infections. This analysis examines the trends in extragenital and multi-site gonorrhea (GC) testing during the COVID-19 pandemic.

Methods: Using data from seven STD Surveillance Network (SSuN) collaborators, GC cases reported between 2019 and 2022 with known site of infection were aggregated across quarterly time periods. Cases missing site of infection were excluded. These cases were stratified by reported gender, age, race and ethnicity, and sexual behavior. Extragenital, multisite, or urogenital-only testing was identified based on the reported site of infection and the frequencies of these testing results were then compared.

Results: In 2019, the proportion of gonorrhea cases with anatomic site of infection indicating extragenital testing was 28% on average. This proportion decreased in Q2 2020 to 17%. Frequencies remained low until Q1 2021. Similarly, the proportion of cases with multi-site testing decreased from 17% in 2019 to 7% by Q2 2020. This change in frequency was reflected across all demographic and sexual behavior groups. By the end of 2022, the proportion of cases with extragenital testing increased to an average of 35% and the proportion of cases with multi-site testing rose to an average of 24%, both surpassing pre-pandemic levels.

Conclusion: The results of this study suggest that beginning in Q2 2020, there was a notable decline in the frequencies of extragenital and multisite testing in reported GC cases. Although the implementation of COVID-19 control measures did not occur simultaneously, this coincides with the implementation of many aggressive restrictions that limited access to care and resources. This analysis is based on cases with documented site of infection rather than provider-reported screening practices. These results highlight the impact of COVID-19 and the importance of extragenital and multi-site testing practices.

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O16.2

PERFORMANCE OF PROVIDER-COLLECTED VAGINAL GONORRHEA CULTURES, FINDINGS FROM COLORADO SURRG, 2022-2024

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Background: Gonorrhea (GC) culture is necessary for the surveillance of antimicrobial resistance. For cisgender women, endocervical and vaginal swabs have been used for GC culture. However, few data have been published on the yield of vaginal GC cultures. Since endocervical collection requires a speculum exam by a trained provider, assessing culture yield based on anatomical site of collection is particularly impactful for determining best practices for GC culture collection in cisgender women. This study assesses the yield of paired GC cultures collected at the endocervix and vagina.

Methods: Two provider-collected culture swabs were obtained from all cisgender women meeting GC culture criteria and consenting for culture in the Denver Sexual Health Clinic (one endocervical and one vaginal). Swabs were directly inoculated onto a JEMBEC plate and incubated. Endocervical and vaginal culture results were compared using a two-by-two table. The percent agreement and kappa statistic were generated to evaluate concordance.

Results: From October 2022 to February 2024, 473 paired endocervical and vaginal GC cultures were collected. Of those paired cultures, 30 (6.3%) were among cisgender women with a positive GC nucleic acid amplification test. Culture yields were 60% (95% CI: 50-70%) and 47% (95% CI: 37-56%) at the cervix and vagina, respectively. There were 26 (87%) pairs of concordant results: 14 positive and 12 negative with a kappa statistic of 0.74, indicating moderate agreement. There were 4 paired cultures with discordant results, all of which had positive endocervical cultures with negative vaginal cultures.

Conclusion: While endocervical and vaginal GC cultures demonstrated a moderate level of concordance, endocervical specimens produced a higher culture recovery. The addition of vaginal culture collection did not result in GC isolates beyond those identified using endocervical specimens. Our findings suggest that to optimize GC culture recovery for antimicrobial susceptibility testing among cisgender women, an endocervical swab is preferred.

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O16.3

DEMOGRAPHICS AND ENVIRONMENTAL CHARACTERISTICS ASSOCIATION WITH CHLAMYDIA AND GONORRHEA IN US COUNTIES WITH PERSISTENT POVERTY, 2018

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Background: Chlamydia and gonorrhea have long been associated with poverty. However, little is known about the association with persistent poverty (>20% of the population of a county living above the poverty level for 30 years). We investigated the demographics and environmental characteristics associated with chlamydia and gonorrhea in US counties with persistent poverty.

Methods: County-level data from the 2018 CDC's NCHHSTP AtlasPlus (chlamydia and gonorrhea) and the Agency for Healthcare Research and Quality dataset were used. Negative binomial regression models adjusted for age, sex, race/ethnicity, health insurance, geographic area, income, single parent, housing, and rural/urban.

Results: In 2018, 11.2% of US counties were categorized as persistent poverty, of which 84% were in the South, 70% were rural, and 27% were Black. Chlamydia and gonorrhea rates are higher in persistent poverty counties than in non-persistent poverty counties (609/100,000 vs. 312/100,000 and 202/100,000 vs. 79/100,000, respectively). Chlamydia rate ratios were higher in counties with higher rates of single-parent households RR 1.008 (95% CI 1.002-1.01), while lower among counties with higher rates of whites, Medicare beneficiaries, and rural residents. Gonorrhea rates were higher in counties with higher rates of single parents, RR 1.01 (95% CI 1.001-1.02), and in the Midwest, RR 2.23 (95% CI 1.09-4.52), while lower with higher populations of whites, and rural residents.

Conclusion: There is a high prevalence of chlamydia and gonorrhea in persistent poverty counties even when controlled for known associations with these sexually transmitted diseases (STIs). Policymakers might consider policy initiatives to address the root causes of persistent poverty and inequality that contribute to higher chlamydia and gonorrhea rates in these areas. As all rural regions are not the same, it is likely all persistent poverty regions are not the same, and targeted interventions are likely necessary to address the underlying disparities leading to higher rates of STIs.

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O16.4

IN VITRO ACTIVITY OF GEPOTIDACIN AGAINST BASELINE NEISSERIA GONORRHOEAE PHENOTYPES AND GENOTYPES RECOVERED FROM A CLINICAL TRIAL FOR UNCOMPLICATED UROGENITAL GONORRHEA (EAGLE-1)

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Background: Gepotidacin, a novel, bactericidal, first-in-class triazaacenaphthylene antibiotic, selectively inhibits bacterial replication with a distinct binding site, unique mechanism of action and, for most pathogens, well-balanced inhibition of two enzymes. Gepotidacin is active against *Neisseria gonorrhoeae* (NG), including most isolates resistant to current antibiotics.

Oral gepotidacin 2x3000mg demonstrated non-inferiority to 500mg intramuscular ceftriaxone and 1000mg oral azithromycin for the treatment of uncomplicated urogenital gonorrhea (uUGC) in a recently concluded pivotal Phase 3 clinical trial (EAGLE-1 [NCT04010539]; primary results reported previously).

Methods: All participants provided pretreatment swab specimens for culture by standard methods. Utilizing Clinical and Laboratory Standards Institute guidelines, susceptibility testing of NG was conducted at a central laboratory. All NG were molecularly characterized. For inclusion in the microbiological intent-to-treat (micro-ITT) population, a participant was required to have received ≥ 1 dose of study drug and have ceftriaxone-susceptible NG from baseline culture of their urogenital specimen.

Results: Of 408 baseline urogenital NG isolates from participants in the micro-ITT population, 54%, 17%, 25%, and 9% were nonsusceptible/resistant to ciprofloxacin, penicillin, tetracycline, or azithromycin, respectively. 12% were resistant to 3 drugs (ciprofloxacin+penicillin+tetracycline). No isolates were nonsusceptible/resistant to ceftriaxone/cefixime or spectinomycin. The most prevalent QRDR mutations were GyrA S91F, D95A (52%), and ParC S87R (36%). 12% had ParC D86N. No MLST or NG-MAST type was $>10\%$, most common MLST was ST9362 (8%). Gepotidacin MIC₉₀s for the phenotypes and genotypes ranged from 0.12–2 μ g/mL.

Conclusion: Drug resistance rates were consistent with current epidemiology with 54% of baseline urogenital NG isolates resistant to ciprofloxacin and 9% nonsusceptible to azithromycin. No NG isolates were nonsusceptible/resistant to ceftriaxone/cefixime or spectinomycin. A broad range of genotypes were also identified in the subset of NG isolates tested. For most phenotypes and genotypes, gepotidacin MIC₉₀s were within ± 1 -dilution when compared with all NG, highlighting gepotidacin's consistent in vitro activity against drug-resistant NG.

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O16.5

EXPANDED SURRG CASE INVESTIGATION OUTCOMES AMONG PATIENTS DIAGNOSED WITH GONORRHEA WITH REDUCED ANTIMICROBIAL SUSCEPTIBILITY IN NEW YORK CITY, 2017-2021

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Background: The Strengthening the U.S. Response to Resistant Gonorrhea (SURRG) program builds local capacity to rapidly detect and respond to the threat of antibiotic resistant *Neisseria gonorrhoeae* (NG). SURRG activities from 2017-2021 included expansion of culture, timely antibiotic susceptibility testing (AST), and expanded case investigations for patients diagnosed with gonorrhea with reduced antimicrobial susceptibility (RSGC).

Methods: We analyzed case investigation outcomes for RSGC cases diagnosed at ten SURRG sites in New York City (NYC) between 2017-2021. An RSGC case was defined as a patient with ≥ 1 NG isolate with an AST minimum inhibitory concentration of ≥ 2.0 $\mu\text{g/mL}$ for azithromycin, ≥ 0.125 $\mu\text{g/mL}$ for ceftriaxone, or ≥ 0.25 $\mu\text{g/mL}$ for cefixime. RSGC cases were contacted by an NYC Health Department disease intervention specialist (DIS) trained on SURRG expanded case investigations, including additional questions around sexual behavior and risk factors, and elicitation and interview of first- and second-generation sexual and social contacts.

Results: We identified 541 RSGC cases. DIS interviewed 88% (477/541) of cases and elicited 384 named first-generation sexual and social contacts from 228/477 (47%) interviewed patients. Among cases, 13% (62/477) reported they and/or their partners had concurrent sexual partners, and 15% (72/477) reported participation in a group sex event. Among 384 named partners, 78% (203/268) locatable partners were interviewed, and 47% (126/268) were diagnosed with GC. Among partners with GC, 19% (24/126) had a culture test, 79% (19/24) were positive, and 74% (14/19) were RSGC. Among interviewed first-generation partners, 25% (50/203) named a total of 77 second-generation contacts. 45% (32/71) of locatable second-generation contacts were interviewed and 8% (6/71) were diagnosed with GC.

Conclusion: Expanded case investigations yielded a high percentage of RSGC cases among the few first-generation contacts that had GC culture, limiting opportunities to detect RSGC transmission. Expansion of culture to RSGC contacts whenever possible could be important for monitoring and detecting RSGC.

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O16.6

CLINICAL AND SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH OCULAR MPOX IN CALIFORNIA, MAY 2022 - SEPTEMBER 2023

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Background: Inoculation of the eye with *monkeypox virus* (mpox) can cause vision-threatening disease necessitating hospitalization and urgent treatment. Ocular mpox is poorly understood, including who is most at risk. We described sociodemographic characteristics, HIV status, JYNNEOS vaccination status, and treatment among California mpox cases with and without ocular involvement.

Methods: We conducted a cross-sectional study comparing mpox cases with and without ocular involvement (ocular and non-ocular cases) reported to the California Department of Public Health 5/1/2022 - 9/30/2023. Pearson's chi-squared and t-tests were used to compare sociodemographic characteristics, HIV status, vaccine status, and treatments between groups. Bivariate logistic models were built to assess odds of ocular mpox given JYNNEOS vaccination.

Results: We identified 5,888 reported mpox infections; 3,479 (59.1%) were excluded because they did not contain ocular symptom data. Of the remaining 2,409 cases, 261 (10.8%) were ocular cases. Most ocular and non-ocular cases were male (96.9% vs 94.3%) who reported male-to-male sexual contact (73.2% vs 71.6%). Compared with non-ocular cases, more ocular mpox cases were Latinx (51.0% vs 41.8%), Black (14.2% vs 8.9%), and HIV positive (49.8% vs 38.8%), (all $p < 0.01$). Fewer ocular mpox cases received tecovirimat compared to non-ocular cases (20.7% vs 31.7%, $p < 0.001$). Ocular cases had significantly lower odds of having received ≥ 1 dose of JYNNEOS prior to infection compared with non-ocular cases (OR 0.43; 95% CI 0.20-0.80).

Conclusion: Among mpox infections in California, ocular symptoms more often affected people who were Black, Latinx, or living with HIV, suggesting these populations may benefit from focused interventions to prevent mpox and this complication. Provider education on the indications for antiviral therapy may be needed as fewer ocular mpox cases received tecovirimat despite the potential for severe sequelae. Finally, JYNNEOS vaccination prior to mpox exposure may protect against ocular and other severe mpox related outcomes, underscoring the importance of prophylactic JYNNEOS vaccination.

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Oral Session (O17) - Time for a PEP Rally: Doxy PEP Interventions

O17.1

RECENT DOXY-PEP USE, TETRACYCLINE-RESISTANT STAPHYLOCOCCUS AUREUS, AND GROUP A STREPTOCOCCUS CARRIAGE AMONG SEXUAL HEALTH CLINIC PATIENTS IN SEATTLE, WASHINGTON

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Background: Doxycycline post-exposure prophylaxis (doxy-PEP) reduces bacterial STIs in men who have sex with men (MSM) and transwomen, but data are limited on its impact on antimicrobial resistance in non-STI bacteria. We measured the association of tetracycline-resistant (TetR) *Staphylococcus aureus* (SA), methicillin-resistant SA (MRSA), and group A streptococcus (GAS) carriage with recent doxy-PEP use.

Methods: MSM and transwomen visiting the Public Health – Seattle & King County Sexual Health Clinic provided nares and pharyngeal specimens using Eswab during routine visits; swabs were combined for bacterial culture and confirmed as SA and GAS using Harborview Medical Center Microbiology Laboratory procedures. Isolates underwent susceptibility testing for tetracycline (SA, GAS) and oxacillin (SA) using broth microdilution (SA) or Etest (GAS). Patients reported recent (past month) doxy-PEP use. We calculated the proportion of patients with SA, MRSA, TetR-SA, GAS, and TetR-GAS by recent doxy-PEP use and used chi-square or Fisher's exact tests to evaluate differences.

Results: We collected specimens from 512 unique patients during 8/2/2023-2/29/2024. Overall, 125 (24%) used doxy-PEP in the past month; 8 (2%) were missing recent doxy-PEP status. 174 (34%) of 512 persons were SA-positive. SA prevalence was lower among recent doxy-PEP users than non-users (27% [34/125] vs. 36% [138/379], $p=0.0596$). However, among SA carriers, tetracycline resistance was more common among doxy-PEP users than nonusers (68% [23/34] vs. 19% [26/138], $p<0.0001$), and overall carriage of TetR-SA was higher among doxy-PEP users than nonusers (18% [23/125] vs. 7% [26/379], $p=0.0002$). While MRSA was rare (7/504, 1%), most (6/7, 86%) MRSA were TetR. Of 228 patients who underwent GAS screening during 11/9/2023-2/29/2024, 7% (16/228) were GAS-positive; GAS carriage was higher in doxy-PEP users vs. non-users (12% [8/66] vs. 5% [8/160], $p=0.0837$), most (13/14, 93%) GAS were TetR.

Conclusion: Doxy-PEP is associated with increased carriage of TetR-SA and possibly GAS. The clinical implications of these findings are uncertain.

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O17.2

PATTERNS AND PREDICTORS OF SEXUALLY TRANSMITTED INFECTIONS (STIS) IN PARTICIPANTS USING DOXY-PEP

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Background: DoxyPEP is efficacious in preventing syphilis, chlamydia, and gonorrhea. The efficacy of doxy-PEP at preventing concurrent and recurrent STIs, and predictors of STI acquisition in those prescribed doxy-PEP have not previously been described.

Methods: DoxyPEP was an open-label trial among MSM and transwomen with an STI in the past year who were randomized 2:1 to doxy-PEP or standard of care (SOC). We analyzed the efficacy of doxy-PEP for prevention of: 1) Rectal, pharyngeal, and urethral gonorrhea or chlamydia; 2) Syphilis; 3) Concurrent infection with multiple pathogens (gonorrhea, chlamydia and/or syphilis) at the same visit; and 4) Recurrent STI (having at least one STI in >1 quarter). Using multivariate modified Poisson regression, we assessed factors associated with acquisition of STIs for doxy-PEP arm participants, including adherence self-reported as “always”, “often”, “sometimes”, or “rarely/never”.

Results: Of 502 intent-to-treat participants, 474 contributed 1260 follow-up quarters to this analysis (385 SOC and 875 doxy-PEP). Doxy-PEP significantly reduced the risk of pharyngeal, rectal, and urethral gonorrhea by 53%, 64%, and 81%, and pharyngeal, rectal, and urethral chlamydia by 78%, 83%, and 87%, respectively, and syphilis by 85% ($p < 0.05$ for all). Doxy-PEP also reduced concurrent infection with multiple pathogens (among visits with an STI, 4.0% in doxy-PEP vs. 11.7% in SOC, $p = 0.058$) and recurrent quarters with at least one STI (among participants with incident STI, 20.7% in doxy-PEP vs. 36.9% in SOC, $p = 0.011$). Factors associated with STI acquisition in the doxy-PEP group included lower doxy-PEP adherence (adjRR 1.33/ordinal category, [95% CI 1.09-1.61]), younger age (adjRR 1.33/10 years [95% CI 1.09-1.61]); and using stimulants, ecstasy, or poppers (adjRR 1.59 [1.09, 2.33]).

Conclusion: Doxy-PEP is effective at preventing syphilis, genital and extragenital gonorrhea and chlamydia, and recurrent STIs. There was a trend in reduction in risk of concurrent gonorrhea, chlamydia, and/or syphilis infection. Adherence to doxy-PEP is critical for optimizing effectiveness.

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O17.3

EARLY UPTAKE OF DOXYCYCLINE POSTEXPOSURE PROPHYLAXIS AND ASSOCIATED STI POSITIVITY IN THE SEATTLE-KING COUNTY SEXUAL HEALTH CLINIC

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Background: Doxycycline postexposure prophylaxis (doxy-PEP) reduces STI incidence in men who have sex with men (MSM) and transgender women. We analyzed uptake and associated STI positivity by doxy-PEP use among patients in the Public Health-Seattle & King County Sexual Health Clinic (SHC).

Methods: In May 2023, doxy-PEP use questions were added to a routine clinic survey. In June 2023, the SHC began broadly offering doxy-PEP based on county guidelines. The analysis population includes MSM and transgender/gender diverse (TGD) people reporting sex with men who completed a survey during 5/1/2023-3/1/2024; the unit of analysis was the visit. We compared patient characteristics and calculated relative risks (RR) of test positivity for early syphilis, gonorrhea, or chlamydia at any anatomic site, stratified by doxy-PEP use (chi-square or Wilcoxon rank sum tests) and examined trends in doxy-PEP use over time (Cochran-Armitage test).

Results: Among 2,445 patients who attended 3,955 SHC visits, the proportion of respondents reporting doxy-PEP use increased from 12% in May 2023 to 30% in Feb/Mar 2024 ($P<0.0001$) with a median of 4 (IQR: 1-10) doses in the past month. Patients reporting doxy-PEP use were older (median 34 vs 32 years), less likely to be TGD (6.3% vs 10.7%), and more likely to be on HIV PrEP (91% vs 62%) than non-users ($P<0.02$ for all). Doxy-PEP use was not significantly different by race/ethnicity ($P=0.08$). Unadjusted per-visit STI positivity risk among doxy-PEP users vs non-users was 12.7% vs 10.2% for gonorrhea (RR=1.21, CI: 1.0-1.47), 3.7% vs 6.8% for chlamydia (RR=0.57, CI: 0.40-0.83), and 1.1% vs 2.3% for early syphilis (RR=0.54, CI: 0.27-1.10). In total, 410 patients were newly prescribed doxy-PEP in the SHC.

Conclusion: Self-reported doxy-PEP use increased substantially over the analysis period and monthly use was similar to clinical trials. Lower chlamydia positivity, and possibly syphilis positivity, suggests that doxy-PEP decreased STI risk in early adopters.

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O17.4

USE OF DOXYCYCLINE FOR STI POST-EXPOSURE PROPHYLAXIS IN PEOPLE ASSIGNED FEMALE AT BIRTH IN THE UNITED STATES

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Background: Doxycycline post-exposure prophylaxis (doxy-PEP) is effective in reducing bacterial STIs in people assigned male at birth. While data supporting efficacy in people assigned female at birth (AFAB) are lacking, some sexual health clinics (SHCs) are prescribing doxy-PEP to AFAB persons on a case-by-case basis. We describe clinical characteristics and STI cases in AFAB people on doxy-PEP in the US.

Methods: We conducted a multi-center case series of AFAB people at four US SHCs with large doxy-PEP programs. Demographics, clinical characteristics, and STI positivity of AFAB patients prescribed doxy-PEP through March 21, 2024 were obtained using a standardized data collection tool.

Results: Of 5744 individuals prescribed doxy-PEP, 35 (0.6%) were AFAB. Their median age was 28, 82.9% were trans men, 57.1% White, 17.1% Hispanic, and 85.7% identified as gay or bisexual. Most (94.3%) were nulliparous and no pregnancies were documented in the observed period. Nearly all (97.1%) endorsed condomless sex with cisgender men; 22.9% reported past or current sex work; and 42.9% engaged in chemsex. None were living with HIV and 85.7% were currently taking HIV PrEP. In the 12 months prior to doxy-PEP prescription, 45.7% had ≥ 1 STI diagnosis. Median doxy-PEP use was 236 days (IQR 120-378), with an average of two doses used per month. After receiving a doxy-PEP prescription, 20% were diagnosed with ≥ 1 STI; *N.gonorrhoeae* from any site and urogenital *M.genitalium* were the most common pathogens identified. Of those with pregnancy potential based on surgical history, 64% (16/25) were screened for pregnancy at least once after starting doxy-PEP with 36% (9/25) on a prescription contraceptive.

Conclusion: Very few AFAB persons were prescribed doxy-PEP at SHCs with large doxy-PEP programs; most identified as trans men with high STI prevalence. Further research in AFAB populations is critical to optimize the individual and public health benefits of doxy-PEP for all people.

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O17.5

DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXY-PEP) IS ASSOCIATED WITH DECLINES IN CITYWIDE CHLAMYDIA IN MSM AND TRANSGENDER WOMEN IN SAN FRANCISCO, AND DECLINES WERE SIMILAR FOR WHITE AND LATINX POPULATIONS

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Background: Release of doxy-PEP guidelines by the San Francisco (SF) Department of Public Health in October 2022 was associated with significant decreases in reported cases of chlamydia in SF among men who have sex with men (MSM) and transgender women (TGW). Given known racial/ethnic disparities in STI incidence and HIV PrEP uptake, we analyzed this association by race/ethnicity.

Methods: Using data from two high-volume SF sexual health clinics and one SF HIV clinic, we calculated the proportion of MSM/TGW newly prescribed doxy-PEP (“uptake”) and compared uptake by race/ethnicity using chi-square tests. To assess the association between doxy-PEP implementation and citywide STI incidence by race/ethnicity, we conducted interrupted time series analyses on monthly reported SF cases of chlamydia among Latinx and White MSM/TGW pre (7/1/21-10/31/22) and post (11/1/22-11/30/23) doxy-PEP guidelines and used autoregressive integrated moving average models to forecast expected post-period monthly case counts in the absence of doxy-PEP. We compared model results to assess differences between groups. Monthly chlamydia incidence among other racial/ethnic groups was too low to analyze.

Results: During 11/1/22-12/31/23, uptake of doxy-PEP among MSM/TGW across clinics was 24% (n=3,784). Uptake was significantly higher among Latinx (28%) than White MSM/TGW (23%) (p<0.0001). Compared to model forecasts, monthly reported SF chlamydia cases among White (-7.58%/month) and Latinx (-4.59%/month) MSM/TGW both decreased significantly after doxy-PEP guidelines. The difference in decreases did not reach statistical significance (p=0.052). In November 2023, chlamydia cases among White (54% (95% CI:37%-67%)) and Latinx (43% (95% CI:23%-58%)) MSM/TGW decreased significantly compared to model predictions. The difference in decreases was not significant (p=0.323).

Conclusion: In SF, doxy-PEP uptake at sentinel sites was significantly higher among Latinx compared to White MSM/TGW. Citywide monthly chlamydia cases declined significantly among both groups. Ongoing monitoring of doxy-PEP uptake and STI rates in all racial/ethnic groups is important to identify whether disparities emerge and require intervention.

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O17.6

THE IMPACT OF DOXY-PEP: EFFECTIVE USE AND CHANGES IN PREVENTION BEHAVIORS

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Background: Doxycycline post-exposure prophylaxis (Doxy-PEP) has the potential to mitigate the public health challenge of rising sexually transmitted infections (STI). However, the potential benefit of Doxy-PEP relies on uptake and effective use. While uptake is a one-time event, effective use requires consistent use for durable effectiveness. Doxy4STICare is a prospective observational cohort study characterizing engagement, effective use, and antimicrobial resistance. Here we describe effective use patterns and changes in prevention behaviors for the first participants enrolled in Doxy4STI care.

Methods: Sexual health clinic clients initiating or continuing Doxy-PEP were recruited. Participants completed an in-depth baseline questionnaire; a monthly questionnaire on mental health, substance use, and STI prevention methods; and weekly surveys on sexual activity and Doxy-PEP use.

Results: Participants using Doxy-PEP (N=48) were followed for a cumulative 225 weeks (median 3, range 1-9 weeks) and completed 71% of weekly questionnaires. Participants reported using Doxy-PEP after every sexual encounter in 44% of weeks in which they were sexually active. Overall, 73% of 224 days with a sexual encounter were reported as covered by Doxy-PEP within 3 days (i.e., effective use). The most common reason for skipping a dose were reported as: "I did not think that I was at risk of an STI" (70%), primarily due to having regular partner (72%) and having sex with individuals they expected to be STI-negative (33%). At the time of enrollment, 31 participants were newly starting Doxy-PEP and 13 (42%) completed 4-week surveys. Among 11 listed STI prevention methods, only reported condom use (32% vs 15%) changed in the 30 days before and after starting Doxy-PEP.

Conclusion: Participants' Doxy-PEP effective use was moderate to high. Doxy-PEP non-use was related to low perceived STI vulnerability. Further study is needed on vulnerability perception validity, durability of effective use, and the relationship between effective use and STI acquisition.

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Oral Session (O18) - One Size Won't Fit All: Navigating Multi-Cultural Youth Needs

O18.1

RACISM AND DISCRIMINATION IMPACTS SEXUAL HEALTH OF BLACK ADOLESCENT

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Background: Exposure to structural racism and racial discrimination may increase risk of adverse sexual and reproductive health (SRH) outcomes in Black youth but have not been widely explored. This study aimed to: 1) to explore definitions of structural racism and experiences of discrimination that impact sexual health and decision-making in a sample of adolescent Black girls; and 2) examine factors associated with experiences of racism and discrimination and subsequent effects on SRH outcomes (e.g., condom use) in sexually active adolescents.

Methods: Black youth ages 13-19 were recruited from an ongoing longitudinal study. Virtual focus groups among Black girls examined understandings of structural racism, racial discrimination, and subsequent influencers of sexual health decision-making. Survey measures examined all Black youth experiences of racial discrimination and associated sexual behaviors (e.g., number of partners; condom use) using multivariable logistic regression.

Results: Four themes emerged in focus groups (n=16): (1) Slavery and medical racism in the US impact sexual and reproductive health choices; (2) Societal stereotypes and over-sexualization of Black girls are barriers to health education; (3) Adults can be barriers and facilitators communication and resource utilization; and (4) Black girls often seek information from friends or social media outlets to make SRH decisions due to barriers in accessing educational resources. Youth (girls, n = 103; boys, n = 123) were primarily 15 years of age and predominately Black (girls, n = 85; boys, n = 93). Higher Perceptions of Racism in Children and Youth (PRaCY) scores (girls, mean=3.3, SD=0.29; boys, mean=2.4, SD=0.25) were associated with an increased odds of more than one sexual partner (OR=1.28, CI 95% 1.03-1.58) after adjusting for age, race, and sexuality.

Conclusion: Understanding the complex relationships between racism and SRH can inform interventions, policies, and practices aimed at promoting equitable sexual and reproductive health for Black youth.

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O18.2

RAPID ETHNOGRAPHIC ASSESSMENT OF GENERAL AND SEXUAL HEALTH-SEEKING BEHAVIORS AMONG YOUNG BLACK WOMEN IN DETROIT

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Background: Historically, young Black women in the U.S. experience higher rates of chlamydia compared with white women the same age. All sexually active women aged 16-24 years are recommended to receive annual chlamydia screening, typically by a primary care provider. Limited evidence suggests that opportunities to screen women are decreasing. We conducted a rapid ethnographic assessment of sexual health-related sources of information and health-seeking behaviors to better understand opportunities for screening among young Black women in Detroit.

Methods: Michigan Department of Health and Human Services partnered with Alternatives For Girls (AFG), a Detroit-based community organization that provides resources to young people at-risk of or experiencing homelessness, violence, or exploitation. In-depth interviews were completed with Black women aged 18-24 years (n=19) who received AFG services. Interviews were conducted virtually using semi-structured interviewing techniques. Participants discussed health-seeking behaviors, knowledge, and attitudes. Transcripts were evaluated using thematic analysis. All responses were anonymous and independently coded by trained analysts. Data were analyzed using NVivo 12.

Results: Of the 19 women interviewed, most (n=14) reported attending regular healthcare appointments with a family physician or gynecologist, but few (n=2) reported that these visits included STI screening. All 19 women reported a preference for having STIs addressed in urgent care or emergency room settings. The most influential source of health information came from positive support of mothers or other close kin, which facilitated sexual health-seeking. Common themes among those reporting positive support also included confidence in sexual health decision-making and a desire to prioritize one's sexual health.

Conclusion: Positive support from a mother or close kin facilitated greater knowledge and confidence to seek sexual healthcare among young Black women receiving AFG services. Improving evidence-based information for mothers and young women and increasing the emphasis on sexual healthcare in primary care settings are potential strategies to address continued STI disparities.

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O18.3

CHLAMYDIA PRESCRIBING PRACTICES AFTER CHANGES TO NATIONAL TREATMENT GUIDELINES, UNITED STATES (US) 2016 – 2022

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Background: In 2021 the US Centers for Disease Control and Prevention revised chlamydia treatment guidelines to recommend only doxycycline as first line-therapy, instead of recommending either azithromycin or doxycycline. The extent to which this recommended change has been translated into practice is unknown.

Methods: We used MarketScan data (national convenience sample of insurance claims from individuals with employer-sponsored insurance and Medicaid beneficiaries from 8-10 states) to identify individuals aged 15-60 years old diagnosed with chlamydia from 2016-2022. We defined a chlamydia treated case when individuals had documented treatment with doxycycline or azithromycin within 14 days of diagnosis. We allowed individuals to contribute >1 chlamydia treated case if the second diagnosis was >28 days after initial treatment. We examined trends in doxycycline treatment and compared receipt of doxycycline in 2022 by age, sex, race (Medicaid claims only), and geography (commercial claims only).

Results: This analysis included 153,889 chlamydia treated cases. The percentage of treated cases prescribed doxycycline remained stable at 17% from 2016-2020, increased to 37.6% in 2021 and to 57.1% in 2022; these trends were similar for both commercially-insured and Medicaid-insured cases. In 2022, a smaller proportion of women received doxycycline compared to men (50.7% vs 73.7%), and a smaller proportion of individuals under age 25 receive doxycycline compared to those over 25 (54.6% vs 62.0%); a larger proportion of cases identified as Hispanic received doxycycline (67.8%) compared to cases identified as white (52.1%) or Black (50.8%); a smaller proportion of those living in the South received doxycycline (59.2%) compared to those living in the Northeast (67.4%), Midwest (67.8%) or West (67.7%).

Conclusion: There has been rapid uptake of the new chlamydia treatment guidelines; however, those at greatest risk of chlamydia (women and aged <25 years) are the least likely to receive recommended treatment. Additional education for the new guidelines may be necessary.

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O18.4

ASIAN AMERICAN YOUNG ADULT WOMEN'S EXPERIENCE TALKING WITH MOTHERS ABOUT SEXUAL HEALTH IN THE UNITED STATES

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Background: Mother-daughter sexual communication (MDSC) is an effective prevention strategy to promote sexual health and reduce sexual risk behavior. However, discussing sexual health topics is taboo in Asian culture creating discomfort with MDSC. From preliminary studies, discrepant results regarding the effect of MDSC among Asian American young adult women (AAYAW) showed an increase in sexual risk behavior as compared to women of different cultural backgrounds. This discrepancy has not been fully investigated due to limited research on MDSC among AAYAW.

Methods: Individual in-depth, semi-structured interviews were completed with participants across the United States. Participants were interviewed for 1-1.5 hours via Zoom between August 2023 and February 2024. All interviews were audio-recorded and transcribed verbatim. The research team members completed constant comparative analysis independently, and then they had a dialogue about the themes. Dedoose software was then employed.

Results: A total of 23 participants aged 18-36 of East Asian descent participated. Analysis of the interview transcripts revealed that the women 1) had communication about their menarche experience and menstruation management, but not open MDSC. Those who had some MDSC reported most conversations happened after their mother found out about their boyfriends or were taking birth control; 2) school and the internet were the significant resources to obtain sexual health information; 3) strong Asian culture and an intergenerational gap were barriers to opening MDSC; and 4) women expressed a strong desire to openly communicate about sexual health with their current or future daughters.

Conclusion: MDSC still rarely occurs between mothers and AAYAW. However, those AAYAW who grew up with a lack of MDSC were motivated to learn and educate their future daughters about sexual health before their daughter's menarche. Further study is needed to develop culturally sensitive intervention strategies to help increase open MDSC between mothers and AAYAW.

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O18.5

BIOLOGIC FALSE POSITIVE SYPHILIS RESULTS AMONG UNACCOMPANIED CHILDREN IN THE CARE OF THE U.S. OFFICE OF REFUGEE RESETTLEMENT — UNITED STATES, 2023

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Background: Unaccompanied Children (UC) in the care of the U.S. Office of Refugee Resettlement (ORR) receive an initial medical exam; children reporting prior sexual activity are screened for sexually transmitted infections (STI), including syphilis. Biologic false positive (BFP) syphilis results can occur—often attributed to pregnancy, vaccination, or co-infection. We describe BFP and syphilis infection among UC and explore the association of demographics, non-treponemal titer, and co-infection with BFPs.

Methods: Age; sex; pregnancy status; sexual activity; non-treponemal and treponemal syphilis test results; and chlamydia, gonorrhea, and HIV test results were extracted for UC entering ORR care during January 1–December 31, 2023. BFPs were defined as *reactive* non-treponemal (screening) and *non-reactive* treponemal (confirmatory) results. We calculated the following proportions: children reporting sexual activity; sexually active children receiving non-treponemal screening; screening test-positivity; and children screening positive who have positive (infection) and negative (BFP) confirmatory results. Non-treponemal titers were categorized as low (1:1–1:2) or high ($\geq$ 1:4). Data were stratified by sex, age, pregnancy, titer category, and STI co-infection and BFP proportions were calculated to assess associations.

Results: Of 120,066 children admitted to ORR in 2023 with an initial medical exam, 28,019 (23.3%) reported sexual activity of whom 27,574 (98.4%) were screened for syphilis with a non-treponemal test. Among screened children, 367 (1.3%) had a positive non-treponemal result; of these, 366 received treponemal testing. A high proportion of children were BFP ($n=230$; 62.8%) relative to true infection ($n=136$; 37.2%). False-positivity did not differ by sex, age, or pregnancy. BFP proportions were higher among children with low titers (88.8% vs. 4.0%), and lower among children co-infected with another STI (45.3% vs. 67.4%).

Conclusion: Confirmed syphilis infection was relatively rare among UC who reported sexual activity. High false-positivity may be due to recent vaccination or low syphilis prevalence in this population and should be further explored.

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O18.6

ACCESS TO GENDER-AFFIRMING HORMONE THERAPY FACILITATES UPTAKE IN STI PREVENTION: AN EXPLORATORY STUDY

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Background: Facilitating access to gender-affirming medical care may improve the STI care continuum for transgender and nonbinary (trans) communities. This study examined the association between gender-affirming hormone therapy (GAHT) with uptake in STI testing.

Methods: We used an online sample from the Priority Assessment in Trans Health (PATH) Project, a community-informed statewide health and wellness study developed for, by, and with trans Washingtonians. Data were collected from March to April 2023. Descriptive statistics with chi-square tests ($\alpha=0.05$) were conducted to compare group differences. Multivariable regression models measured the association between current GAHT and STI testing, with the following covariates: gender, age, income, education, race/ethnicity, insurance, urbanicity, social support, and past-year receipt of gender-affirming care (GAC). Sociodemographic differences by STI status were measured descriptively.

Results: Among respondents ($n=797$), compared to individuals who did not receive an STI test ($n=59$), those who had received an STI test in the past year ($n=738$) were more likely to have previously tested negative for HIV (94.2% vs 69.5%), access HIV prevention services (45% vs. 13.6%), and current GAHT use (77.5% vs 32.2%), but less likely to receive GAC in the past year (17.1% vs 44.1%). Individuals who tested positive for an STI ($n=34$) were more likely to be 18-24 years old (23.5% vs. 10.6%), more likely to be Hispanic/Latinx (17.6% vs. 8.7%), less likely to be non-Hispanic White (44.1% vs. 63.3%), and more likely to use public insurance (50% vs. 15.6%). Current GAHT use was significantly associated with increased odds in STI testing (OR=4.48, 95% CI: 2.01, 10.26, $p=0.0003$), adjusted for all covariates examined.

Conclusion: Our findings suggest the need to explore factors influencing medical gender affirmation and uptake in STI testing and other sexual and reproductive services, including HIV. Our findings support that access to gender-affirming services can be leveraged for STI prevention.

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Symposia

Symposia (S12) - Pass the Mic: Amplifying Early Career Voices

S12.1

HIGH INCIDENCE OF ANTIBIOTIC USE AMONG A COHORT OF MEN WHO HAVE SEX WITH MEN (MSM) IN SEATTLE, WA

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Background: How to balance the competing need for antimicrobial stewardship with screening, treatment, and prevention of sexually transmitted infections (STIs) among MSM remains uncertain, impacting screening frequency, empiric treatment, and use of doxycycline post-exposure prophylaxis (doxy-PEP).

Methods: We analyzed data from the ExGen Study, a prospective cohort study of MSM enrolled from 2016-2018 in Seattle, WA. Antibiotic use and reason for prescription were self-reported in weekly surveys and abstracted from participants' medical records. We characterized antibiotic use across 49 weeks of follow-up, stratified by reasons for prescription and medication prescribed. Incidence rates (IR) were calculated as the number of incident events (participant initiation of antibiotics) per 100 person-years (PY) at risk. Exact rate ratio tests evaluated differences in unadjusted IRs across strata.

Results: Among 140 study participants, 51% were living with HIV and 74% self-reported having a bacterial STI in the past year. 68.6% (n=96) received at least one antibiotic during follow-up, resulting in 1,696 days of antibiotic use and an overall IR=264.5 events of antibiotic initiation per 100 PY. STI treatment was the most common reason for antibiotic use (153.5 per 100 PY), followed by epidemiologic treatment for STI contact (68.4 per 100 PY) and other health conditions (42.6 per 100 PY). Overall incidence did not differ in participants living with versus without HIV (269.8 vs. 259.1 per 100 PY; p-value=0.71); however, antibiotic use was significantly higher among PrEP users versus non-PrEP users (316.6 vs. 179.8 per 100 PY; p-value<0.001). Azithromycin (97.6 per 100 PY) and ceftriaxone (72.6 per 100 PY) use were most common, followed by doxycycline (51.5 per 100 PY) and benzathine-penicillin (13.0 per 100 PY).

Conclusion: Antimicrobial consumption among this MSM population was very high. Our data provides a necessary baseline for assessing how doxy-PEP and changing standards of STI screening and treatment might affect antimicrobial consumption.

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S12.2

ESTIMATING THE UNDETECTED DISEASE BURDEN OF A NOVEL STRAIN OF MULTIDRUG NON-SUSCEPTIBLE GONORRHEA

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Background: In 2022, two cases of a multidrug non-susceptible *Neisseria gonorrhoeae* strain were detected in Massachusetts. Due to the high rate of asymptomatic gonococcal infections and the lack of systematic phenotypic and genotypic characterization of cases, it was unclear how many, if any, additional non-susceptible cases were present in Massachusetts at that time. This underscores the need to estimate the undetected burden of new strains, the uncertainty in this estimate, and how these change over time in the absence of additional cases.

Methods: We developed a two-strain stochastic compartmental model of gonorrhea transmission in Massachusetts and simulated the introduction of a single case of ceftriaxone non-susceptible gonorrhea. The model was calibrated to surveillance data from the Massachusetts Department of Public Health and prevalence estimates from the literature. We calculated (1) the undetected disease burden upon detection of two cases of the new strain and (2) the likelihood of ongoing transmission after an increasing number of days without identifying additional cases (1 to 90 days). Model assumptions included treatment failure of resistant infections and a single importation event of the resistant strain.

Results: Upon detection of two ceftriaxone resistant isolates, the undetected disease burden was an estimated 10 cases with substantial uncertainty (0-33, 95% simulation interval). In the absence of additional reports of ceftriaxone non-susceptible infections over the subsequent 90 days, the estimate declined to three cumulative undetected infections (0-11, 95% simulation interval). The likelihood of ongoing transmission also declined with increasing days without further detected cases, from 80% (63-92%, 95% simulation interval) on day 1 to 30% (11-50%, 95% simulation interval) on day 90.

Conclusion: Three months with no detection of ceftriaxone non-susceptible isolates after identification of the first cases resulted in high confidence of no ongoing transmission. The modeling methods employed here will help monitor the undetected burden of drug resistant *N. gonorrhoeae*.

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S12.3

CHARACTERISTICS ASSOCIATED WITH DISSEMINATED GONOCOCCAL INFECTION VS UNCOMPLICATED GONORRHEA: A CALIFORNIA CASE CONTROL STUDY, 2021-2022

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Background: The incidence of disseminated gonococcal infection (DGI) -- wherein gonorrhea invades the bloodstream and travels distantly (e.g., to joints or heart valves) -- has increased in California (CA) since 2020. Characteristics associated with disseminated infection versus uncomplicated gonorrhea (GC) at a mucosal site (pharynx, rectum, or urogenital tract) are poorly understood.

Methods: We leveraged CA STD surveillance data from 04/01/21-04/30/22 to compare people with DGI ("cases") to people with uncomplicated GC ("controls") who were interviewed via enhanced surveillance activities. Controls and cases were matched 3:1 by gender and race/ethnicity. We compared between-group sociodemographic and behavioral characteristics using the Wilcoxon two-sample or Pearson's chi-squared tests. We then conducted bivariate analyses to estimate odds of developing DGI vs uncomplicated GC by each characteristic.

Results: We matched 119 DGI cases to 357 GC controls (59% male gender, 52% Hispanic). Compared with controls, DGI cases were older (median 42 vs 29 years); more likely to report substance use (34% vs 5% reported using cocaine, methamphetamine, or heroin); and less likely to have had a bacterial STI (prior uncomplicated GC, chlamydia, or syphilis) in the last 12 months (12% vs 38%) or report having only male-to-male sexual contact (7% vs 31%) (all $p < 0.0001$). There were higher odds of DGI among people who reported being male with female-only vs male-only sex partners (OR 10.8, 95% confidence interval 4.8-24.1), substance use (OR 10.0; 95% CI 5.4-18.6), and older age (OR 1.09 per year; 95% CI 1.07-1.11).

Conclusion: People who were older, heterosexual, or using substances had higher odds of DGI vs uncomplicated GC. These groups are not recommended for routine GC screening, and a diagnosis of GC and associated complications could be missed. Clinicians should remain vigilant to the possibility of DGI among persons with compatible syndromes, even when occurring outside of groups traditionally considered at increased risk for GC.

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S12.4

CHLAMYDIA AND GONORRHEA RESULTS NOTIFICATION AND TREATMENT AT THE NEW YORK CITY CHELSEA SEXUAL HEALTH CLINIC: A COMPARISON OF CLINIC MODELS

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Background: In 2019, offsite standard chlamydia and gonorrhea (CT/NG) testing was replaced with accelerated CT/NG testing by the Quickie Lab at the New York City Chelsea Express Clinic (CXC). During the COVID-19 pandemic, a telemedicine clinic was established to serve patients virtually; patients are eligible to receive treatment for certain sexually transmitted infections (STIs) via telemedicine rather than in clinic. We sought to understand how these clinic enhancements impacted result notification and treatment at CXC.

Methods: We examined three cohorts of CT/NG patient-visits: pre-Quickie (7/1/18-12/31/18), after Quickie Lab opened ("Quickie": 7/1/19-12/31/19), and after telemedicine was established ("Quickie+Telemed": 8/1/21-1/31/22). For patients with multiple visits, we deduplicated to the first visit per cohort. For the cohorts, we compared treatment rates at CXC <30 days after specimen collection; calculated times between specimen collection, notification, and treatment; and examined reported sexual activity between time of testing and treatment (interval sex).

Results: We did not observe changes in return-for-treatment rates between Quickie (76%; 532/698) and Quickie+Telemed (75%; 354/473) cohorts, despite the availability of online treatment via telemedicine. Median time between specimen collection and result for Quickie+Telemed (6 hours; IQR 4-21) was longer than for Quickie (4 hours; IQR 4-16). There was a decrease in median days between collection and treatment for Quickie (2; IQR 1-5) versus pre-Quickie (8; IQR 6-11), and no additional change with Quickie+Telemed (2; IQR 1-4). Report of interval sex was lowest among Quickie+Telemed patients [pre-Quickie: 34% (111/324), Quickie: 16% (83/532), Quickie+Telemed 14% (43/347), $p < 0.0001$].

Conclusion: Reduced occurrence of interval sex, particularly if condomless, among patients who use telemedicine services suggests that telemedicine may play an important role in decreasing onward STI transmission. However, lack of improvement in time to treatment with telemedicine supports the continued availability of both clinic and telemedicine options to optimize treatment follow-up.

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S12.5

MULTI-JURISDICTION ANALYSIS OF HEALTH CARE FACILITY TYPES DIAGNOSING CHLAMYDIA AND GONORRHEA USING JURISDICTION SURVEILLANCE SYSTEMS, 2022

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Background: Over 90% of reported chlamydia and gonorrhea (CT/GC) cases in the US are diagnosed outside of traditional STI clinics, but the type of non-STI facilities is not well described. To guide prevention efforts, we examined diagnosing facilities for CT/GC cases reported in jurisdiction surveillance systems.

Methods: CT/GC cases from 2022 were extracted from Indiana (IN), Michigan (MI), and North Carolina (NC) surveillance systems. Ten categories of diagnosing facilities, such as STI clinics, private providers, hospital systems (e.g., emergency departments), urgent cares, and other community clinics (e.g., family planning, federally qualified health centers, and non-STI clinic health department facilities) were created based on review of literature and data. Each jurisdiction used locally approved methods, such as examining surveillance facility codes, facility and provider names, and facility address to classify facilities. The relative distribution of CT/GC diagnoses was calculated by diagnosing facility category.

Results: Reported cases varied by jurisdiction for chlamydia (IN: n=31,091; MI: n=43,036; NC: n=64,345) and gonorrhea (IN: n=11,639; MI: n=16,373; NC: n=26,399). In all jurisdictions, <7% of CT cases and <11% of GC cases were diagnosed at STI clinics (CT range 4.9-6.9%; GC range: 8.2-10.7%). Non-STI clinic facilities that diagnosed a large proportion of CT cases included private providers (23.2%, range: 13.3-37.9%), hospital systems (22.3%, range: 18.7-32.9%), urgent cares (10.9%, range: 9.4-12.7%), and community clinics (10.3%, range: 6.4-13.0%). Results were similar for GC cases: hospital systems (29.1%, range: 24.1-36.3%), private providers (17.1%, range: 11.3-26.0%), urgent cares (14.6%, range: 10.5-19.1%), and community clinics (9.5%, range: 4.1-13.2%).

Conclusion: Nearly half of CT/GC cases were diagnosed by private providers and hospital systems. The relative proportion of CT/GC diagnosed by facility category differed by jurisdiction, suggesting that prevention activities vary locally. Further investigation into where CT/GC cases are diagnosed outside of STI clinics is important for improving targeted prevention efforts and treatment of CT and GC.

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S12.6

THE REVERSE SEQUENCE ALGORITHM IS LESS COST-EFFECTIVE THAN THE TRADITIONAL ALGORITHM AT SCREENING FOR SYPHILIS AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN AND PREVENTING CONGENITAL SYPHILIS AMONG PREGNANT PEOPLE

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Background: The traditional syphilis screening algorithm employs a nontreponemal assay, followed by confirmatory treponemal testing on reactive serologic specimens. Availability of automated treponemal assays resulted in the development of an alternative, reverse sequence algorithm (i.e., a treponemal assay, followed by confirmatory nontreponemal testing, with a second treponemal test for discordant results). While the reverse sequence algorithm might increase operational efficiency, formal cost-effectiveness analyses comparing the two algorithms are needed.

Methods: We used decision-tree modeling to conduct a cost-effectiveness analysis of the reverse sequence compared to the traditional algorithm using input values based on published literature. We built separate decision-trees for gay, bisexual, and other men who have sex with men (GBMSM) and pregnant people in pre-natal care (PNC), including some with congenital syphilis outcomes. In each, a simulated cohort of 10,000 people was screened with both algorithms to quantify total costs and quality-adjusted-life-years (QALYs) measured from a healthcare perspective, accrued over one-year. We estimated incremental cost-effectiveness ratios (ICER) for each scenario. We conducted multiple-way sensitivity analyses to identify parameters with the most influence over the ICER.

Results: Among GBMSM, the reverse sequence algorithm correctly identified five more cases than the traditional, but overtreated 397 additional people (ICER=\$15 million per QALY gained). During PNC, the reverse sequence algorithm correctly identified three more cases, overtreated 374 more people, and prevented 0.26 more congenital syphilis cases (ICER=\$9 million per QALY gained). Sensitivity analyses showed that syphilis prevalence was the most influential parameter in both scenarios. To obtain ICERs lower than \$50,000 per QALY gained, syphilis prevalence would have to be >24% among GBMSM and >9% during PNC.

Conclusion: Our analysis suggests that the reverse sequence algorithm is not cost-effective compared to the traditional under likely parameter values, both for GBMSM and during PNC. Potential savings related to treponemal test automation are likely outweighed by downstream treatment costs.

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Posters

P1

DIVERGING PATHS? - EXPERIENCES OF SYPHILIS IN PREGNANT PERSONS LIVING WITH HIV

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Background: Congenital syphilis (CS) in the United States has increased dramatically in recent years while perinatal transmission of HIV reached a 5-year low in 2021. Using national CS data, we compared demographics, prenatal care, and missed prevention opportunities between pregnant persons with and without HIV.

Methods: Using case-based CS data from all U.S. states, the District of Columbia, U.S. territories and freely associated states that were sent to CDC via the National Notifiable Diseases Surveillance System during 2018–2022, we compared region, race/ethnicity, prenatal care receipt, and missed CS prevention opportunities between pregnant persons with and without HIV.

Results: During 2018–2022, 12,048 cases of CS were reported. Among these CS cases, 9,951 birth parents (82.6%) were HIV-negative, 149 (1.2%) were HIV-positive, and 1,948 (16.2%) had equivocal testing, or missing/unknown HIV status. Missing/unknown/equivocal HIV status was more likely in pregnant persons in the West (31.4%) compared to other regions (all <10.7%). Persons experiencing both syphilis and HIV during pregnancy lived disproportionately in the Northeast (2.2%) and South (1.8%). Birth parents reported as Black non-Hispanic were almost twice as likely to have HIV than the national average (2.2% of cases versus 1.2%). Missing/unknown/equivocal HIV status was more common in those with no versus at least one prenatal care visit (23.4% vs 12.2%), and among those with delayed or no syphilis testing (24.3%) compared to those with any other missed prevention opportunity (all <12.9%).

Conclusion: While a small proportion of CS outcomes occur in persons with HIV, persons experiencing both syphilis and HIV in pregnancy are disproportionately represented in the Northeast and South, and among Black, non-Hispanic birth parents. Lack of prenatal care and of timely syphilis testing are often found in persons with unknown or missing HIV status. Greater linkage of syphilis and HIV testing in pregnancy may lead to improved diagnosis of both.

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P2

PREVENTING CONGENITAL SYPHILIS — FACTORS AFFECTING ACCESS TO PRENATAL CARE IN CLARK COUNTY, NEVADA, 2017–2022

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Background: Nevada ranked eighth in the United States for congenital syphilis (CS) rates in 2022. Lack of prenatal care access and recommended screenings are missed opportunities for CS prevention. We sought to identify factors affecting prenatal care access in Clark County, Nevada, to guide public health action to prevent CS.

Methods: We analyzed confirmed and probable syphilis cases, based on the Council of State and Territorial Epidemiologists case definition, among pregnant persons reported to the Southern Nevada Health District during 2017–2022 in Clark County, Nevada. Reported prenatal care was collected during standardized interviews. Univariable logistic regression was used to compare odds of not receiving prenatal care among age groups and those who do and do not engage in substance use.

Results: During 2017–2022, we identified 456 syphilis cases diagnosed among pregnant persons with complete data. Median age was 27 years (range: 16–44 years); substance use was reported by 213 (46.7%) persons and 162 (35.5%) reported transit time >30 minutes to the closest provider. Prenatal care access was not reported by 119 (26.1%) persons. In total, 145 (31.8%) pregnant persons had infants who received a CS diagnosis, of which 84 (57.9%) reported no prenatal care. Pregnant persons with substance use had 2.8 times the odds of not accessing prenatal care, compared with those without (odds ratio [OR]: 2.86; 95% CI 1.85, 4.35). Similarly, persons aged >35 years had higher odds of not accessing prenatal care, compared with those aged <20 years (OR 3.70; 95% CI 1.35, 10.0).

Conclusion: We found an inverse association between accessing prenatal care and both age and substance use. While preliminary, our findings underscore effects of substance use concerning access to prenatal care, although multivariable analysis will be needed to better understand this relationship. Characterization of specific barriers limiting access to prenatal care can improve this crucial step in CS prevention.

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P3

MISSED OPPORTUNITIES FOR CONGENITAL SYPHILIS PREVENTION: FINDINGS FROM CALIFORNIA, 2020-2022

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Background: The 2022 rates of CS and adult syphilis in California were the highest they had been since 1950. We reviewed CS cases to determine missed opportunities for prevention and compared patterns by race/ethnicity and other known risk factors.

Methods: We categorized California Project Area (all counties excluding Los Angeles and San Francisco) CS cases from 2020-2022 based on these mutually exclusive missed opportunities for CS prevention: no prenatal care (PNC), no syphilis testing at first PNC visit, inadequate treatment (i.e., beginning fewer than 30 days before delivery, incorrect dosing intervals, too few doses, or otherwise inappropriate), reinfection after treatment, no testing during early third trimester of pregnancy after initial negative test, and infection occurred after a third trimester syphilis test. We assessed these missed opportunities, stratified by race/ethnicity, methamphetamine use, and homelessness using Pearson's chi-squared test.

Results: From 2020-2022, there were 1,175 CS cases. Sixty-four percent (757) of birthing parents (BP) were diagnosed with syphilis before delivery. Of these 757, 45% (337) did not receive PNC, 20% (151) were not tested at first PNC visit, 15% (116) experienced treatment gaps, 12% (88) delivered infants with CS despite adequate maternal treatment, 5% (35) experienced reinfection during pregnancy, and 4% (30) were not tested during early third trimester. BP who used methamphetamine (42%, 317) and/or experienced homelessness (20%, 152) were more likely to have not received PNC ($p < .05$). White BP (29%, 217) were less likely to have received PNC ($p < .05$) than non-White BP. Hispanic BP (48%, 361) were more likely to have received PNC and be reinfected ($p < .05$) than non-Hispanic BP.

Conclusion: There are missed opportunities at each step of CS prevention. Improving access to prenatal care, care in alternative settings, and timely screening, diagnosis, and treatment of syphilis during pregnancy may have the greatest impact on CS prevention.

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P4

PREVENTING CONGENITAL SYPHILIS: LESSONS LEARNED FROM THE PREGNANCY CONNECTIONS CLINIC PILOT PROGRAM

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Background: In the past decade, cases of congenital syphilis (CS), have risen sharply in the United States. CS is preventable with routine prenatal care, and thus is significantly associated with late or no care during pregnancy. CS is often seen among populations who are unstably housed and/or use substances, both of which pose barriers to prenatal care utilization. This qualitative study evaluated San Joaquin County's Pregnancy Connections Clinic (PConn), which provides specialized care to populations with high rates of CS, including transportation assistance, referrals, appointment flexibility, and expanded communication with staff.

Methods: From December 2022 through December 2023, interviews were conducted with a sample of providers (n=13), PConn patients (n=10), and women who would be eligible (due to unstable housing or substance use) but had not participated (n=14). Interviews were transcribed, coded, and analyzed to identify common themes and subthemes related to program successes, challenges, and lessons learned.

Results: Results showed that most patients had overwhelmingly positive experiences at PConn, frequently mentioning the high quality of services and appreciation of staff who were communicative, non-judgmental, and responsive to their needs. Several staff and patients highlighted free transportation to and from the clinic, referrals to supportive services, longer appointment times, and patients having direct cellphone access to clinic staff as keys to the clinic's success. Challenges identified by staff included appointment no-shows and issues with patient follow-up. No eligible non-participants were aware of the clinic, but expressed interest, highlighting the need for additional outreach and organizational referrals. Despite these challenges, this pilot program shows both a critical need for and interest in prenatal care services designed to specifically prevent CS.

Conclusion: Tailored interventions such as PConn, with a focus on respectful, patient-centered care show promise for addressing CS. Dedicated outreach is needed to increase access to services for priority populations.

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P5

PREVALENCE AND RISK FACTORS ASSOCIATED WITH SYPHILIS AND CONGENITAL SYPHILIS IN US COUNTIES 2018

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Background: Syphilis and congenital syphilis (CS) have long been associated with poverty yet little is known if persistent poverty (counties with a poverty rate of >20% for 30+ years) have higher incidence of syphilis. We investigated the prevalence and the associated risk factors with syphilis and CS in US counties with or without persistent poverty.

Methods: We used county-level syphilis data from the CDC's NCHHSTP AtlasPlus and the Agency for Healthcare Research and Quality (AHRQ), 2018. We used negative binomial regression models adjusting for age, sex, race/ethnicity, health insurance, geographic area, income, single parent, and rural/urban.

Results: In counties with persistent poverty, syphilis and CS prevalence was nearly double that of non-persistent poverty counties (11.2/100,000 vs 5.6/100,000 and 134/100,000 vs 60/100,000 respectively). In counties with persistent poverty, syphilis rate ratios were higher in counties with higher populations of Blacks RR 1.01 (95% CI 1.001-1.03) and RR 1.02 (95% CI 1.008-1.04). CS rate ratios in persistent poverty counties were lower among Whites RR 0.93 (95% CI 0.89-0.97) and in the Northeast. Non-persistent poverty counties had higher rate ratios of syphilis associated with single parent households RR 1.01 (95% CI 1.006-1.02), uninsured, the South and West regions. CS rates in non-persistent poverty counties were higher in counties with higher rates of uninsured individuals.

Conclusion: Persistent poverty counties have significantly higher rates of syphilis and CS compared to counties without persistent poverty but these rates were lower among counties with higher white populations concerning for ongoing racial disparities especially with higher rates of maternal mortality among Black women. More research is needed to better understand the underlying disparities and to initiate strategies to address racial disparities, improve healthcare access, and improve STI health literacy.

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P6

RELATIONSHIP BETWEEN NEONATAL NONTREPONEMAL TITERS AND CONGENITAL SYPHILIS TREATMENT PATTERNS IN NEONATES BORN TO PEOPLE WITH ADEQUATELY TREATED SYPHILIS DURING PREGNANCY

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Background: Consistent application of treatment recommendations for asymptomatic neonates with low/equivocal nontreponemal (NT) syphilis titers born to people with adequately treated syphilis is complicated given the poor testing performance of these tests to diagnose pregnant persons with reinfection and neonates with congenital syphilis (CS). This study aims to describe clinician practice patterns for these neonates in a well-characterized cohort of exposed pregnant person-neonate dyads.

Methods: This was a prospective cohort study of all pregnant patients with adequately treated syphilis and their neonates with deliveries between 5/2023 and 2/2024 at a large academic center in Texas. All syphilis-related variables including laboratory results and treatment history for each dyad were recorded.

Results: Of 37 pregnant patients, 20 (54.1%) were adequately treated prior to delivery. Based on the Centers for Disease Control and Prevention's CS Clinical Scenarios, of those 20, 3 neonates (15%) met scenario 1 (confirmed proven or highly probable), 1 (5%) met scenario 2 (possible), and 2 (10%) delivered elsewhere. As such, 14 (70%) met criteria for scenario 3 or 4 (less likely or unlikely). Of neonates with less likely or unlikely CS, 11 (78.6%) received one dose of intramuscular (IM) benzathine penicillin G (BPG) and 3 (21.4%) received no treatment. Of neonates who received BPG, 4 (36.6%) had titers that were $\geq 1:4$, while all who received no treatment had titers of $\leq 1:1$. Two (14.3%) of the pregnant people did not have a 4-fold decrease in titers prior to delivery and both neonates in these pregnancies received one dose of IM BPG.

Conclusion: Clinician treatment patterns for neonates at low risk for CS vary. Data regarding optimal treatment is lacking given the challenge of longitudinal neonatal follow-up required to confirm absence of syphilis infection. Further efforts to address these gaps are critical given the escalating rates of CS.

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P7

CONTRIBUTION OF INEQUALITIES IN ACCESS AND QUALITY OF PRENATAL CARE TO CONGENITAL SYPHILIS BURDEN

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Background: Inequalities in access and quality of prenatal care contribute to adverse maternal and child outcomes. We evaluated the impact of current versus improved prenatal care in preventing congenital syphilis and reducing racial and ethnic disparities.

Methods: We used a compartmental cohort model to simulate syphilis natural history, prenatal care, and syphilis screening in Medicaid-insured pregnant persons. People were stratified by race/ethnicity (Hispanic, Non-Hispanic[NH]-White, NH-Black, NH-American Indian/Alaska Native[NH-AI/AN], NH-Native Hawaiian or Pacific Islander[NH-NHOPI], NH-Asian, NH-Multiracial). Prenatal care quality was assessed using 'adequacy of prenatal care utilization' (APNCU) index, categorized as no prenatal care, inadequate care, intermediate care, adequate and adequate+ care. The 'current care' scenario was parameterized by race/ethnicity using data from birth certificates indicating potential syphilis diagnosis during pregnancy and APNCU category, and Medicaid claims data on screening coverage. In the counterfactual 'adequate care' scenario, all pregnant persons received care beginning no later than the 4th month of pregnancy, and underwent syphilis screening at least once.

Results: In 2019, syphilis positivity among Medicaid insured pregnant individuals in birth certificate data were 6 times as high as among privately insured individuals (0.3% vs 0.05%). Among Medicaid-insured pregnant persons, 2.6% received no prenatal care and 19.1% received inadequate care. Compared to the NH-White population, other populations were more likely to have no prenatal care or inadequate prenatal care, with highest proportions of inadequate care occurring among NH-AI/AN persons (29% received inadequate care) and NH-NHOPI persons (43%). Compared to current care, we estimated that two-thirds of congenital syphilis cases could be averted if people received adequate prenatal care. Adequate care was estimated to reduce congenital syphilis by 72% (95% range 59-97%) in the NH-Black and 65% (62-95%) in the NH-White population. Results were sensitive to estimated syphilis incidence.

Conclusion: Improving equitable access to quality prenatal care could produce substantial reductions in congenital syphilis burden.

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P8

THE UTILITY OF CEREBROSPINAL FLUID INDICES IN THE EVALUATION OF NEONATES EXPOSED TO SYPHILIS IN UTERO

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Background: Syphilis is re-emerging, with recent increases in congenital infections. Infants who meet criteria for congenital syphilis (CS) Scenarios 1 and 2 are indicated for cerebrospinal fluid (CSF) evaluation, complete blood count (CBC) and long bone radiograph. While CSF can inform management, specimen collection requires technical skill and interpretations of the three indices implicated - protein, nontreponemal testing, and pleocytosis - are nuanced.

Methods: We performed chart reviews of infants <30 days old born to birthing parents with syphilis infection, who were delivered between January 2000 and October 2020. Syphilis evaluation and treatment information for birthing parents and infants were abstracted. Infants were categorized per the Centers for Disease Control and Prevention CS scenarios. CSF indices as well as other evaluation test results were described by scenario.

Results: 109 infants met inclusion criteria: 8 (7.3%), 66 (60.6%), 31 (28.4%), and 4 (3.7%) met criteria for Scenarios 1, 2, 3, and 4, respectively. The overall lumbar puncture (LP) success rate was 59.7%. Among Scenario 2 infants, 45.2% received 10 days of intravenous therapy due to an unsuccessful CSF evaluation. LP results were successful for 5 (62.5%) Scenario 1 infants, and 37 (56.1%) Scenario 2 infants. All Scenario 1 LP results had one or more CSF abnormality, compared with 35.1% for Scenario 2 ($p = .0009$). All infants with an abnormal CSF result – Scenarios 1 and 2 combined – had elevated protein; 72.2% of these additionally had either an abnormal nontreponemal test, pleocytosis, or both. Finally, 30 Scenario 2 infants with successful LPs had CBC and long bone X-rays documented; 5 were indicated for intravenous therapy according to a non-CSF finding, 4 of whom had a normal CSF.

Conclusion: Improving LP skill, prioritizing protein when CSF volume is low, and using a stepwise approach starting with less invasive tests may optimize the neonatal syphilis evaluation.

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ECHOES OF THE PAST: EXPLORING DELAYED DIAGNOSIS OF CONGENITAL SYPHILIS IN THE LAST 20 YEARS

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Background: Congenital syphilis (CS) is usually diagnosed at delivery through documentation of inadequate treatment of the birthing parent or presence of signs/symptoms of infection in the neonate; however, congenital infection may be diagnosed months/years after delivery, delaying treatment and potentially resulting in serious clinical complications. Using national CS case notification data, we investigated delayed diagnoses of congenital infection in the United States.

Methods: We reviewed CS case notifications provided to CDC through the National Notifiable Diseases Surveillance System as of March 2024. To allow for 15 months of follow-up, we identified CS cases with birth years 2003-2022, determined the likely date of infant diagnosis based on earliest infant laboratory date, and described those with a delayed diagnosis (defined as ≥ 6 months after delivery).

Results: Of the 18,971 CS cases with a birth year of 2003-2022, 13,329 (70%) had information available to estimate diagnosis date. Of those 13,329 cases, 60 (0.5%) had a delayed diagnosis; 25% of these were born in the most recent 2 years (2021-2022). Of delayed diagnoses, the mean age at diagnosis was 16 months (IQR: 8-17 months); 18 cases were diagnosed at 12–23 months, and 7 cases at ≥ 24 months. Among delayed diagnoses, the largest proportion of cases were in the Midwest (30%) and 20% had radiographic long bone findings consistent with CS, the most frequent non-laboratory sign of CS. Of the 42 cases with a reported titer, the mode was 1:128. Overall, 93% of delayed diagnoses were reported as treated.

Conclusion: Although diagnosis of CS can occur months to years after delivery, late diagnosis is rare in the United States. Further investigation into delayed diagnoses is needed to understand root causes, including lack of testing in the birth parent or infant at delivery, incubating syphilis at delivery, or breakthrough cases where the pregnant person was appropriately treated.

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P10

PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) OF SYPHILIS IN THE CONTEXT OF MULTI-LEVEL BEHAVIORAL INTERVENTIONS IN A GLOBAL SETTING: A SCOPING REVIEW

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Background: Congenital syphilis (CS) is the second leading cause of preventable stillbirth globally. Maternal syphilis, when left untreated, poses risks of miscarriages, premature births, and low birth weight. Researchers propose behavioral interventions as practical prevention approaches to improve PMTCT of syphilis. However, few reviews have characterized these behavioral interventions and their behavioral outcomes.

Methods: We conducted a scoping review to identify, summarize, and examine research on the characteristics and effectiveness of behavioral interventions (e.g., maternal health education and physician practice alert) contributing to the PMTCT of syphilis. Adhering to PRISMA-ScR guidelines, we searched articles published between 2010 and 2023 within PubMed, Medline Ovid, and Embase. Two researchers screened and charted articles independently by using Rayyan and Zotero. The articles must include one descriptive behavioral intervention regarding CS prevention.

Results: Among the 3762 identified articles, 32 behavioral interventions were eligible and included in the final analysis. 40.6% (n=13) were published after 2020. Most studies were conducted in the USA (n=10) and Brazil (n=6). Majority of the interventions were multi-level, targeting more than two types of populations (e.g., pregnant women and their partners or providers and social workers). The top three targeted behavioral outcomes are pregnant women's CS treatment and screening behaviors (n=18), healthcare providers' management of CS (n=12), and partner syphilis treatment behaviors (n=12). About 75% of the interventions (n=24) were conducted in hospitals and clinics. Other settings include home-based intervention, non-traditional prenatal care, and street consultation offices. Only six (21.4%) interventions included comparison groups to evaluate the intervention effectiveness, and only one was theory-based.

Conclusion: Multi-level behavioral interventions targeting improvements in CS screening and treatment could reduce PMTCT of syphilis. More rigorous evaluations of theory-based PMTCT of syphilis interventions that include comparison groups is an essential next step in understanding the potential benefit of behavioral interventions on reducing CS rates and adverse pregnancy outcomes.

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P11

CONGENITAL SYPHILIS AVERTED: TREATMENT INTERVALS OF PREGNANT PERSONS WITH SYPHILIS AND OPPORTUNITIES FOR PREVENTION, MARICOPA COUNTY, ARIZONA, 2022

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Background: Syphilis is an ongoing threat to reproductive health and infant well-being. Arizona has consistently reported rates of congenital syphilis (CS) higher than the national average. This study leverages the CS prevention cascade to identify missed opportunities to prevent vertical transmission of syphilis in Maricopa County, Arizona.

Methods: Syphilitic pregnancies reported in 2022 were extracted from the Arizona STD surveillance database (PRISM). Pregnancies were followed from the last menstrual date until delivery. Mothers with an unpaired infant or re-infection during pregnancy were excluded from analysis. Time from maternal diagnosis to treatment initiation, maternal diagnosis to infant date of birth, maternal treatment initiation to infant date of birth, and infant outcome were of interest.

Results: 214 syphilitic pregnancies were included for analysis. During the study period, 55% (n=118) of potential CS cases were averted. Timeliness measures among mothers of averted infants and CS cases were discrepant; median days between diagnosis and treatment initiation (averted: 8; CS: 12), diagnosis to infant date of birth (averted: 184.5; CS: 1), and treatment initiation to infant date of birth (averted: 162.5; CS: 18). Among CS cases, missed opportunities for prevention were late diagnosis 64.6% (n=62), late treatment initiation 14.6% (n=14), inadequate treatment 9.4% (n=9), untreated 9.4% (n=9), and signs and symptoms despite adequate treatment 2.1% (n=2). When removing mother and infant pairs with a late diagnosis or signs and symptoms despite adequate treatment (n=64), 78.7% (n=118) of infants were successfully averted. Actionable missed opportunities therefore include late treatment initiation 43.8% (n=14), inadequate treatment 28.1% (n=9), and untreated 28.1% (n=9).

Conclusion: Approximately half of all potential CS cases were averted when evaluating the CS prevention cascade. When assessing actionable prevention opportunities, 3 out of 4 infants were successfully averted. Late diagnosis underscores the need for greater uptake of prenatal care that includes syphilis screening and treatment early in pregnancy.

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P12

ASSESSING THE RELATIONSHIP BETWEEN COUNTY-LEVEL MATERNITY CARE ACCESS AND CONGENITAL SYPHILIS AND SYPHILIS CASE RATES

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Background: Primary and secondary (P&S) and congenital syphilis (CS) rates in the U.S. have rapidly increased in recent years. Numerous individual factors contribute to rising syphilis rates, but important structural factors are less often described. We explored how access to maternity care may contribute to rising syphilis and CS rates.

Methods: We conducted an ecological study examining trends in syphilis and CS rates by maternity care access (MCA) over time using Area Health Resource Files data and criteria outlined by March of Dimes (access to hospitals with obstetric beds and obstetric providers) to define four categories of county-level MCA from 2016—2021: deserts, low, moderate, and high. CS rates and P&S syphilis rates among women of reproductive age (WRA), 15-44 years, were extracted from the National Notifiable Diseases Surveillance System. Rates are reported as cases per 100,000 live births for CS or cases per 100,000 WRA for P&S.

Results: Access to maternity care remained consistent from 2016—2021. Most counties were classified as deserts (42%) or high access (40%); few were low (10%) or moderate access (8%). Rates of CS and P&S were generally highest in high MCA and low MCA counties throughout the study period.

CS rates increased over time for all MCA levels, and the largest absolute increase was in low MCA counties (low: 10.5 to 88.2, high: 17.2 to 79.3; desert: 10.2 to 62.0; moderate: 7.2 to 43.0). P&S syphilis rates followed a similar pattern; rates increased across all MCA levels and the largest increase was in low MCA counties (low: 3.3 to 22.1; high: 4.4 to 16.0; desert: 2.4 to 18.7; moderate: 2.4 to 14.4).

Conclusion: Both CS and P&S case rates increased across all levels of MCA. Further research into structural barriers to syphilis and CS prevention, care, and treatment are needed to address the continued rise in cases.

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P13

IMPLEMENTATION OF A PERINATAL SYPHILIS PROGRAM TO IMPROVE TREATMENT AND REDUCE CONGENITAL SYPHILIS IN A HIGH PREVALENCE REGION IN TEXAS

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Background: In Houston, Texas, there has been a 250% increase in congenital syphilis (CS) during 2022. This study aims to determine if the implementation of a perinatal syphilis program would improve treatment completion during pregnancy and reduce CS compared to a historical cohort of pregnant people with syphilis in Houston.

Methods: In April 2022, a perinatal syphilis program was implemented at the University of Texas Health Science Center in Houston, where pregnant patients with syphilis undergo counseling with maternal-fetal medicine specialist, fetal sonographic evaluation, partner testing and treatment, and social work support services. Demographic and socioeconomic variables along with pregnant person and neonatal infection-related data were recorded and compared to a matched historical cohort of exposed dyads prior to program implementation. Univariate analysis was used to compare factors associated with treatment completion and CS. Results were reported as relative risk (RR) and 95% confidence intervals.

Results: Fifty-nine pregnant people with syphilis were enrolled. Twenty-six (44%) were enrolled prior to implementation of the program (12/2017-03/2022) and 33 (56%) were enrolled after (05/2022-02/2023). In the pre-implementation program cohort, 30.8% (N=8) of pregnant people completed syphilis treatment, compared to 66.7% (N=22) in pregnant patients with syphilis after program initiation, demonstrating a RR of 2.17 (1.15-4.07). After excluding 8 neonates with unknown CS status, there was a >50% reduction in CS after the program was started [84.6% vs. 40.0% pre- and post-respectively; RR 0.47 (0.28-0.79)]. Factors significantly associated with lack of treatment completion and CS were psychiatric disorders, lack of prenatal care, and a preferred language other than English ($p < 0.001$, 0.007, and 0.04, respectively).

Conclusion: The implementation of a perinatal syphilis program focused on patient-centered care significantly improved treatment completion during pregnancy and reduced CS. Targeted efforts focused on barriers surrounding mental health and health care access for pregnant underserved populations with syphilis should be prioritized.

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P14

CONGENITAL SYPHILIS: LESSONS LEARNED IN PEDIATRIC FOLLOW-UP

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Background: Since 2012, Louisiana has ranked among the top ten states for congenital syphilis, and in 2022 identified an all-time high of 115 cases. Throughout surveillance activities conducted by the Louisiana STD/HIV/Hepatitis program, the need for pediatric follow-up after a maternal syphilis exposure became exceedingly clear. Infants exposed to syphilis may not be symptomatic at delivery but are at risk of death and significant developmental problems later in life. In addition, pediatric follow-up for congenital syphilis within the primary care setting is not considered a norm, as pediatric providers may be unaware of current guidelines. The goal of this abstract is to outline the need for a pediatric protocol through case examples, describe implementation, and provide lessons to help combat the effects of the congenital syphilis crisis in the United States.

Methods: Syphilis and congenital syphilis investigations are collected through Louisiana's centralized surveillance system (PRISM). A standardized protocol for pediatric follow-up was constructed in early 2024 to help guide field staff and perinatal case managers on infant follow-up.

Results: Cases were assessed for follow-up through multiple factors, including maternal and infant clinical findings. These assessments were completed through collaboration between field staff, perinatal case managers, and state surveillance staff. Any cases with no documentation adequate treatment are selected for a high-priority review to confirm needed infant follow-up. Once a plan of care has been established, disease intervention specialists and perinatal case managers coordinate with clients and providers to carry out the treatment plan.

Conclusion: The congenital syphilis epidemic has shown no signs of abatement. This pediatric follow-up protocol is a step in the right direction. However, the ever-present limitations on state public health work are huge barriers to the continuation of this work, and additional federal guidelines are needed to ensure that no infant exposed to syphilis goes without proper care.

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P15

HETEROGENEITY OF CONGENITAL SYPHILIS DIAGNOSIS AND MANAGEMENT AMONG PEDIATRIC PROVIDERS IN CHICAGO, IL

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Background: Congenital syphilis (CS) cases are on the rise nationally and locally. From 2012 to 2022, the number of CS cases in the US increased by 755% & over a 400% increase in the city of Chicago between 2019 to 2022. Despite the 2021 CDC Treatment guidelines on CS case management, there is sparse literature describing the consistency of following the CDC's recommendations, particularly given the variety of providers who may be caring for these infants. Objectives were: 1) to gauge similarities and differences among pediatricians and neonatologists managing CS cases, and 2) to determine the needs of health care providers citywide related to diagnosis and management of CS cases.

Methods: A REDcap survey instrument was created and shared with Chicago-based pediatric providers using Health Alert Network (HAN). Case-based questions, based on CDC CS scenario definitions, inquired about diagnostic and management practices.

Results: Between December 1st, 2023 – February 29th, 2024, in total, 61 providers responded to the survey including neonatologists (n=19, 31.1%), pediatric hospitalists (n=12, 19.7%), General Pediatricians (n=11, 18%), Pediatric Infectious Diseases Specialists (n=11, 18%), advanced practitioners (n=3, 4.9%) and 5 other (family medicine, n=5, 8.2%). In 2023, 64% of providers reported seeing at least 4 infants with exposure to maternal syphilis. Approximately, 85% worked at an academic/university medical center. For the three different CS case scenario diagnoses, significant differences were observed in utilization for lumbar puncture, long bone radiographs, serum complete blood count (CBC), and serum liver function tests (LFTs), in addition to the variation in penicillin dosage and administration.

Conclusion: Based on this survey results among Chicago pediatricians, we demonstrated significant heterogeneity of clinical and resource utilization of CS diagnosis and management compared to CDC treatment recommendations. There is a need to conduct additional assessments locally and nationally and to standardize diagnosis and clinical management practices.

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P16

RACIAL/ETHNIC DIFFERENCES IN POTENTIAL CONGENITAL SYPHILIS CASES AVERTED, UNITED STATES, 2018-2022

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Background: Congenital syphilis (CS) rates have risen sharply in the United States in recent years, with growing racial/ethnic disparities. To inform tailored CS prevention activities, we describe the percentage of potential CS cases averted, stratified by race/ethnicity.

Methods: We analyzed syphilis case notification data reported through the National Notifiable Diseases Surveillance System during 2018-2022 in the U.S. and Puerto Rico. We estimated the annual percentage of CS cases potentially averted, stratified by race/ethnicity, by subtracting the number of CS cases from the number of pregnant women with syphilis (all stages), and dividing the absolute difference by the number of pregnant women with syphilis. We report the median and interquartile range (IQR) of annual percentage of cases averted.

Results: During 2018-2022, there were 12,044 CS cases and 32,255 syphilis cases among pregnant women. Overall, 63% of potential CS cases were averted (annual median percentage averted: 62%; IQR: 62-64%). For the three race groups accounting for 88% of all CS cases, the median annual percentage of cases averted was similar and generally steady across years: non-Hispanic White (median: 61%, IQR: 59-65%), non-Hispanic Black (median: 64% IQR: 63-65%), and Hispanic women (median: 62%, IQR: 61-62%). The median percentage of cases averted among non-Hispanic Asian (median: 73%, IQR: 68-81%) and non-Hispanic Native Hawaiian/Pacific Islander (median: 66%, IQR 49-72%) women were higher but variable over time, in part due to small case counts. The median percentage of cases averted among non-Hispanic American Indian/Alaska Native women was lowest (median: 54%, IQR: 46-60%) but also variable and appeared to decrease over time.

Conclusion: Differences in percentage of cases averted by race/ethnicity suggests there may be differential access to prevention interventions during pregnancy, including timely treatment. Understanding context-specific barriers to prevention, care, and treatment is important for tailoring interventions that reach pregnant persons who may be at elevated risk of CS.

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P17

PRENATAL PROVIDER AND MATERNAL PERSPECTIVES ON THE RISE OF CONGENITAL SYPHILIS: A QUALITATIVE STUDY

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Background: The nation has seen a precipitous rise in congenital syphilis (CS) over the last decade. Our study aimed to understand the perspectives of prenatal providers and mothers who delivered infants with CS to gain further insight into factors related to the rise in CS.

Methods: From Chicago, IL, USA, we recruited prenatal providers to participate in semi-structured interviews about their perspectives on the rise of CS. Mothers who delivered infants with CS were also invited to discuss their prenatal and obstetric care, syphilis education, and psychosocial factors related to their diagnosis. Thematic qualitative analyses were performed.

Results: 10 providers and 5 mothers were interviewed. The majority of providers mentioned observed insufficient penicillin uptake. The most common barriers to care and successful treatment of CS that were cited include transportation, sustained communication, missed appointments, gaps in patient understanding or knowledge around congenital syphilis contraction and treatment, limited availability of clinic appointment time slots, appointment burden for patients, and stigma related to the CS diagnosis. Most providers attribute additional factors related to this including longstanding emphasis on HIV for perinatal transmission, decreases in STI testing and treatment during the COVID-19 pandemic, less funding for STI clinics, changes in screening guidelines over the years, and increasing migrant and refugee populations who are seen in clinics. Similar themes were found among the mothers including barriers to care related to transportation, childcare, various forms of stigma, other life stressors, understanding of the disease process, and recognition of the significance of the potential impact on the fetus.

Conclusion: Transportation, stigma, appointment burden, health literacy, and communication between patients and providers were identified as potential contributors to the rise of CS by healthcare providers and mothers. These findings reflect significant gaps in adequate prenatal care and could help explain some of the factors leading to the rise in preventable disease.

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P18

A MULTIPLE CASE REVIEW TO EXAMINE CARE GAPS AND CRITICAL MISSED INTERVENTION AREAS TO ADDRESS CONGENITAL SYPHILIS AND INFANT HIV PREVALENCE IN NEW JERSEY

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Background: Between 2020-2023, there were 2398 cases of syphilis among women of childbearing age (15-45) in New Jersey (NJ). Over the past three years, there has been an 80% increase in reported congenital syphilis (CS) cases in NJ. CS, while preventable, requires patients to begin Bicillin treatments at least 30 days prior to delivery. Disparities in healthcare and structural racism have possibly contributed to higher rates of CS in Hispanic and non-Hispanic Black populations. Patients have reported experiencing stigma of perceived drug use during pregnancy, lack of healthcare coverage and economic burden.

Methods: This multiple case review included eight cases of mothers with syphilis (n=4) and HIV (n=4) and potential infant infection. Maternal syphilis and HIV cases were reported between 2020-2023. Each case was abstracted using Fetal Infant Mortality Review (FIMR) abstraction methodology. Cases were categorized into three risk groups (low, medium, or high) depending on level of missed opportunities and compared.

Results: Mothers were between 22-43 and were 75% Black, non-Hispanic. Of mothers with HIV, 75% knew about their diagnosis prior to pregnancy while all mothers with syphilis were diagnosed in the third trimester and did not complete treatment before birth. When ranked, two HIV positive mothers were classified as low, one as medium, and one as high risk. Of syphilis positive mothers, two cases were medium risk and two were low risk.

Conclusion: Previous research suggests significant differences between prenatal and postnatal care for potential HIV positive infants and CS infants. Case management does not occur equitably for syphilis positive mothers and improvements to existing services, with increased focus on CS prevention, could be instrumental in decreasing cases. Additional testing may provide earlier opportunity for adequate syphilis treatment and therefore improve case management.

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P19

USING A VITAL STATISTICS BIRTH RECORD TO CONDUCT QUALITY ASSURANCE OF REPORTED STD DATA TO IMPROVE CONGENITAL SYPHILIS RESPONSE

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Background: In 2023, the Pennsylvania STD Program reported 29 congenital syphilis (CS) cases—the most CS cases reported since 1990. In response to the increase, the STD Program initiated a process of cross-checking the monthly birth file from the Pennsylvania Department of Health’s Vital Records with PA-NEDSS (Pennsylvania’s STD reporting, surveillance, and case management system). Conducting this data crossmatch between the two systems ensures that persons with syphilis and/or gonorrhea during pregnancy have been appropriately documented treated and interviewed as documented in PA-NEDSS.

Methods: Since October 2023 the STD Program performs a routine monthly data match between persons who have recently given birth and documented with an STD as indicated in the birth file with those reported with an STD in PA-NEDSS. Any pregnant person found in the birth file not matched in PA-NEDSS is assigned to STD staff for provider follow-up and, if necessary, follow up for client testing and treatment.

Results: From October 1, 2023, to February 29, 2024, the STD Program identified 92 pregnant persons from the birth file with either syphilis or gonorrhea infection during pregnancy. A crossmatch with PA-NEDSS indicated that 35 (38%) of the persons identified needed to be followed for an unmatched syphilis record or undocumented gonorrhea treatment in PA-NEDSS.

Conclusion: The birth file match has proven to be a secondary safety-net methodology to identify persons with risk during pregnancy. This data match ensures the implementation of effective testing and treatment services for the pregnant person and child who might have been missed during prenatal and delivery care. Additionally, the process provided opportunities for the Disease Intervention Specialist to engage with providers to reinforce reporting requirements, prenatal testing recommendations for STDs especially syphilis, and creates awareness of appropriate treatment.

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P20

HITTING THE STREETS IN RHODE ISLAND: INTEGRATING CONGENITAL SYPHILIS PREVENTION INTO COMMUNITY-BASED HARM REDUCTION PROGRAMS

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Background: Following national trends, Rhode Island has observed an increase in congenital syphilis births in recent years among women who use drugs and/or are homeless. After a decade of seeing no cases, there have been nine cases reported from 2020 through 2023. The majority of these cases were individuals who accessed prenatal care late in their pregnancies. Rhode Island's response was to learn from community members how to develop a public health response grounded in health equity.

Methods: Bilingual Rhode Island Department of Health (RIDOH) staff conducted focus groups with twenty-five women who accessed care at Parent Support Network, a social service agency for mothers experiencing substance use disorders. The purpose of the focus groups was to identify barriers to pre-natal care among this group. The focus groups were also used for consumer input for campaign materials and street outreach activities.

Results: The top three barriers to accessing prenatal were: 1) Fear of losing their children to DCYF by confiding in doctors that they have a current/past drug use history; 2) Stigma and shame encountered in clinical settings; 3) Lack of knowledge of pregnancy due to irregular menstrual cycles related to drug use. The focus group members strongly endorsed harm reduction street outreach efforts that included education and referral to prenatal care and family planning, distribution of pregnancy kits, and access to emergency contraception.

Conclusion: On February 1, 2024, a social media marketing campaign was launched called "Healthy Beginnings." The messaging focused on accessing prenatal care, and intentionally did not include the term "congenital syphilis" in order to avoid stigmatization. Early pregnancy test kits are being distributed through street outreach and harm reduction vending machines in various settings, including probation offices, SUD treatment sites, and FQHC's. In the first six weeks of the campaign 350 individuals clicked on the social media ads.

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P21

IMPLEMENTATION OF EMERGENCY DEPARTMENT OPT-OUT AND RAPID POINT-OF-CARE SYPHILIS TESTING PROGRAM FOR PREGNANT PATIENTS

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Background: In Southeastern Texas, 30% of pregnant people who had a newborn with congenital syphilis presented to the Emergency department (ED) during pregnancy and were not tested for syphilis, representing a critical missed opportunity. The objective of this study is to determine if implementation of an opt-out and rapid point of care (POC) testing strategy will improve diagnosis and treatment of maternal syphilis for patients presenting to the ED.

Methods: This is a prospective study of all pregnant patients presenting to the ED without prenatal care and/or without documented syphilis results at the University of Texas Health Science Center, Houston, TX. Eligible patients undergo POC testing using the FDA-approved Syphilis Health Check (SHC) POC test and venipuncture for lab-based testing for syphilis at the same visit. Navigators query patients about their satisfaction regarding the SHC POC test and link patients to prenatal care. Patients who test positive for syphilis by the SHC are offered empiric treatment and partners are offered testing through ED services and/or referred to the health department.

Results: During the first 2 weeks, 20 patients met inclusion criteria and 1 declined. Nine (47%) were < 25 years old, and 13 (68%) were Non-Hispanic Black. All patients tested negative by the SHC POC test; however, 4 patients did not complete the lab-based syphilis test. The SHC POC result was 100% concordant (n=15) with the lab-based syphilis result. Nine patients (47%) presented with partners, of which, 9 (33%) requested POC testing. In the satisfaction survey, 100% of patients would recommend the SHC POC test for others, and 80% rated their overall experience as very good or excellent.

Conclusion: Implementation of a strategy using the SHC POC syphilis test and opt-out testing in the ED for pregnant patients is feasible. Partner interest in SHC POC testing may reduce reinfection.

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P22

CONGENITAL SYPHILIS – COMPREHENSIVE REVIEW OF ALTERNATIVE ANTIBIOTIC TREATMENT FOR USE IN NEONATES

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Background: Congenital syphilis rates increased 10-fold from 2012 to 2022 in the United States. Currently, the therapeutic standard of care is 10 days of intravenous (IV) aqueous crystalline penicillin G, with very limited evidence for alternatives. A long course of IV antibiotic requires hospitalization that is both costly and burdensome for the child and the family. Fortunately, *T. pallidum* retains susceptibility to other antibiotics based on minimum inhibitory concentrations (MICs).

Methods: There are no randomized controlled studies comparing the treatment of congenital syphilis by antibiotics, both intravenous and oral formulations, other than penicillin. We conducted a comprehensive review of current literature to identify alternative antibiotic treatments for use in neonates. The development of an appropriate culture system has allowed for susceptibility testing of *T. pallidum* using different antimicrobial agents. *T. pallidum* remains exquisitely sensitive to penicillin, but it has also shown susceptibility to other generations of penicillin, cephalosporins, tetracyclines, oxazolidinones, and macrolides. Treponemal MICs have been calculated for multiple different antibiotics. We focused on antibiotics shown to have favorable MICs for *T. pallidum in vitro*. We then reviewed clinical trials using alternative antibiotics for syphilis and neurosyphilis in adults, with simultaneous consideration of the known safety profile for neonates and efficacy for neonatal infections and CNS penetration.

Results: Based on the evidence of safety and efficacy of different antibiotics for use in neonates, ceftriaxone emerges as a potential parenteral candidate and amoxicillin emerges as a potential oral candidate for the treatment of congenital syphilis. Other therapeutic alternatives include cefotaxime (where available), ampicillin, doxycycline, cefixime, and linezolid.

Conclusion: Based on the known pharmacokinetic information for these antibiotics, creating a pharmacokinetic model and therapeutic simulation to determine the best dosage and frequency may be the best next step in expanding the repertoire of available therapeutic options.

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P23

IMPLEMENTATION OF A CONGENITAL SYPHILIS PATHWAY TO IMPROVE QUALITY OF CARE

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Background: Syphilis has reached its highest levels since the 1950s. The evaluation and management of infants born to mothers with syphilis is based on risk stratification, as there is no biomarker of infection in a neonate. Neonatal serologies reflect the mixed immune status of the mother and the child and are rarely useful. Infant evaluation and treatment decisions are based on maternal infection and treatment history.

Methods: With high numbers of infants born to mothers with a history of syphilis, we have implemented a comprehensive clinical pathway. We performed a chart review to identify opportunities for improvement. Next, we began a collaboration and referral pathway with the Los Angeles County Department of Public Health. We then disseminated a clear 1-page “Congenital Syphilis Pathway” with visual diagram to the pediatric resident workroom. In this pathway, we recommended pediatric infectious disease consultation for each infant, discussion of maternal syphilis history with the department of public health STI nurses, and outpatient follow-up for the infant to repeat RPR. When appropriate, pediatric infectious disease consultation includes referral of the mother to supportive services including the Addiction Medicine service and our nurse clinical navigator for education and discussion of HIV PrEP.

Results: Our major outcomes include appropriate evaluation and treatment of each infant, percentage of infants with pediatric infectious disease consultation, percentage of eligible mothers that were referred to supportive services, and percentage of infants with outpatient follow-up of development and repeat RPR.

Conclusion: While public health focuses on the adequate treatment in pregnancy to prevent congenital syphilis, the pediatrician and pediatric infectious disease physician focus on the proper evaluation, management, and follow-up of the infants born to mothers with a history of syphilis. As this quality improvement project develops from October 2023 through October 2024, we hope to see sustained improvement in all of the aforementioned outcomes.

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P24

POTENTIAL IMPACT OF MODIFYING THE CONGENITAL SYPHILIS CASE DEFINITION ON CASE COUNTS IN NEW YORK CITY, 2011-2022

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Background: Clinical guidance recommends treatment for syphilis-exposed infants who have a reactive nontreponemal titer fourfold or greater than the maternal titer at delivery; however, the probable congenital syphilis (CS) surveillance case definition requires additional laboratory/clinical findings, leading to confusion between providers and surveillance staff. We determined the additional case burden in New York City (NYC) if a modified CS case definition were used that included infants with a fourfold or greater titer difference without additional criteria.

Methods: We analyzed NYC syphilis registry data from 2011-2022. We identified syphilis-exposed births that 1) did not meet the surveillance case definition for probable CS and 2) the infant had a reactive nontreponemal titer that had a linked maternal event with a reactive nontreponemal titer within 14 days of delivery. Using tests that were collected at/or closest to delivery, we identified how many additional births would have been considered cases based on titer difference alone.

Results: Between 2011-2022, 160 births met the probable CS case definition, and 871 births did not. Of those that did not, 6 (0.7%) infants had a titer fourfold or greater than the maternal titer at delivery without additional laboratory/clinical findings. Most (4/6, 67%) infants had titers exactly fourfold higher than the maternal titers; infant titers were 1:4, 1:8, and 1:16, with maternal titers of 1:1, 1:2, and 1:4, respectively. One infant had an eightfold titer difference (infant titer: 1:16; maternal titer: 1:2), and one had a 16-fold difference (infant: 1:16; maternal: 1:1).

Conclusion: Most infants with a reactive nontreponemal test have titers equivalent to or less than the maternal titer at delivery. Modifying the CS case definition to include infants with a nontreponemal titer at delivery of fourfold or greater than the maternal titer without any additional clinical/laboratory criteria would not substantially increase the burden of CS cases in NYC.

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P25

CONGENITAL SYPHILIS PREVENTION THROUGH AN OPEN ACCESS, HARM-REDUCTION AND TRAUMA-INFORMED PRENATAL CARE CLINIC INTERVENTION

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Background: In California, congenital syphilis (CS) cases rose from 33 cases in 2012 to 528 cases in 2021, an increase of 1,500%. In statewide surveillance, birthing parents of Californian CS infants commonly reported delayed or no prenatal care, methamphetamine use, history of incarceration and homelessness. Timely prenatal diagnosis and treatment of syphilis is highly effective to prevent CS.

Methods: From August 2021-present, the California Department of Public Health (CDPH), San Joaquin Health Center (SJHC) and San Joaquin Public Health Services (SJCPHS) co-created a prenatal clinic for patients with epidemiologic risk factors for syphilis, informed by local surveillance, consultation with a clinic serving unhoused pregnant patients in San Francisco, and key informant interviews conducted in San Joaquin County (SJC). The clinic was housed in SJHC's family medicine clinic.

Results: In January 2022, Pregnancy Connections Clinic (PCONN) was opened as an open-access prenatal clinic serving pregnant SJC residents who are unstably housed, using substances, have experienced incarceration, and/or have been diagnosed with syphilis. The clinic operates two half-days per week. Care is patient-centered and trauma-informed. PCONN offers clinical care via appointment or drop-in hours, transportation assistance, and in-depth case management. Between January 2022 and January 2024, 36 patients were enrolled, with 24 (71%) patients reporting previous or current experiences of unstable housing or homelessness, 26 (76%) reporting current or previous use of substances, and 1(3%) having experienced incarceration. Among 26 live births, 14 congenital syphilis cases were averted among 15 syphilis diagnoses during pregnancy.

Conclusion: PCONN has been successfully implemented within an FQHC look-alike clinic. Such specialty clinics show promise for serving those at risk for prenatal syphilis, and for CS prevention.

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REVIEW OF INFANTS EVALUATED FOR CONGENITAL SYPHILIS

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Background: Rates of syphilis have increased in our county and around the world. Accordingly, rates of infants born to mothers with syphilis have also increased. From 2012 - 2019, the number of reported congenital syphilis cases has increased over 1,300% in our county, according to the department of public health.

Methods: The purpose of this study is to review the charts of any infants hospitalized at our hospital with a reactive RPR test or born to a mother with a reactive syphilis screen, indicative of risk of congenital syphilis infection.

This study was designated as an exempt study through the institutional IRB, and it was approved August 2023.

The medical laboratory provided historical data. We searched for any infants with an RPR ordered. Additionally, we have searched for pregnant women with positive treponemal antibodies and/or reactive RPR, and then identify the infants born from those pregnancies. After identification of all infants with possible exposure to syphilis in utero, all other clinical data is extracted from the medical record.

Results: Compared to women who were adequately treated before or during pregnancy, women that were not adequately treated were more likely to have substance use disorder, other sexually transmitted infections during pregnancy, mental health issues, housing insecurity, and late/no prenatal care. Compared to women who were adequately treated prior to pregnancy, women with syphilis at any time during pregnancy tended to have large placentas for gestational age (> 90th percentile).

Conclusion: We identified risk factors for congenital syphilis, described the spectrum of clinical disease in children hospitalized with congenital syphilis risk and the rates and routes of administration of penicillin and the long-term risk of developing symptomatic disease. Most children were appropriately evaluated and treated for congenital syphilis, and no children developed symptomatic disease following treatment.

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SYPHILIS SCREENING IN 18-49-YEAR-OLD PREGNANT WOMEN IN COMMERCIALY INSURED MEDICAL CLAIMS, 2022

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Background: Rates of congenital syphilis continue to rise in the United States with 1,325 reported cases in 2018 and 3,755 reported cases in 2022. Similarly, reported syphilis cases in pregnant women increased 159% over the same timeframe. This dangerous trend can be reversed with adherence to recommended screening guidelines among pregnant women. Therefore, this analysis sought to determine rates of congenital syphilis screening among commercially-insured women in the US.

Methods: We analyzed the 2022 Merative™ MarketScan® Research commercially-insured medical claims data to determine the proportion of 18–49-year-old, insured, pregnant women receiving adequate syphilis screening prior to childbirth. The dataset included 18-49-year-old pregnant women, having commercial health insurance for 8+ months, and experiencing a live birth. Screening events were classified into 3 categories, early (1-27 weeks), late (28-32 weeks), birth (33+ weeks). Percentages were calculated for pregnancy categories by age category and geographic regions. Additionally, we identified pregnant women screened multiple times during pregnancy.

Results: Of the 144,052 patients in the sample, 70.9% were screened for syphilis early in pregnancy, < 1% in late pregnancy, and 72.5% at the time of birth. Of those receiving syphilis screening, 35–44-year-olds were screened early and at birth most often compared to other age categories, and for the 45-49 age category, 66.1%, were screened 2+times during pregnancy. Regionally, early syphilis screening ranged between 68.4% - 72.6%, with the Northeast having the highest rate at 72.6%.

Conclusion: Despite recommended screening for syphilis, not all states have laws mandating screening of pregnant women and there is no uniform requirement across states. Approximately 79.8% received screening at least once in the insured population. Opportunities for improved screening rates remain and effective communication with both providers and patients about the rise in syphilis rates, and the importance of screening may be useful to decrease the incidence of CS.

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TREATMENT INDICES AMONG INCARCERATED AND RECENTLY INCARCERATED PEOPLE WITH SYPHILIS IN MARICOPA COUNTY, 2016-2022

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Background: During 2016-2022, Maricopa County, Arizona experienced a 50% average annual increase in the number of syphilis cases diagnosed in correctional facilities and an 18.5% increase in the number of syphilis cases reporting incarceration in the previous 12 months.

Methods: The Arizona STD surveillance database (PRISM) was used to characterize testing, demographic, and treatment data from syphilis cases reported during 2016-2022. Excluding patients treated prior to receiving a lab result, time to treatment was calculated as median days elapsed between initial lab result date and initial treatment date.

Results: During 2016-2022, 19,596 total cases of syphilis were reported in Maricopa County: 13.6% (2,670/19,596) diagnosed in a correctional facility; mean age 33 years; and 61.6% (1,646/2,670) men. Additionally, 14.8% (2,909/19,596) were diagnosed outside of corrections but self-reported a history of incarceration in the last 12 months; mean age 32 years; 61.7% (840/1,361) men. Of cases diagnosed within correctional facilities, 20.5% (548/2,670) had no reported syphilis treatment compared to 6.3% (86/1,362) of cases reporting incarceration in the last 12 months and 7.8% (1,209/15,563) of all remaining syphilis cases.

Median time to treatment among cases diagnosed in a correctional facility was 7 days (range: 0-477 days), and 8 days (range: 0-367 days) for patients incarcerated in the last 12 months.

Among treated patients diagnosed in a correctional facility, 93.2% (1,978/2,122) were treated at a correctional facility, and 4.4% (94/2,122) at the public STD clinic. In comparison, the public STD clinic (54.2%, 691/1,276) and hospitals (13.0%, 166/1,276) were the most common treatment site types for patients with recent incarceration.

Conclusion: Nearly one third of persons with syphilis in Maricopa County were diagnosed in correctional facilities or reported incarceration within 12 months prior to diagnosis. Lack of treatment and treatment delays indicate opportunities for rapid syphilis diagnosis and treatment within correctional systems.

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VARIATION IN SYPHILIS TREATMENT TIMELINESS BY DIAGNOSING FACILITY TYPE

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Background: Ensuring timely treatment for persons diagnosed with syphilis is critical to halting transmission and preventing adverse sequelae. To identify opportunities to reduce barriers to timely treatment, we investigated timeliness of syphilis treatment initiation using national syphilis data.

Methods: We reviewed non-congenital syphilis case notifications provided to CDC through the National Notifiable Diseases Surveillance System during 2021–2022. After excluding one state unable to transmit treatment date, we compared diagnosis date to the reported treatment date for all reported non-congenital syphilis cases to determine 1) the proportion of cases with documented treatment initiated and 2) the proportion with documented treatment initiated ≤ 30 days of diagnosis. We investigated if there were differences in treatment initiation by diagnosing facility type: STI/HIV-related, corrections, emergent care (ER, any hospital type, or urgent care), and specific-service (mental health, substance abuse facility, blood banks, laboratory).

Results: Of the 372,131 syphilis case notifications included in the analysis, 86.8% had documented treatment and 77.7% had a treatment initiation date ≤ 30 days of diagnosis. Documentation of treatment was more frequent for cases diagnosed in STI/HIV-related facilities (92.7%; 50,323/54,275 cases) compared to correctional facilities (87.2%; 18,656/21,392 cases), emergent care facilities (86.2%; 52,244/60,612 cases), and specific-service facilities (76.9%; 17,496/22,765 cases). Treatment initiated ≤ 30 days of diagnosis was also more common in STI/HIV-related facilities (86.1%; 46,717/54,275 cases) compared to emergent care facilities (78.2%; 47,374/60,612 cases), correctional facilities (76.5%; 16,372/21,392 cases), and specific-service facilities (64.1%; 14,583/22,765 cases).

Conclusion: Most patients diagnosed and reported with non-congenital syphilis had documented treatment initiated ≤ 30 days of diagnosis; however, patients diagnosed in service-specific facilities may face barriers to receiving timely treatment. To facilitate timely treatment, facilities could consider stocking syphilis-specific medications, updating policies to treat cases at time of service or ensure cases are linked to treatment, and improving coordination with local health departments to facilitate treatment.

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P30

EVALUATION OF HIV STATUS AMONG PRIMARY AND SECONDARY SYPHILIS CASES IN MEN WHO HAVE SEX WITH MEN RESIDING IN AREAS PRIORITIZED BY THE ENDING THE HIV EPIDEMIC INITIATIVE — UNITED STATES, 2022

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Background: Despite representing a minority of the U.S. population, areas prioritized by the Ending the HIV Epidemic (EHE) initiative account for more than half of primary and secondary (P&S) syphilis cases overall and among men who have sex with men (MSM). To inform ongoing syphilis and HIV syndemic prevention and control activities in EHE areas, we evaluated P&S syphilis case notifications among MSM by reported HIV status.

Methods: We reviewed 2022 P&S syphilis case notifications sent via CDC's National Notifiable Diseases Surveillance System from 50 states; Washington, D.C.; and Puerto Rico. After restricting to P&S syphilis cases among MSM with known county of residence, we determined the proportion of cases residing in an EHE area (48 counties; San Juan, Puerto Rico; Washington, D.C.; and seven states) overall, and by HIV status (positive, negative, unknown) at time of syphilis diagnosis.

Results: After excluding four P&S syphilis cases due to missing county of residence, we identified 20,206 P&S syphilis cases among MSM across all 50 states, D.C., and Puerto Rico in 2022. When stratifying by HIV status and EHE designation, 42% (4,657/11,144) of MSM with P&S syphilis residing in EHE areas were reported as HIV positive compared to 29% (2,624/9,062) in non-EHE areas, and 51% (5,658/11,144) residing in EHE areas were reported as HIV negative compared to 50% (4,500/9,062) in non-EHE areas. Additionally, 7% (829/11,144) residing in EHE areas were reported with unknown HIV status compared to 21% (1,938/9,062) in non-EHE areas.

Conclusion: The burden of P&S syphilis in EHE areas, especially among MSM with HIV, highlights the importance of a syndemic approach to sexual healthcare that emphasizes early recognition and prompt treatment of syphilis. These findings also highlight the importance of offering HIV testing to all MSM with syphilis with linkage to HIV treatment or prevention services for those with and without HIV respectively.

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INCIDENCE RATES AND CORRELATES OF SYPHILIS AMONG MEN WHO REPORT ANY COMBINATION OF SEX PARTNERS THAT INCLUDE WOMEN, LOS ANGELES COUNTY, 2023

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Background: In LAC, the syphilis epidemic among men who have sex with men (MSM) is longstanding. Since 2012, the incidence of early syphilis has increased significantly among heterosexual populations, particularly persons of reproductive potential (PRP), necessitating a new approach to syphilis control. LAC Department of Public Health (Public Health) has developed an enhanced approach to respond to the growing syphilis epidemic among PRP and congenital syphilis (CS). Although recognized as the primary source of PRP's syphilis risk, men who have sex with women (MSW) have not been specifically targeted by enhanced interventions. Enhanced interventions targeting specific sub-groups of MSW with the highest incidence of syphilis may help curb the epidemic among PRP and prevent new CS cases.

Methods: We used surveillance data from 2023 to estimate the overall incidence rate (IR) of syphilis diagnoses among MSW in LAC. We included cases among male persons whose records indicated any combination of sex partners that included women. We stratified rates by available Social Determinants of Health data to identify which MSW may benefit most from prevention activities.

Results: We estimated an overall syphilis IR of 4.4 per 10,000 for MSW in LAC. This is lower than the IR of syphilis for MSM (152.6), but higher than that for women (4.2). MSW who are living with HIV (215.2), experiencing homelessness (47.2), Black or African American (14.6), live in the South LA Service Planning Area (9.6), and American Indian or Alaska Native (9.1) had IRs that were 2 to 49 times as high as the MSW average.

Conclusion: This work identifies the sub-groups of MSW in LAC with the highest incidence of syphilis, and therefore those that should be prioritized for enhanced interventions. These results provide support for Public Health to develop an enhanced intervention for syphilis among MSW.

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EXAMINING SYPHILIS CASE RATES BY SOCIAL VULNERABILITY INDEX, FLORIDA, 2020

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Background: From 2015–2020, reported cases of syphilis and congenital syphilis (CS) increased by 178% and 285%, respectively, in Florida. In other states, higher rates of syphilis have corresponded to communities with higher social vulnerability (less healthy conditions), compared to less vulnerable (healthier) areas. We examined this potential relationship in Florida.

Methods: Social vulnerability index (SVI) scores, population, and live birth totals by census tract were collected from the U.S. Census Bureau and Florida Vital Statistics for 2020. SVI scores, determined at the census tract level, were grouped into equal quartiles (Q1-Q4) by population, with the highest scoring SVI quartile representing the most vulnerable. Reported syphilis cases were matched to census tracts. Case rates (per 100,000 live births or population) and case rate ratios (Q1 as referent population) were calculated for CS and adult stages of syphilis.

Results: Of 12,332 reported syphilis cases, 12,061 (97.8%) linked to census tracts with an SVI score. Case rates were lowest in the lowest SVI quartile and increased as SVI increased (Q1 23.7; Q2 37.9; Q3 61.8; Q4 101.4). Similar results were observed in CS and across adult stages of syphilis at diagnosis. The CS rate in the highest SVI quartile was six times as high as the CS rate in the lowest quartile (case rate ratio 6.3, 95%CI 4.0-10.0). Similarly, in the highest SVI quartile (Q4 compared to Q1), case rate ratios were 4.9 (95%CI 2.3-10.7) for unknown or late duration syphilis, 4.5 (95%CI 2.1-9.6) for early non-primary non-secondary syphilis, 3.4 (95%CI 1.3-9.3) for secondary syphilis, and 3.5 (95%CI 0.9-13.2) for primary syphilis.

Conclusion: Syphilis case rates and rate ratios increased as SVI increased across all stages of adult syphilis and CS. Ensuring syphilis prevention resources, treatment, and support reaches communities with higher social vulnerability may help reduce sexually transmitted infection disparities.

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TRENDS IN SYPHILIS CONSULTS FROM THE NNPTC'S STD CLINICAL CONSULTATION NETWORK (STDCCN), 2020- 2023

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Background: The National Network of STD Clinical Prevention Training Centers (NNPTC) assists clinicians in the United States with skills, knowledge, and experience to treat and prevent STIs. The NNPTC provides clinical decision support to healthcare professionals through the Clinical Consultation Network (STDCCN). We evaluated STDCCN consults for syphilis support, identifying emerging challenges in case management and opportunities to create resources and provide training/technical assistance.

Methods: From April 1, 2020, through September 30, 2023, consults were extracted from the STDCCN database. Variables abstracted included year, syphilis- subcategory [serology interpretation, advanced clinical management (neuro/ocular syphilis, alternative treatment/penicillin allergy), and congenital syphilis], occupational setting, requestor-type (clinical versus program), and clinical question. Consults were examined for trends and stratified by requestor-type and syphilis-subcategory.

Results: Syphilis requests accounted for most consults (54.7%, n= 1833), and increased over time by 70.5% from 285 (47.3% of consults in 2020) to 486 (47.7% of consults in 2023). Most syphilis consults were from clinical staff (76.9%, n=1409), but there was a 146% increase in requests from non-clinical public health program staff (43 [15.1%] in 2020 to 106 [21.8%] in 2023). Most syphilis consults were for serology interpretation (41.7%, n=756), followed by advanced clinical management (37.1%, n=672) and congenital syphilis (21.1%, n=383). While there were increases in total syphilis consults, the largest increases from 2020 to 2023 were for advanced clinical management (153%) and congenital syphilis (72%).

Conclusion: Syphilis consults accounted for the majority of STDCCN inquiries, with increases over time in multiple syphilis- subcategories. Increases in consults mirror the epidemiology of syphilis in the U.S. and highlights need for greater clinical training to help address the complexities of case management and congenital syphilis. As more non-clinical program staff request consultation, further investigation is warranted to ensure appropriate syphilis trainings, technical assistance, and resources are available to clinical and public health professionals.

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A NEW PARTNERSHIP FOR ENHANCED SURVEILLANCE: EXAMINATION OF A SPECIALTY FACILITY'S RECORDS TO IDENTIFY UNREPORTED NEUROSYPHILIS-RELATED MANIFESTATIONS IN NEW YORK CITY, 2020-2021

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Background: As of 2018, neurologic, otic, and ocular manifestations of syphilis were added to national notifiable case definitions. These manifestations are thought to be rare and rarely reported via routine, case-based surveillance for syphilis. Given the increase in syphilis rates over the past two decades, a novel way to identify unreported manifestations was explored.

Methods: The New York City (NYC) Health Department partnered with a facility specializing in treating diseases of the eyes, ears, nose, and throat. This facility serves as a referral site and rarely makes initial syphilis diagnoses, nor conducts serologic testing for syphilis, or reports neurosyphilis-related findings to NYC Health Department. They provided 132,733 diagnosis code-level records of patient-visits from 1/2/2020-3/31/2021. We matched their records with syphilis-specific diagnosis codes against the STI surveillance system (Maven) to compare visit information with data collected through routine reporting.

Results: Of 46,638 visits made by 46,472 unique patients captured in facility records, six patients had a syphilis-specific diagnosis code: four patients diagnosed with secondary syphilis oculopathy and two with late syphilis oculopathy. All six patients were in Maven; four of them were known to have HIV. Three of the six patients had syphilis events prior to their facility visit that fit the case definition and they received appropriate treatment. Two of the three patients already had ocular manifestations documented in Maven, while one patient had syphilis events in 2018 and 2020, and neither event had ocular manifestations documented.

Conclusion: This retrospective review of facility data suggests under-reporting of neurosyphilis-related symptoms and use of facility data as an important supplement to routine surveillance. Incorporating such facility-level data into existing surveillance systems at health departments should be considered for not only identifying neurosyphilis-related symptoms in real-time, but for monitoring/characterizing these syphilis manifestations that would otherwise be unreported.

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SUBSTANCE USE AMONG PRIMARY AND SECONDARY SYPHILIS CASES IN ARIZONA, 2018-2022**Maegan Matter, BA, MPH**

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Background: Since 2018, Arizona has experienced an increase in reported cases of syphilis. In 2022, Arizona reported the sixth-highest rate of primary and secondary (P&S) syphilis in the United States. Given the increased burden of syphilis and knowledge of associated risk factors, we examined substance use trends among reported P&S syphilis cases to determine which demographic populations are most affected and how substance use has changed over time.

Methods: Primary and secondary syphilis cases were identified using Arizona's STI surveillance database, Patient Reporting Investigation Surveillance Manager (PRISM). Drug risk factors and demographic information captured in PRISM were analyzed among P&S syphilis cases reported in persons aged greater than 15 years old from January 1, 2018 to December 31, 2022

Results: Between 2018 and 2022, Arizona reported 7,922 P&S syphilis cases. Among these P&S syphilis cases, 79.6% (n=6,306) had complete drug risk information, with 22.5% (n=1,422) reporting substance use. In 2022, substance use was most commonly reported among males (n=268, 16.9%), persons aged 35 to 44 years old (n=136, 8.6%), and non-Hispanic white persons (n=136, 8.6%). From 2018 to 2022, there was an increase in reported use of crack (0.2% to 1.1%), cocaine (3.5% to 5.0%), and methamphetamines (16.2% to 20.6%), while a decrease was seen in reported use of heroin (3.3% to 2.3%) and intravenous drugs (4.8% to 4.1%).

Conclusion: Primary and secondary syphilis continues to be a public health concern in Arizona. The increased prevalence of substance use among Arizona's P&S syphilis cases indicates persons who report substance use should continue to be prioritized for testing, treatment, and other prevention services.

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TRENDS IN PRIMARY AND SECONDARY SYPHILIS AMONG MEN WHO HAVE SEX WITH MEN DURING THE 2022 U.S. MPOX OUTBREAK

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Background: During the 2022 mpox epidemic, men who have sex with men (MSM) may have changed sexual and healthcare seeking behaviors to prevent spread of infection, potentially impacting transmission of other STIs. We investigated changes in reported primary and secondary (P&S) syphilis cases among MSM during the 2022 U.S. mpox outbreak.

Methods: We reviewed P&S syphilis case notifications provided to CDC through the National Notifiable Diseases Surveillance System. Restricting to cases among MSM, we compared the number of 2022 cases reported for a given *Morbidity and Mortality Weekly Report (MMWR)* week to the number of 2021 cases reported in the same week, expressing 2022 cases as a percentage of 2021 cases, and compared 2022 and 2021 cumulative case totals.

Results: Prior to May 17 (*MMWR* week 20) when the first 2022 U.S. mpox case was reported, the weekly number of P&S syphilis cases among MSM reported in 2022 as a percentage of the cases in the same week in 2021 was generally higher (average percentage of previous year: 104.0%). During the first four months of the mpox outbreak (*MMWR* Weeks 21-38; May 22-September 24), weekly P&S syphilis cases in 2022 were substantially higher than 2021 case counts (average percentage of previous year: 110.7%). From *MMWR* Week 39 (week of September 25) until the end of the year, 2022 case counts were generally lower than 2021 case counts (average percentage of previous year: 96.9%). The 2022 cumulative total of P&S syphilis cases among MSM was 4.0% higher than for 2021.

Conclusion: Initial increases in weekly P&S syphilis case counts among MSM during the mpox outbreak may reflect changes in healthcare seeking behavior as more men sought lesion-related care leading to increased P&S syphilis diagnoses. Decreases in weekly cases later in 2022 may reflect reduced transmission due to earlier diagnoses and treatment, or sexual behavior changes.

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POPULATION-BASED SAMPLING FOR SYPHILIS SURVEILLANCE, CHICAGO, IL

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Background: Between 2018 and 2022, the Chicago Department of Public Health (CDPH) saw a 97% increase in all stage syphilis within sex at birth females (SABF). CDPH reallocated public health intervention (PHI) staff to follow up on SABF cases to respond. As such, PHI was unable to conduct comprehensive interventions among sex at birth males (SABM). To better understand current trends among SABMs, CDPH conducted enhanced syphilis surveillance to identify factors to inform interventions among this group.

Methods: A 20% random sample was selected for investigation among lab-confirmed syphilis positive SABMs reported through the Chicago Health Information Management System. Individuals were batch sampled weekly using a simple random sample methodology after deduplication within SAS. Case data was collected through telephone interviews and stored in REDCap.

Results: Between September 2023 - January 2024, complete contact attempts were made on 240 sampled individuals with 60.8% successfully contacted and 28.9% (N= 69) interviewed. Among interviewed participants: median age was 31 years, 31.9% Non-Hispanic Black, 26.1% Non-Hispanic White, 26.1% Hispanic, 10.1% Non-Hispanic Multiracial, and 5.7% Other Race Indicated. During their syphilis testing event, 87.0% (60/69) were tested for HIV. 20.3% (14/69) of sample self-reported living with HIV, with 100% taking antiretroviral medications. PrEP usage was high at 54.5% (30/55) of respondents. Approximately 87% indicated having same sex partners with a median of 2 partners in the last three months. For finding partners, participants most often used online dating apps (53.6%), bars and clubs (29.0%), social media (21.7%), social networks (15.9%), and bathhouses (8.7%).

Conclusion: This data indicates a need for targeted public health interventions coupled with access to social media platforms and dating applications for disease intervention activities. Methodology proved viable for collecting health information useful in informing prevention activities, however new strategies are needed to incentivize participation. Additional assessments are needed to ensure representativeness of the sample.

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2ND HAND ANALYSIS: EFFECT OF STI EDUCATION/DISCUSSION ON SYPHILIS RATES AMONG THE LATINX/HISPANIC COMMUNITY

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Background: Syphilis remains a significant public health concern, particularly among the Latinx/Hispanic community in Georgia. However, discussing sexually transmitted infections (STIs) and emphasizing the importance of prenatal care in this community is often limited. This presentation aims to investigate the influence of health education programs and community discussions on syphilis rates in the Latinx/Hispanic population.

Methods: Georgia's syphilis rates were obtained from the Georgia Department of Public Health's OASIS system, while nationwide syphilis rates were gathered from online interactive mapping. STI discussions within the Latinx/Hispanic community were obtained from peer-reviewed articles. Tableau was used to analyze the data.

Results: Low-income Hispanics in the US have limited healthcare access and experience higher rates of STIs due to ethnic discrimination and acculturative stress. (Fernandez et al., 2023) Mexican Latinas prefer in-person interventions by Spanish-speaking staff with flexible scheduling and a multigenerational health focus. Barriers include fear of deportation, lack of insurance, and low wages. (Mann et al., 2016). According to OASIS data, syphilis stages of primary, secondary, early latent, late latent, and neurosyphilis infections have been increasing among Latinx/Hispanic individuals in District 3-1 from 2016 to 2022 across all ages. Age-adjusted STI rates rose from 36 to 104.1 per 100,000 for men, and less than 10 to 29.3 per 100,000 for women. According to United et al. (n.d.), Georgia and Texas have the highest percentage of uninsured Latinx individuals, at 30% each. Meanwhile, the EnviroAtlas Interactive Map (n.d.) reports that at least 19,000 Latinx people in District 3-1 live below the poverty line. "Familismo" and "machismo" affect sex ed in Latinx communities. Women carrying condoms may be stigmatized (HRSA, 2023).

Conclusion: STI education, discussions, and syphilis rates in the Latinx community are interrelated. This presentation highlights the importance of customized education programs and community engagement strategies to address the syphilis burden in this population.

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HIV AND SYPHILIS SCREENING DURING COVID-19 PANDEMIC: A BRAZILIAN EXPERIENCE AMONG VULNERABLE INDIVIDUALS

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Background: During the COVID-19 pandemic, programs/services for diagnosing, treating, and preventing STIs were interrupted or slowed down. Therefore, our research group took advantage of the opportunity to test for COVID-19 and offered testing for HIV and syphilis among vulnerable people.

Methods: This study aimed to screen vulnerable groups (homeless people, waste recycle pickers, LGBTQIA+ and immigrant individuals) for HIV and syphilis in Goiânia, Central Brazil, during the COVID-19 pandemic. From June 2020 to April 2021, 627 individuals were interviewed on sociodemographic data and tested for anti-HIV 1/2 and syphilis using rapid tests. Prevalence with 95% CI was calculated.

Results: The majority of individuals were male (53.2%), single (58.8%), and black or mixed race (75.9%). The median age, scholarly, and monthly income were 33 years, ten years of education, and 1,200 BRL, respectively. Globally, the prevalence of syphilis was 17%, ranging from 7.6% in immigrants/refugees to 36.7% in LGBTQIA+ individuals. The overall prevalence of anti-HIV was 6.1%, ranging from 0.7% in waste recycle pickers to 23.1% in LGBTQIA+ individuals. Anti-HIV was detected in 12 individuals who were not aware of their HIV serostatus (four homeless individuals, three men who have sex with men, three transgender women, one recycled waste picker, and one immigrant), suggesting recent infection. Twenty-two individuals were HIV and syphilis positive. All individuals who were positive for HIV and syphilis were referred to health services for care and treatment, if necessary.

Conclusion: During the health crisis caused by the COVID-19 pandemic, health managers must optimize actions to mitigate the lack and challenges of access to the few health services available for STI screening.

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CHANGES TO NEISSERIA GONORRHOEAE MULTI-ANTIGEN SEQUENCE TYPES FOUND IN CANADA BEFORE AND AFTER THE CORONAVIRUS DISEASE (COVID-19) PANDEMIC.

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Background: *Neisseria gonorrhoeae* is the causative agent of gonorrhea. To monitor for trends in and emergence of antimicrobial resistance (AMR), the Gonococcal Antimicrobial Surveillance Program (GASP-Canada) was established. *N. gonorrhoeae* MultiAntigen Sequence Types (NG-MAST) is a genotyping system that uses the *porinB* (*porB*) and *transferrin-binding proteinB* (*tbpB*) sequences to assign sequence types (ST) to gonococcal strains. Strains sharing identical STs are highly related and frequently have similar AMR profiles. The COVID-19 pandemic led to a drastic decline in the numbers of several prevalent NG-MAST STs in Canada, accompanied by the detection of STs previously unseen in the country.

Methods: *N. gonorrhoeae* cultures were submitted to the National Microbiology Laboratory in Winnipeg, Canada by provincial and territorial public health laboratories as part of GASP-Canada. MICs for seven antimicrobials were determined/predicted for the cultures by agar dilution or whole genome sequencing (WGS). NG-MAST STs were determined using conventional PCR or WGS.

Results: In 2019, the two most common STs in Canada were ST-14994 (14.1%, n=413/2921) and ST-12302 (11.8%, n=345/2921). By 2022, the prevalence of these STs decreased to 1.6% (n=46/2544) and 0.7% (n=17/2544), respectively. The two most common STs in 2022 were ST-17972 (13.3%, n=338/2544) and ST-19875 (8.8%, n=320/2544). In Canada, ST-17972 was first detected in 2019, whereas ST-19875 first appeared in 2020. ST-12302 is strongly associated with azithromycin resistance (MIC $\geq$ 2mg/L) with upwards of 80% of strains resistant. While over the course of the COVID-19 pandemic the level of AZI-R has not changed, the distribution has shifted from primarily ST-12302 to a wider array of STs.

Conclusion: The COVID-19 pandemic altered NG-MAST ST prevalence within Canada. The overall AZI-R level has remained the same, though it is no longer as strongly associated with a single genotype. Continued surveillance of *N. gonorrhoeae* AMR will help monitor the changing NG-MAST and AMR dynamics.

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CHARACTERISTICS OF NEISSERIA GONORRHOEAE CULTURE-POSITIVE PATIENTS, BY ANTIBIOTIC SUSCEPTIBILITY STATUS, NEW YORK CITY (NYC), 2017 TO 2021

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Background: Gonorrhea (GC) with reduced susceptibility (RS) to antibiotics is an urgent public health threat. The national Strengthening the U.S. Response to Resistant Gonorrhea (SURRG) project monitors RS in gonorrhea cases. The NYC Health Department's eight Sexual Health Clinics and two community partner clinics participated in the first SURRG cycle from 2017-2021.

Methods: Using all SURRG collected GC isolates from 2017-2021, we compared demographics, prior/concurrent sexually transmitted infections (STI), and sexual behavior of patients with susceptible GC to those with RS GC. RS GC was defined as a culture isolate with a minimum inhibitory concentration of ≥ 2.0 $\mu\text{g/ml}$ for azithromycin, ≥ 0.125 $\mu\text{g/ml}$ for ceftriaxone, and ≥ 0.25 $\mu\text{g/ml}$ for cefixime.

Results: Of 3,972 isolates, 3,417 (86%) were susceptible and 555 (14%) demonstrated reduced antibiotic susceptibility. Among RS cases, 517/555 (93%) demonstrated RS to azithromycin and 38/555 (7%) to ceftriaxone and/or cefixime. GC cases were mostly male (approximately 96%) and half were aged 25-34 years; patient gender and age did not differ by susceptibility status of isolates. RS GC cases were more likely than cases with susceptible GC to be White (29% vs 21%, $p < 0.001$). Among cases, HIV-positive status (12%) and history of any bacterial STI in the previous 12 months (38%) were virtually identical for both groups. Compared with male cases with susceptible GC, a higher proportion of male cases with RS GC reported only male sex partners (74% (386/522) vs 60% (2,025/3,205); $p < 0.001$), and fewer reported only female sex partners (16% vs 31%). A higher proportion of cases with RS GC had chlamydia and/or syphilis coinfection compared with those with susceptible GC (15% vs 9%, $p < 0.001$).

Conclusion: RS GC in NYC was relatively low, but higher among men who have sex with men. With few distinguishing patient characteristics to identify likelihood of RS GC, ongoing GC surveillance with monitoring for RS remains necessary.

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DISSEMINATED GONOCOCCAL INFECTIONS REPORTED IN NEW YORK CITY, 2018-2023

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Background: New York City (NYC) Department of Health and Mental Hygiene began special surveillance of disseminated gonococcal infections (DGI) in 2018. We obtain gonococcal isolates from sterile sites, with the goal of comparing the molecular characteristics of those isolates to those of urogenital isolates. We describe the epidemiology, specimen characteristics and antimicrobial susceptibility testing (AST) results of DGI cases in NYC.

Methods: A DGI case was defined as isolation of gonococcus from a normally sterile anatomic site. Data on reported DGI cases from 2018-2023 were extracted from the STI surveillance and case management system. We analyzed case counts, demographic information, specimen characteristics, and results of antibiotic susceptibility testing.

Results: From 2018-2023, 24 DGI cases were reported in NYC (4 in 2018, 3 in 2019, 2 in 2020, 3 in 2021, 8 in 2022 and 4 in 2023) and accounted for 0.01% of the total number of reported gonorrhea cases (0.27 DGI cases/100,000 population). Just over half (54%) of cases were male (13/24), 67% (16/24) were aged 25-54 years, and 63% (15/24) were Black or Hispanic. Synovial fluid was the most common specimen source (25%). AST was done on most isolates (88%, 21/24) and 95% (20/21) were ceftriaxone susceptible. One case (4%) was HIV-positive and 1 case (4%) was concurrently diagnosed with late syphilis. Six cases (25%) had a history of at least one reportable bacterial STI in the previous 12 months and, among those, 4 (67%) had a history of gonorrhea.

Conclusion: Reported DGI cases are infrequent in NYC, consistent with findings in other jurisdictions, and do not appear to be increasing over time. History of STI was relatively rare, however the high proportion of previous gonorrhea diagnoses may suggest a history of untreated or inadequately treated infection.

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ELEVATION OF CHLAMYDIA AND GONORRHEA PREVALENCE DURING THE COVID-19 PANDEMIC AND THE BENEFICIAL UTILITY OF MULTI-SITE TESTING

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Background: The Center for Disease Control and Prevention (CDC) has highlighted a significant disruption in the infection rate due to the COVID-19 pandemic, with a persistent rise in cases. The recommended primary specimens for males and females are urine and vaginal swabs, yet a large-scale comparison of positivity rates in self-collected specimen types (urine, oral, rectal, and/or vaginal swabs) has not been reported.

Methods: We analyzed de-identified *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) results from 2019 to 2023. The specimens were self-collected at home or in a non-clinical setting and sent to the laboratory for analysis. We examined the prevalence of NG and CT positivity among 2,693,508 samples from 593,996 individuals, focusing on 4 collection sites.

Results: The positive prevalences of NG (CT) by year regardless of specimen types from 2019 to 2023 were 2.2, 3.1, 4.1, 4.1, and 4.3% (6.8, 6.6, 6.3, 5.8, and 5.7%), respectively. The trend of NG-positive prevalence increased since the COVID-19 pandemic period, and CT-positive prevalence decreased. The female NG-positive prevalence was lower (0.6 - 1.2%) than the male (3.0 - 5.3%) with a peak at 2021. Notably, approximately 80 - 90% of NG-positive males were detected in rectal and/or oral swabs, but not in urine specimens. Similarly, approximately 45 - 72% of male individuals with CT positive were identified in rectal and/or oral specimens but not in urine. For females, vaginal swab positivity was also compared to urine, rectal, and/or oral specimens, and 16 - 40% of NG-positive were detected in non-vaginal swab specimens, along with 4.1 - 6.1% for CT-positive.

Conclusion: This retrospective CT/NG study suggested that the COVID-19 pandemic increased the positive prevalence for NG while CT positivity decreased gradually. Although urine and vaginal swabs are the recommended specimen types, testing of multiple sites showed a greater benefit for detecting NG and CT infectivity.

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EXAMINING NEISSERIA GONORRHEA CASES DIAGNOSED IN EMERGENCY ROOM/URGENT CARE FACILITIES ACROSS RACE/ETHNICITY GROUPS, UNITED STATES, 2018 - 2022

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Background: Understanding trends in the facility types where people are diagnosed with gonorrhea can help inform prevention opportunities. Increases in diagnoses in emergency care settings may indicate decreases in access to preventive health care. These access issues may be differential across racial/ethnic populations and exacerbate existing health disparities. We reviewed national gonorrhea data to investigate trends in diagnoses in emergency care facilities.

Methods: We reviewed gonorrhea case notifications provided to CDC through the National Notifiable Diseases Surveillance System during 2018-2022. After restricting to cases with known diagnosing facility type, we investigated trends in the number and relative proportion of gonorrhea cases reported from emergency care facilities (emergency rooms/urgent care) stratified by the three race/ethnicity groups accounting for approximately 75% of all cases (non-Hispanic Black/African American, non-Hispanic White, and Hispanic persons).

Results: During 2018-2022, 2,781,294 gonorrhea cases were reported with known diagnosing facility type (86% of all gonorrhea cases). Of those, 293,160 (10.5%) were diagnosed in emergency care facilities. Over time, the proportion diagnosed in emergency care facilities increased (7.7% to 11.5%), as did the number of cases reported from emergency care facilities (38,719 to 63,279 cases). Among non-Hispanic Black/African American persons, the proportion of diagnoses in emergency care facilities increased over time (7.5% to 13.3%) along with increases in case counts (14,634 to 27,860 cases). Although attenuated, trends were similar among non-Hispanic Whites persons (proportion increase: 9.3% to 11.6%; case count increase: 11,240 to 14,295) and Hispanic persons (proportion increase: 5.2% to 8.3%; case count increase: 3,198 to 6,278).

Conclusion: Approximately 1 in 10 persons with gonorrhea are diagnosed in emergency care facilities. Recent increases in diagnoses in these facilities are substantial, particularly among non-Hispanic Black/African American persons. Monitoring trends in these facilities can provide insight into evolving patterns and disparities in STD care and inform interventions to improve accessibility and reduce health disparities.

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WHAT CAN ENHANCED GONORRHEA SURVEILLANCE TELL US ABOUT EXTRAGENITAL EXPOSURES AND SYMPTOMS? FINDINGS FROM VIRGINIA, 2021-2023

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Background: Extragenital screening for gonorrhea has become more routine in recent years, but corresponding information on sexual exposures and symptomology is often lacking outside of clinic-based studies. We sought to use population-based surveillance data to characterize the experiences of persons recently diagnosed with gonorrhea.

Methods: From 2021 to 2023, we conducted enhanced patient and provider follow-up for a random sample of adult gonorrhea cases. Cases were sampled from an annually rotating selection of Virginia districts based on greatest relative morbidity burden. Phone-based patient interviews followed a standardized script with opportunities for counseling, education, and referrals. We performed descriptive analyses stratified by patient sex and gender of sex partners. For this assessment, we focused on patient-reported extragenital exposures, symptoms, and associated positive tests.

Results: We analyzed data for 649 patient interviews conducted from 2021 to 2023 (8% of 8,469 gonorrhea diagnoses). Multiple types of sex exposures were common; 69% (193/278) of women, 81% (171/211) of men who reported sex with women (MSW), and 95% (138/145) of men who reported sex with men (MSM) reported extragenital exposure. Overall, 77% reported symptoms. Rectal symptoms were reported by 5% of women, 6% of MSW, and 12% of MSM; pharyngeal symptoms were reported by 12%, 7%, and 17%, respectively. Thirteen percent of patients who reported anal or oral sex also reported corresponding rectal or pharyngeal symptoms. Nine percent of patients were positive rectally, while 14% had a positive pharyngeal test. Of 58 patients who tested positive rectally, 19% reported rectal symptoms; 25% of 92 patients with positive pharyngeal tests reported pharyngeal symptoms.

Conclusion: Information obtained through passive surveillance of gonorrhea is often insufficient to inform programmatic prevention efforts. Targeted enhanced surveillance can supplement routinely captured data with more detailed demographic, behavioral, and clinical information to assess extragenital exposure and testing trends and contribute to improved understanding of infection dynamics.

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STI TESTING AND DIAGNOSIS RATES AMONG PATIENTS WITH MPOX IN 2 POPULOUS US CITIES, 2022

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Background: The 2022 mpox epidemic was recognized as a sexually transmitted infection (STI) and associated with an increase in other STIs. However, it is likely that many patients were not offered testing, and rates of STIs were underestimated.

Methods: We obtained electronic medical record data from three large clinical centers in New York City, New York, and Houston, Texas of patients with mpox confirmed through orthopoxvirus PCR testing from June 25 to October 17, 2022. Chart review was conducted to supplement data. We calculated descriptive statistics for new diagnoses of syphilis, chlamydia, and gonorrhea.

Results: Of 403 individuals diagnosed with mpox, the median age ranged from 30 to 35 years across the three centers. 96.5% of the participants were male at birth. 228 participants (56.5%) were people living with HIV. 228 out of the 403 patients (56.5%) presented with genital lesions. Only 211 patients out of 403 patients were tested for STIs (52.4%) within 2 weeks of their mpox diagnosis. 70 patients were diagnosed with a new STI at the time of their mpox visit.

At the initial visit, there were 31 cases of new syphilis diagnosed. There were 4 new diagnoses of genitourinary chlamydia, 6 new diagnoses of rectal chlamydia and 1 new diagnosis of throat chlamydia. There were 2 new diagnoses of genitourinary gonorrhea, 17 new diagnoses of rectal chlamydia, and 14 new diagnoses of throat gonorrhea. Without extragenital testing, 38 new diagnoses of chlamydia or gonorrhea would have been missed (86.3%).

Conclusion: Slightly more than half of patients with mpox were tested for STIs, despite many having genital lesions that could increase STI transmission risk. Many new diagnoses of STIs were observed, suggesting that undertesting likely led to underdiagnosis of STIs in an at-risk population. Extragenital testing detected most new chlamydia and gonorrhea diagnoses, emphasizing the importance of extragenital testing.

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CHARACTERIZING CLADE II MPOX RASH PRESENTATION USING NATIONAL SURVEILLANCE DATA IN THE UNITED STATES, MAY 2022 TO MARCH 2024

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Background: The mpox outbreak that began in 2022 (Clade II) has caused >90,000 infections and >150 deaths in non-endemic countries. While many cases experienced localized lesions, often in the anogenital area, others presented with more severe disease. Understanding factors associated with current Clade II mpox presentation is necessary to differentiate the current outbreak from future Clade I or Clade II monkeypox virus (MPXV) outbreaks. This analysis explores the correlation between reported sexual contact and anogenital lesions and describes differences in clinical and demographic characteristics captured in national surveillance data among cases with localized vs diffuse mpox lesions for Clade II MPXV in the United States from May 2022 to March 2024.

Methods: Mpox cases were reported to the Centers for Disease Control and Prevention (CDC) by local and state health departments since May 2022. Case reports included case age, sex assigned at birth, race/ethnicity, HIV status, suspected exposure type, mpox vaccination status, lesion sites, and whether a case was hospitalized. Cases were classified as having diffuse lesions if >1 body site was indicated in the case report.

Results: Of 32,222 infections that occurred between May 2022 and March 2024, 18,653 cases (57.9%) had reported lesion locations and were included for analysis. Of those, 5,789 cases (31.0%) reported localized lesions, often in the anogenital area. Reported sexual contact was associated with anogenital rash. Age, sex assigned at birth, race/ethnicity, HIV status, mpox vaccination status, and hospitalization were significant predictors of diffuse rash. Cases with reported vaccination more commonly reported localized lesions.

Conclusion: Localized anogenital lesions are common among cases in the current Clade II mpox outbreak. Surveillance data remains a key tool in understanding mpox epidemiology, but challenges remain, including data completeness and difficulty capturing disease progression. CDC continues to monitor changes in mpox epidemiology to prepare for future outbreaks.

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ASSESSING REPRESENTATIVENESS OF SAMPLED AND INTERVIEWED GONORRHEA INFECTIONS, CALIFORNIA, 2022

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Background: The California Gonorrhea Surveillance System randomly samples gonorrhea infections in California and attempts to interview them for enhanced surveillance. We compared demographic representativeness of sampled gonorrhea infections with non-sampled gonorrhea infections and compared interviewed infections with all non-sampled and non-interviewed infections.

Methods: Inclusion criteria for random sampling included California residents aged ≥ 14 (excluding San Francisco County). Age and race/ethnicity were compared using Pearson's chi-squared test: first, randomly sampled infections to all non-sampled infections, and second, interviewed infections to non-sampled and non-interviewed infections. $P < 0.05$ was considered significant.

Results: In 2022, there were 73,571 gonorrhea infections in California; 48,395 (65.8%) were eligible; and 4.2% were sampled (2,039). The sampled and non-sampled groups had similar Asian, Hispanic, American Indian/Alaskan Native, and Pacific Islander population distributions. Comparing sampled and non-sampled groups, 16-25- and 26-35-year-old cases were significantly less likely to be sampled compared to other ages. Comparing interviewed (632) with non-sampled and non-interviewed infections (47,763), American Indian/Alaskan Native, Pacific Islander (PI), White populations were underrepresented among interviewed infections, while 16-25-year-olds were significantly less likely and 36-45 were significantly more likely to be interviewed compared to other ages.

Conclusion: Randomly sampled gonorrhea infections in California were, for the most part, not significantly different from non-sampled gonorrhea infections; similarly, the successfully interviewed subset of this random sample was, for the most part, not significantly different from non-sampled and non-interviewed gonorrhea infections in the state. However, young people and AI/AN and PI populations were under-represented in interviews. Subsequent analyses of California's enhanced gonococcal surveillance data in combination with other states' samples will be mostly representative of California's gonorrhea infections in terms of race/ethnicity and age. Ongoing QA of these random samples in CA, and similar analyses in other jurisdictions will help to characterize the representativeness of sampled and interviewed STIs relative to the overall STI burden.

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DIFFERENCES IN THE PREVALENCE OF CHLAMYDIA TRACHOMATIS INFECTIONS AMONG FEMALES AGED 14-24 YEARS BY RACE/HISPANIC ETHNICITY: NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY, UNITED STATES 2011-2020

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Background: Non-Hispanic Black (NHB) adolescents and young adults experience disproportionately higher burden of *Chlamydia trachomatis* (CT) infections compared to their Non-Hispanic White counterparts (NHW) due to many factors. We explored this disparity overall, and whether it persisted in individual level risk factors stratified by race/ethnicity using data from the National Health and Nutrition Examination Survey (NHANES).

Methods: We examined CT laboratory data from four NHANES cycles (2011-2020) to estimate the prevalence and 95% confidence intervals (CIs) of genital CT in sexually experienced females aged 14-24 years by race/Hispanic ethnicity (NHB, NHW, non-Hispanic Other [NHO], Hispanic). We estimated and compared race-specific CT prevalence by demographic and behavioral characteristics and reported the prevalence ratio (PR) comparing CT prevalence by race/Hispanic ethnicity.

Results: Among 1,652 sexually experienced females aged 14-24 years, CT prevalence was 5.8% overall (95%CI: 4.5-7.3): 11.7% (95%CI: 8.7%-15.3%) among NHB, 10.5% (95%CI: 3.4%-22.2%) among NHO, 6.7% (95%CI: 4.4%-9.7%) among Hispanics, and 3.2% (95%CI: 1-7%-5.5%) among NHW. Compared to all other racial/Hispanic ethnicity groups, NHB had a CT prevalence ratio of 2.4 (95% CI: 1.6-3.6). This effect largely persisted across demographic and behavioral characteristics, with prevalence ratios higher for NHB females who sought healthcare in the past year (PR=2.52, 95%CI: 1.57-4.02), had a usual place for healthcare (PR=2.27, 95%CI: 1.46-3.50), or reported having only 1 sex partner in the past year (PR=2.02, 95%CI: 1.05-3.86).

Conclusion: Consistent with recent surveillance data, these analyses demonstrate that genital CT infections continue to disproportionately affect NHB adolescents and young adults. This effect persisted across demographic and behavioral characteristics. This suggests that factors beyond the individual-level risk factors considered here might be increasing CT prevalence in NHB. Our findings lend further support for studies to examine ways in which network-level, in addition to individual-level behaviors, contribute to racial/ethnic differentials in exposure.

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P51

HIV AMONG NEW ARRIVALS IN CHICAGO, IL JANUARY 1, 2023-MARCH 25, 2024

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Background: Since 2022, Chicago has welcomed over 37,000 new arrivals, mostly from Venezuela but arriving from all over the world. In response, Cook County Health established a clinic to provide screening for adults and children. As part of the comprehensive medical assessment, adults are screened for HIV and STIs.

Methods: A new case of HIV is defined as not previously reported via enhanced HIV/AIDS reporting system (eHARS) to the Chicago Department of Public Health (CDPH) and having not lived within the U.S. prior to 2022. Surveillance data for newly reported HIV cases to CDPH among new arrivals via Chicago Health Information Management System (CHIMS) were matched to eHARS and shelter census data. Descriptive data were analyzed using SAS 9.4 version.

Results: During January 1, 2023-March 25, 2024, 253 new to Chicago HIV cases were reported to CDPH. Most cases were among assigned male at birth (77%), Hispanics (86%), and between the ages of 30-39 years (41%). While majority of cases reported men who has sex with men transmission (51%), a larger proportion reported heterosexual transmission (17%) compared. The majority of cases were linked to care within 1 month of being screened in Chicago (95%) and were virally suppressed (66%). Only 10% of cases had a CD4 count <200 cells/ul. Pregnancy status was available for 21 cases and 5 were pregnant at the time of their initial intake screening. Of the 253 HIV cases, 13% were coinfecting with a positive syphilis test. Only 18 are currently residing within the temporary shelters.

Conclusion: Over the last decade incidence of new HIV cases in Chicago decreased by 39%. Provisional data, in 2023, we saw an increase in number of cases by 14% in comparison to 2022. Additional resources and targeted interventions are urgently needed to address the changing epidemiology of HIV in Chicago.

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REPORTED CASES OF PELVIC INFLAMMATORY DISEASE, NORTH CAROLINA 2013-2023

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Background: North Carolina (NC) requires Pelvic Inflammatory Disease (PID) cases be reported to the health department via a case report form (CRF) that is used for all communicable diseases. However, bias may exist in PID reporting among providers.

Methods: We assessed demographics, symptoms, and concurrent chlamydia/gonorrhea (CT/GC) infection (≤ 30 days of PID diagnosis) for all PID cases reported to the NC health department between 2013 and 2023. We also compared proportions of case characteristics by reporting facility.

Results: During 2013-2023, 2,991 cases of PID were reported in NC. The yearly number of reported cases declined over time, from a high of 498 cases in 2013 to a low of 119 cases in 2021. Over one-third (N=1,091) of cases were reported from one hospital system (high-volume facility); 94% (N=1,030) of these cases were diagnosed in the emergency department. Among the 1,900 cases diagnosed in other facilities, half were reported from emergency departments (N=898) and 19% (N=367) were reported from STD Clinics. Cases were most frequently 20-29 years old (51%; N=1,520), Black (51%; N=1,518), and non-Hispanic (75%; N=2,237). PID symptoms were reported for 2,816 (95%) cases. Demographics and report of symptoms did not vary between the high-volume facility and other facilities. Cervical motion tenderness was the most commonly reported symptom from the high-volume facility while a majority (69%) of cases from other facilities did not have specific symptoms documented. Overall, 32% of PID cases were concurrently infected with CT/GC; only 20% of cases reported from the high-volume facility were concurrently infected with CT/GC. The yearly CT/GC concurrent infection proportion varied between 25% and 42% between 2013 and 2023.

Conclusion: Providers do not uniformly report PID, limiting the generalizability of case reports. Incorporating additional questions specific to PID epidemiology and etiology to CRFs could improve the utility of case-based surveillance for PID.

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PREVALENCE OF AND TRANSMISSION RISK FACTORS ASSOCIATED WITH HIV AMONG MEN WITH URETHRAL DISCHARGE SYNDROME IN PUBLIC HEALTH FACILITIES IN KAMPALA, UGANDA

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Background: HIV and sexually transmitted infections (STIs) control in men is a major public health concern in Sub-Saharan Africa. Epidemiological data on HIV in male urethral discharge syndrome (UDS) are limited; national HIV prevalence in men 15-49 years is 3.6%. We describe the prevalence of HIV and associated risk factors among men with UDS in public clinics in Kampala, Uganda.

Methods: A cross sectional study of men with UDS was conducted from October 2019 to July 2022. An interviewer-administered demographic and socio-behavioral questionnaire was administered. HIV testing used point-of-care tests (Standard Diagnostics, Giheung-gu, Korea) with confirmatory algorithmic testing. Bivariate and multivariable log binomial regression adjusted for age, alcohol intake in the past 6 months and antibiotics use in the past 2 weeks was conducted to determine the factors associated with prevalent HIV.

Results: Of 450 participants, 441(98%) were included in this analysis; 9 declined HIV testing. Median age was 24(IQR 22-32) years, 87%(N=384) reported a previous HIV test. Overall, 18%(n=81) were living with HIV; 33.6% and 4.7% in men aged ≥ 25 and < 25 years respectively. Seven (8.6%) were new HIV diagnoses. 94% with established HIV were on antiretrovirals, only 52% had suppressed viral loads by self-report. Participants reported 'always' condom use (1.1%), transactional sex (45.4%), multiple partners (59.6%); 46.7% had notified their partners of symptoms. Multivariable analysis demonstrated significant associations between HIV and older age (aPR, 6.06; 95% C.I, 3.29-11.17; $P < 0.01$), alcohol use in past 6 months (aPR, 0.64; 95% C.I, 0.43-0.94; $P = 0.023$) and antibiotic use in prior 2 weeks (aPR, 0.62; 95% C.I, 0.43-0.89; $P = 0.010$).

Conclusion: Men aged ≥ 25 years seeking care for UDS in public facilities have a high prevalence of HIV and behaviors associated with STIs. HIV was negatively associated with alcohol and antibiotic use prior to clinic visit. Men with UDS represent a key, previously untargeted, population for HIV testing, prevention and treatment services.

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ANALYSIS OF MPOX SYMPTOMS IN VACCINATED AND UNVACCINATED CASES IN FLORIDA FROM JANUARY 1, 2023, TO FEBRUARY 29, 2024

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Background: In August 2022, the JYNNEOS vaccine was authorized under an Emergency Use Authorization for individuals >18 years at high risk for infection by the mpox virus and those with known or suspected contact to someone with mpox. This study investigates the effect of receiving vaccine on the symptoms and severity of disease.

Methods: Between January 1, 2023, and February 29, 2024, the Florida Department of Health was notified of 154 mpox cases with 45 positive for HIV including 14 patients living with AIDS. Twenty-six of all cases received one or more doses of vaccine ≥ 14 days before onset of symptoms including six cases with HIV and two with AIDS. Statistical significance between vaccinated and unvaccinated cases was calculated using odds ratio and 95% confidence interval for systemic symptoms (fever, myalgia, chills, sweats, fatigue, or headache) and symptoms with potential for severe sequela (rectal bleeding, rectal pain, difficulty defecating, or perianal lesions). Statistical significance for age was calculated using an unpaired t-test. Significance for severe mpox, defined as hospitalization, was calculated using an exact logistic regression.

Results: Median time between last vaccine dose and symptom onset was 15 months (range 5-17 months). No statistical difference in median age, HIV status, or having one or more systemic symptoms was observed. Vaccinated individuals were more likely to have symptoms with potential for severe sequela (OR: 2.78, 95% CI: 1.10-7.03). All hospitalized cases (n=15) were unvaccinated including one death. While not statistically different, five unvaccinated AIDS cases were hospitalized including the fatal case, while two vaccinated cases were not.

Conclusion: Vaccination may decrease the chance for hospitalization due to mpox but does not appear to remove the potential for symptoms that could result in severe sequela. Larger studies are needed particularly related to those living with HIV/AIDS who are at greater risk for severe or fatal mpox.

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MPOX (JYNNEOS) VACCINATION AMONG PEOPLE LIVING WITH HIV IN ALAMEDA COUNTY, CA

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Background: The U.S. mpox outbreak resulted in 58 deaths and most deaths occurred in persons living with HIV (PLWH). Mpox vaccine (JYNNEOS) is a two-dose vaccine series recommended for all PLWH to prevent mpox infection and serious outcomes from disease. We evaluated JYNNEOS vaccination among Alameda County, CA including the City of Berkeley PLWH.

Methods: For our analysis, PLWH included persons in the enhanced HIV/AIDS reporting system (eHARS) and living in Alameda County, CA as of Dec 31, 2022. We matched PLWH by name and birth date to California Immunization Registry (CAIR) data to assess JYNNEOS vaccination through January 31, 2024. We describe PLWH retained in care as persons who had at least 2 healthcare visits with laboratory tests at least 90 days apart; a chi-square test of significance was used to evaluate the association between retention in care and vaccination.

Results: Among PLWH, 1,192 (19.2%) received at least one JYNNEOS dose, and among those, 859 (72.0%) received the two-dose vaccine series. Among 1,916 PLWH aged >60 years, 326 (17.0%) received at least one JYNNEOS dose; among 1,015 female PLWH 16 (1.6%) received at least one JYNNEOS dose. At least one JYNNEOS dose was highest (26.8%) among PLWH who reported being men who have sex with men, and lowest (2.7%) among people who used intravenous drugs at HIV diagnosis. Retention in care was significantly associated with at least one JYNNEOS dose (Odds Ratio 4.7, p-value <0.001). Among PLWH retained in care, 25.7% were vaccinated compared with 6.2% of PLWH not retained in care.

Conclusion: Alameda County public health efforts should include a focus on Mpox (JYNNEOS) vaccination of PLWH, given the potential serious outcomes from mpox infection and overall low (19.2%) vaccination uptake. As noted in this assessment, retention in HIV care provides an effective platform for prevention including mpox vaccination.

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P56

IT'S DÉJÀ VU: EPIDEMIOLOGY OF CHLAMYDIA TRACHOMATIS AND REPEAT POSITIVITY IN NEW YORK STATE, 2015-2019

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Background: It's well-known that persistent and/or repeat *C. trachomatis* (chlamydia) increases risk of health complications and perpetuate transmission. However, it's unclear who are most likely to have laboratory-confirmed re-identification (repeat positivity) of chlamydia, hindering intervention planning. The aim of this study is to describe the epidemiology of chlamydia and repeat positivity among persons in New York State (NYS) outside of New York City from 2015-2019.

Methods: Data were extracted from NYS's Communicable Disease Electronic Surveillance System, a web-based surveillance system. Patient demographics and clinical factors were evaluated to describe reported chlamydia, from 2015-2019. Repeat positivity was defined as a second positive chlamydia test 31-365 days from the initial positive test during the study period. Analyses compared persons with single and repeat positivity, and sex-specific differences. Multivariable logistic regression models evaluated associations with repeat positivity.

Results: Of the 176,273 persons with laboratory-confirmed chlamydia, the largest proportion were female (64.6%), non-Hispanic White (34.0%), ages 20-24 (38.0%), no gonorrhea coinfection (95.5%), no syphilis coinfection (99.7%), no HIV coinfection (98.9%), no prior STI (87.9%), urogenital infection site (97.4%), diagnosed by a private provider (49.6%), and reason for exam was "screening" (44.6%). Overall, 9.8% (n=17,253) had repeat positivity. There was an increased odds of repeat positivity among females [adjusted odds ratio (aOR)=1.46], ages 13-19 (aOR=1.55), and non-Hispanic Black persons (aOR=1.38), individuals coinfecting with HIV (aOR=1.45), having a prior STI (aOR=1.27), and extragenital infection (aOR=2.26). Notable differences were identified in sex-stratified models.

Conclusion: While best practices for prevention remains adhering to federal screening and treatment recommendations, understanding populations most affected by single and repeat chlamydia positivity can better focus preventions, such as Expedited Partner Treatment, and sexual health education. Although not all infections/re-infections are reported, population-wide surveillance data identifies those known to have laboratory-confirmed chlamydia and provides an opportunity to tailor preventions to those most affected by repeat positivity.

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DOES FACILITY TYPE AND INTERVIEW TIMING AFFECT COMPLETION RATES? EVIDENCE FROM THE OHIO STD SURVEILLANCE NETWORK (SSUN) SITE

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Background: Sexually transmitted disease (STD) surveillance programs monitor disease spread and generate data to inform STD testing and treatment efforts and direct future public health interventions. The CDC's STD Surveillance Network (SSuN) Strategy B collects data on gonorrhea cases reported throughout ten U.S. sites. To understand interview completion across Ohio's SSuN sample, we studied the association between facility type and the timing of initial contact attempt on interview completion.

Methods: We ran two logistic regression models using SSuN enhanced surveillance data from 2020-2023. The first model examined the odds of a fully or partially completed interview (all or some questions answered) by testing facility type (safety net vs. traditional care) among all sampled gonorrhea cases (n=2648). The second evaluated the relationship between the day of week of the initial contact attempt and the odds of interview completion for a subsample (n=1911) of patients who were contacted at least once. Patients who did not have any value for interview completion status were excluded.

Results: A minority (n=1043, 39.4%) of clients completed a full or partial interview. Over half (55.1%) of the entire sample received testing at a safety net facility. The odds of a completed interview were higher among patients tested at safety net facilities compared to traditional care patients [OR=1.30, 95% CI=1.08-1.54]. The odds of interview completion were higher among clients initially contacted on Wednesdays [OR=1.44, 95% CI=1.00-2.07] and Thursdays [OR=1.46, 95% CI=1.00-2.14] compared to Mondays.

Conclusion: Patients tested at safety net facilities were more likely to complete a full or partial STD surveillance interview. Initial contact on mid-week days generally led to higher odds of interview completion, but this relationship did not account for multiple contact attempts or time of day, which is the focus of a follow-up analysis.

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P58

ANNUAL INCIDENCE OF BACTERIAL SEXUALLY TRANSMITTED INFECTIONS (STI) AMONG MEN WHO HAVE SEX WITH MEN (MSM)

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Background: Bacterial STIs are commonly diagnosed among MSM, but limited prospective data exist on the incidence of aggregated bacterial STIs, including *Mycoplasma genitalium*.

Methods: From March 2016 to December 2018, we enrolled MSM in a 48-week cohort study in Seattle, Washington. Participants were tested and treated for bacterial STIs at baseline. Participants self-collected pharyngeal and rectal specimens weekly. We used nucleic acid amplification testing (NAAT) to test specimens for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC), and *Mycoplasma genitalium* (MG) at the end of the study. We defined incident pharyngeal or rectal infections as >2 consecutive weeks of a positive NAAT. We extracted syphilis and urethral GC and CT diagnoses from the medical record. We calculated the incidence of bacterial STIs overall and by pathogen, stratified by HIV status and PrEP use.

Results: Of 140 participants, 57 (41%) had at least one incident bacterial STI during the study, including 30 (21%) with GC, 31 (22%) with CT, 26 (19%) with MG, and 11 (8%) with syphilis. Participants contributed 132 person-years (PY) of follow-up; there were 162 incident STIs (incidence = 119 per 100 PY). Incidence was similar by pathogen: GC incidence=39 per 100 PY; CT incidence=38 per 100 PY, and MG incidence=33 per 100 PY. The incidence of bacterial STIs among people who were HIV-negative and not on PrEP (incidence=66 per 100 PY) was lower compared to people living with HIV (incidence=132 per 100 PY) and people who were HIV-negative and on PrEP (incidence=135 per 100 PY).

Conclusion: Bacterial STIs, including MG, are common among MSM and occur at double the rate for those living with HIV and those on HIV-PrEP compared to those not on HIV-PrEP. Targeting STI reduction strategies, such as doxycycline post-exposure prophylaxis, to populations at highest risk of STIs has the potential to decrease incidence and minimize antibiotic use.

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P59

SEXUAL TRANSMITTED INFECTIONS OCCURRENCE RATES AND TREATMENT PRACTICES AMONG FEMALE SEX WORKERS IN NIGERIA: A CROSS-SECTIONAL STUDY

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Background: Sexually Transmitted Infections (STIs) remain a very important public health problem in Nigeria. Female sex workers (FSWs) have been identified as a core group in the transmission of sexually transmitted infections. Insufficient knowledge about these infections among them is a major impediment to successful STI program interventions. This study assesses STI occurrence rates and treatment practices among female sex workers (FSWs) in twelve states in Nigeria.

Methods: A cross-sectional study was conducted among four thousand nine hundred and seventy-four consenting female sex workers (FSW), across twelve states in Nigeria. A multi-stage sampling approach was used, and two states were selected from each of the six geo-political zones. Data were collected using a pretested structured interviewer-administered questionnaire. Data was analyzed using descriptive statistics.

Results: The mean age of respondents was 28 years, with 65% and 57% unmarried and unemployed respectively. About 56% of FSWs across all states reported STI occurrence 12 months before the survey, with Kaduna and Oyo states having the highest and lowest percentage (76% and 29%) respectively. The most common STI symptom reported was itchy genitals (42%) while 30% and 22% reported genital discharge and burning pain on urination. About 44% of FSWs patronized pharmacies/chemists for STI treatment, while about 20% and 16% sought care from private and public health facilities, and 11% patronized traditional healers.

Conclusion: STI occurrence rates were high among FSWs across all states, with low patronage of private and public health facilities for STI treatment. This finding highlights possible highly unsafe sex practices by this population. STI prevention Interventions aimed at reducing risky behaviors, promoting safer sex, and treatment seeking are recommended. Investigating the quality of care provided by the pharmacies and chemists for STIs is also key.

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P60

FACTORS ASSOCIATED WITH THE CONCORDANCE OF SEXUAL ROLE IDENTITY AND PARTNER-SPECIFIC SEXUAL POSITIONING PRACTICES AMONG MSM IN TWO US CITIES

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Background: Among MSM, sexual role identities (SRI) (“top”, “bottom”) and sexual positioning practices (SPP) (insertive, receptive anal sex) (AI) influence transmission risk for rectal STIs and HIV. Level of concordance between SRI/SPP may vary due to the characteristics of MSM and their sexual partners. Using data from a prospective cohort study of MSM aged ≥ 18 , we described concordance in SRI/SPP overall and by participant and partner-level characteristics, including age, race/ethnicity, and HIV status.

Methods: The Network Epidemiology of Syphilis Transmission study was implemented during 2018–2021 in Baltimore, MD and Columbus, Ohio. SRI was asked at baseline only and was defined as top, versatile top, versatile, versatile bottom, or bottom. SPP was defined by participants’ reports of types of AI with 3 most recent male partners. SRI/SPP concordance was measured by comparing the SRI to the mean numbers of insertive/receptive AI partners per study visit (e.g, SRI = Versatile Bottom; SPP = 3 receptive AI, 2 insertive AI partners) and then coding whether the pair was a match. We used participant/partner dyads to examine SRI/SPP concordance by age (18-24 only; had partner ≥ 5 years older), race/ethnicity (same/different) and HIV status (same/different). We calculated SRI/SPP concordance using kappa, proportions, and mixed logistic regression models.

Results: Among 547 MSM and 5,551 recent sex partners, SRI/SPP congruence was low ($k=0.22$, 32.3%). SRI/SPP congruence was higher among non-Hispanic Black than non-Hispanic White MSM (40.3% vs. 29.7%, $p<0.0001$). Among participants living with HIV (PLWH), SRI/SPP congruence was higher among those with HIV+ partners than HIV- partners ($k=0.26$, 41.1% vs. $k=0.19$, 32.6%, $p=.018$). PLWH with HIV+ partners had 69% (95%CI: 1.09-2.64) higher odds of SRI/SPP concordance than PLWH whose partners were HIV-.

Conclusion: Among MSM, congruence between SRI/SPP varied by participant/partner characteristics. Understanding the dynamic nature of SRI/SPP could assist clinicians in conducting culturally relevant sexual risk assessments with patients.

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SEXUALLY TRANSMITTED INFECTIONS AMONG PEOPLE WHO INJECT DRUGS WITH HIV IN WEST VIRGINIA

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Background: In West Virginia, the majority of new HIV cases are now associated with people who inject drugs (PWID) as opposed to men who have sex with men (MSM). Historically, co-infection of other sexually transmitted infections (STIs) was considered common among newly diagnosed HIV individuals reporting sexual exposures as their primary risk. Due to the shift in risk factors, investigators reviewed STI co-infections among PWID from two large HIV clusters in West Virginia.

Methods: HIV cases reported in the Enhanced HIV/AIDS Reporting System (eHARS) among two ongoing clusters were compared to STI surveillance data in the West Virginia Electronic Disease Surveillance System (WVEDSS). All Cabell County and Kanawha County HIV cluster cases (reported in eHARS as of 7/5/23) were reviewed to determine STI history. Syphilis, chlamydia, and gonorrhea diagnoses occurring before, concurrently (defined as a positive STI lab result within 30 days of HIV diagnosis), or after the HIV diagnosis were analyzed.

Results: Among 368 total HIV cluster cases, 43 (11.68%) had a reported syphilis infection, 45 (12.23%) had a reported chlamydia infection, and 48 (13.04%) had a reported gonorrhea infection. Six cluster cases were not found in WVEDSS. There were five HIV cluster cases that had multiple syphilis infections. There were no chlamydia re-infections discovered, but there were two that had multiple gonorrhea re-infections.

Conclusion: Gonorrhea was the most common STI infection prior to HIV diagnosis. Syphilis infections were more likely to be reported after HIV diagnosis, which may be due to the regular screening recommendations for people living with HIV (PLWH). Up to 17.5% of HIV cluster cases had a concurrent STI diagnosis, suggesting that sexual exposure was still a risk factor. Findings indicate the importance of STI testing in PWID and a need for a syndemic approach to address interrelated epidemics.

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RACIAL AND ETHNIC INEQUITIES IN STI TESTING AND CASES AMONG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN, 2012–2023

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Background: Racial and ethnic inequities in bacterial sexually transmitted infections (STI) exist among gay, bisexual, and other men who have sex with men (GBMSM), but it is unknown whether these inequities persist under routine STI screening during PrEP use.

Methods: Using an open-source public health surveillance platform, we examined STI testing and cases among GBMSM from three Boston clinics during 2012–2023. We stratified person-time by PrEP use based on PrEP prescription dates. We estimated rates of gonorrhea, chlamydia, and syphilis tests and diagnoses by race and ethnicity.

Results: Among 31,068 GBMSM, 11% were Black, 12% were Hispanic, 16% were another race or multiracial, and 61% were White. 9,334 (30%) GBMSM were ever prescribed PrEP. During PrEP use, rates of gonorrhea (17 cases per 100 person-years [PY]), chlamydia (19 per 100 PY), and syphilis (8 per 100 PY) were higher than during times of no PrEP use (5, 6, and 3 per 100 PY, respectively). Compared with White GBMSM, Black and Hispanic GBMSM, had a 1.6 and 1.7 crude incidence rate ratio (cIRR), respectively, of any STI while not using PrEP, and both had a 1.3 cIRR while using PrEP. Overall STI testing did not differ by race or ethnicity during PrEP use, but Black and Hispanic GBMSM were 0.7–0.9 times as likely as White GBMSM to have a rectal STI test and up to 2.5 times more likely to have a pharyngeal STI test.

Conclusion: Racial and ethnic inequities in STIs persisted but were less pronounced during PrEP use compared with periods of no PrEP use. Although overall STI testing did not differ by race or ethnicity during PrEP use, inequities in STI testing were present by anatomic site, which may impact the detection of asymptomatic STIs. Routine screening during PrEP use can help address inequities in STIs.

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P63

FACTORS ASSOCIATED WITH HUMAN PAPILLOMAVIRUS (HPV) VACCINE UPTAKE AMONG CHICAGO SEXUALLY TRANSMITTED INFECTIONS SPECIALTY CLINIC PATIENTS

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Background: Human papillomavirus (HPV) is the main cause of at least six cancers and is one of the main causes of nearly all cervical cancer cases in the United States. In 2006, the U.S. Food and Drug Administration approved HPV vaccine administration. The objective of this study was to determine an association between demographic characteristics, insurance status and HPV vaccination at the CDPH STI Specialty clinics.

Methods: Data was collected through an anonymous & self-completed survey at two CDPH STI Specialty Clinics between July - September of 2023. A total of 332 patients were surveyed. Individuals missing self-reported HPV vaccination status and <18 years old were excluded, limiting data to 246 individuals. Bivariate and multivariable analyses were conducted using SAS version 9.4 (SAS Institute, Cary, NC) to generate odds ratios adjusting for sex, age, education, and routine care facility.

Results: The prevalence of HPV vaccination was 20% higher among individuals assigned female at-birth compared to 46% among assigned male at-birth. HPV vaccination prevalence was lowest among Black individuals (29%) and individuals with less than a high school degree (20%), compared to 60% among White respondents and 59% with college education. HPV vaccination prevalence was highest among lesbian and gay individuals (69.9%), compared to 41.5% among heterosexual respondents. The odds of HPV vaccination were 2-fold (95% CI: 1.17, 3.82) higher among individuals with private insurance and 1.76 (95% CI: 1.03, 3.01) times higher among those with a routine care facility. Sex at birth did modify the effect of age on HPV vaccination.

Conclusion: These findings suggest that HPV vaccination rates are lower at CDPH STI clinics than the national average and the Healthy People 2030 goal. Data suggest CDPH should prioritize HPV vaccination among individuals assigned male at-birth, individuals > 35 years of age, and seen at CDPH STI clinics.

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SHORT-TERM IMPACT OF CHANGES IN PUBLIC HEALTH INFORMATION SYSTEMS ON SEXUALLY TRANSMITTED INFECTION SURVEILLANCE DATA QUALITY

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Background: State, tribal, local, and territorial health departments rely on public health information systems (PHIS) to maintain their surveillance data and transmit data to CDC for national surveillance. Changes to PHIS are common, including transitioning to a new PHIS or updating transmission standards (e.g., onboarding message mapping guides [MMGs] to send data to CDC via Health Level Seven standards). We examined the short-term impact of changes in a jurisdiction's PHIS on case-based surveillance data for sexually transmitted infections (STIs), with the aim of improving data quality during future transitions.

Methods: National Notifiable Diseases Surveillance System (NNDSS) case notifications for gonorrhea, chlamydia, and syphilis were reviewed for a purposeful sample of twelve jurisdictions which had either transitioned to a new PHIS or modified their PHIS to begin transmitting STI data to CDC via the STI MMGs during 2019-2021. The number of months with impacted data transmission (reporting <10% of the jurisdiction's average monthly cases) was determined based on weekly data files. As jurisdictions transmit STI case data via NNDSS at least weekly, a period of underreporting of ≥ 1 month is indicative of unresolved issues with their PHIS.

Results: Of the nine jurisdictions that onboarded the STI MMG, the underreporting period in transmission of case data to CDC averaged 3.0 months (range: 0-10), with six jurisdictions experiencing delays. Of the three jurisdictions that changed PHIS, all had a period of underreporting, averaging 9.7 months (range: 4-18). All jurisdictions were able to provide complete data prior to annual data close out.

Conclusion: Issues can arise during a PHIS transition that may result in a delay in the transmission of case data. These delays limit the ability to use preliminary data to identify outbreaks and changing epidemics in real time. Future research on jurisdictions that did not experience non-reporting months may identify enabling factors for a successful transition.

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UNVEILING THE INTRICACIES: DECODING THE STI SURVEILLANCE NETWORK (SSUN) INTERVIEW TOOL

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Background: Understanding the demographic, clinical, and behavioral attributes of gonorrhea patients in the United States is crucial for surveillance initiatives. Enhanced interviews conducted through SSuN provide valuable insights not readily available through traditional case-based surveillance. A comprehensive examination of investigation questions is imperative to assess trends in completeness and utility to guide the improvement of future interview tools.

Methods: We analyzed unweighted data from enhanced investigations of a random sample of gonorrhea cases reported from SSuN jurisdictions during January 2018-December 2022. The interview results were categorized based on the jurisdiction's reported disposition, distinguishing between those marked as completed and all other dispositions were considered not completed. Valid responses adhered to the criteria outlined in the data dictionary, taking into account skip patterns, with 'refused' being a valid response in some variables. Among completed interviews, we identified the proportion of valid responses per question (n=79).

Results: Of 55,985 randomly sampled gonorrhea cases, 16,458 interviews were completed (30%). Questions with a refused response option were infrequently reported as such (0.02-5.27%). Seven questions received <10% valid responses, of which five were follow-up questions concerning the utilization of expedited partner therapy and the other two were questions about healthcare for HIV+ respondents. Thirty-six (45%) questions had >90% valid responses reported. Only half (48%) of the questions addressing gender/sex at birth garnered a valid response. Among behavior-related questions, the question about the likelihood of having sex again with the last partner seldom had a valid response (12%).

Conclusion: These findings underscore the significance of fine-tuning interview questions to enhance data completeness and utility in future gonorrhea surveillance initiatives. This insight is invaluable for identifying the most effective questions, ensuring the inclusion of high-priority questions that effectively describe gonorrhea epidemiology and streamline investigations efficiently. The identification of priority variables through enhanced interviews is crucial for optimizing both time and resources.

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**SEXUALLY TRANSMITTED INFECTIONS AMONG PEOPLE WHO WERE INCARCERATED,
CALIFORNIA PROJECT AREA, 2018-2022**

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Background: Disproportionate incarceration of Black/African American and Hispanic/Latinx people due to structural racism and other social determinants of health contributes to sexually transmitted infection (STI) disparities among these populations. Estimating disease burden among incarcerated populations is complex because some correctional facilities have limited testing capacity, short incarceration periods, and limited tools to identify incarcerated people in surveillance systems. We estimated the number of people diagnosed with a bacterial STI while incarcerated and described the demographic characteristics of this population.

Methods: We identified cases of chlamydia (CT), gonorrhea (GC), early syphilis (ES), and unknown duration/late syphilis (UDLS) among incarcerated people using case reports, geocoding tools, and Perl regular expressions. Incarceration included jail, prison, juvenile, federal, or state forensic psychiatric hospital facilities. Using Pearson's chi-squared tests, we compared the demographic characteristics of incarcerated people and non-incarcerated people with STIs in the California Project Area (all counties except Los Angeles and San Francisco) from 2018-2022.

Results: From 2018-2022, 38,598 (4%) of all CA STI cases ($n = 1,014,827$) were among incarcerated people. There were significantly different ($p < 0.0001$) distributions of gender, race/ethnicity, and STI diagnosis between incarcerated and non-incarcerated people. Compared to non-incarcerated people, incarcerated populations had fewer CT cases (50% vs 68%); more UDLS cases (17% vs 4%); fewer people who were female (32% vs 56%) or white (14% vs 16%); and more people who were Black/African American (10% vs 9%) or Hispanic/Latinx (28% vs 22%)

Conclusion: Californians diagnosed with an STI while incarcerated had significantly different demographic characteristics than non-incarcerated Californians with an STI, perhaps reflecting wider demographic differences between incarcerated and non-incarcerated populations. Understanding the unique STI epidemiology among incarcerated populations can support implementation of opt-out STI testing and treatment in correctional facilities, partner services and linkage-to-care upon release, and ultimately reduce STI incidence in high STI morbidity communities.

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FACES-NOT-CASES: CHARACTERISTICS OF INDIVIDUALS WITH REPEATED BACTERIAL STIS, MASSACHUSETTS, 2018-2022.

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Background: Reported cases of bacterial STIs have increased recently, but total case counts do not accurately reflect the true number of individuals impacted, as STIs can be reacquired. We assessed factors associated with STI reacquisition over a five-year period.

Methods: Using 2018-2022 Massachusetts STI surveillance datasets, reported cases of chlamydia, gonorrhea, and infectious syphilis were matched based on unique identifiers. Demographic, social, and behavioral characteristics were described for those with ≥ 10 STIs; demographics were compared to those with only one reported infection on or before March 1, 2021, the date the last person with ≥ 10 STIs entered the dataset.

Results: Among 184 individuals with ≥ 10 STIs, all had ≥ 1 chlamydia infection (avg. 5.4), 183 (99.5%) had ≥ 1 gonococcal infection (avg. 5.6), and 120 (65.2%) had ≥ 1 infectious syphilis case (avg. 1.3). Average age at first diagnosis was 30.5 years; 160 (87.0%) identified as male, 147 (79.9%) reported same sex male partners, and 35 (19.0%) reported methamphetamine and/or opioid use. Fifty-three (28.8%) were HIV-positive at entry date; 10 (5.4%) acquired HIV during the study period. Seventy-two (39.1%) had no contact with MA Division of STD Prevention (DSTDP) from 2018-2022. Males were significantly more likely than females to be older (30.1 vs. 19.1 years), HIV-positive (38.1% vs. 8.3%), have a rectal STI (86.9% vs. 8.3%) and more STI diagnoses (12 vs. 11). Compared to 64,881 individuals with one STI, those with ≥ 10 were older (28.1 vs. 25.6 years, $p < .0001$) and more likely to be male (87.0% vs. 41.6%, $p < .0001$).

Conclusion: Among individuals with ≥ 10 STIs, merely 60.9% experienced contact with DSTDP; as outreach is predominantly conducted for infectious syphilis, limited information is available for those diagnosed with only chlamydia and/or gonorrhea. Follow-up counseling and biomedical prevention interventions could be explored for populations, particularly females < 25 years with multiple chlamydia and gonococcal infections.

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FACES-NOT-CASES: NOVEL METRICS TO MEASURE POPULATION SIZE AFFECTED BY BACTERIAL STIS, MASSACHUSETTS, 2018-2022

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Background: Case counts exceed the number of individuals in a population who acquire bacterial STIs, as reinfection occurs disproportionately in a subset of individuals. We compared individuals (“faces”) to cases identified with bacterial STI in Massachusetts for proof-of-concept, to explore novel metrics to measure population size affected by bacterial STIs.

Methods: Reported cases of chlamydia, gonorrhea, and infectious syphilis during 2018-2022 in Massachusetts were matched based on person-specific ID to identify cases associated with individuals. Annual case and face incidences per 100,000 were calculated for all STIs. Proportions of cases attributable to repeat infections and face-to-case ratios were calculated annually for all STIs and for gonorrhea in select counties.

Results: From 2018-2022, STI case counts fluctuated (-6.5%, +19.3%, and +35.1% for chlamydia, gonorrhea, and syphilis, respectively). Annual case incidence ranged from 351-454, 103-130, and 16-22, per 100,000 respectively; annual face incidence ranged from 325-415, 95-118, and 16-22 per 100,000 respectively; all STI case incidence ranged from 472-575 per 100,000, whereas annual face incidence ranged from 404-494 per 100,000. The proportion of STIs attributable to reacquisition averaged 26% and varied by STI (15%, 16%, 3% for chlamydia, gonorrhea, and syphilis respectively). During the period, face:case ratios ranged from 1:1.16–1.18 for all STIs and varied by STI (average 1.09, 1.09, 1.02, for chlamydia, gonorrhea, and syphilis, respectively). For gonorrhea, face:case ratios ranged from 1:1.09–1.12 to 1:1.00–1.04 in high versus low incidence counties.

Conclusion: Faces may be a better measure than cases to assess the size of the true population affected by STIs, although some individuals who reacquire STIs across annual time periods may be misclassified as not having reacquired STIs. Further exploration of shifts in STI incidence through variance in face:case ratios, stratified by demographic information available in routine surveillance, may guide development of additional population-specific interventions.

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USE OF ICD-10 Z BEHAVIORAL CODES IN STI MANAGEMENT AMONG ADMINISTRATIVE CLAIMS DATA, 2022

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Background: International Classification of Diseases version 10 adds a set of codes referred to as Z-codes which allow for collection of information on social determinants and health behaviors. Healthy People 2030 goals indicate that social and behavioral factors affect the spread of sexually transmitted infections (STI). Therefore, these analyses sought to identify the use of ICD Z health behavior codes related to STI management in a large administrative claims dataset.

Methods: Using 2022 Marketscan Commercial Claims and Encounters data, a convenience sample of more than 50 million privately and publicly insured individuals receiving care each year, we searched for three ICD codes identifying elevated risk behaviors with opposite-sex (Z72.51), same-sex (Z72.52) or opposite and same-sex (Z72.53) partners among visits that had either an STI test or diagnosis. These STI visits were stratified by sex and by age.

Results: Among 12,629,299 STI visits in 2022, 49,684 visits contained the codes of Z72.51, Z72.52, or Z72.53. The incidence of these codes among STI visits were 2.79% for Z72.51, .52% for Z72.52, and .09% for Z72.53. A greater proportion of visits containing Z72.51 were associated with female patients than with male patients (61.6% v. 38.4%, $p < .05$). A greater proportion of visits with Z72.52 were associated with male patients compared to female patients (96.8% v. 3.1%, $p < .05$). A greater proportion of visits with Z72.53 were associated with male patients compared to female patients (67.5% v. 32.5%, $p < .05$).

Conclusion: These analyses suggest that ICD Z health behavior codes are seldom used for most visits associated with STI management and that differences in use of these codes exist between male and female patients, which could indicate gaps in care or risk assessment. Increasing usage of these codes, as well as refining these codes for less stigmatizing and more detailed risk information, would be useful.

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ASSESSMENT OF GENDER DIFFERENCES IN STI RISK AND PROTECTIVE BEHAVIORS IN A PRIORITY POPULATION OF PEOPLE WHO USE ILLICIT OPIOIDS

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Background: The US is amid an ongoing STI epidemic and concurrently grappling with a drug use epidemic. Considering well-documented mutually reinforcing relationships between sexual risk behavior and drug use, these epidemics are believed to be linked. However, relatively little is known about STI prevention among men and women who use illicit opioids (PWUIO), with most studies focused narrowly on bloodborne infections among those who inject or contraception among women. Research is needed to understand gaps in STI prevention education, screening, and services within the priority population of PWUIO.

Methods: Within a cohort study among PWUIO in New York City, we conducted a cross-sectional sexual health survey from November 2021-August 2022 (n=108). Participants reported methods they/their partners used to prevent STI, which were categorized as none/ineffective (e.g., oral birth control). We examined the prevalence of no/ineffective STI prevention, prevention by sexual partnership type, and barriers to prevention among cisgender men (n=58) and cisgender women (n=50).

Results: Among men and women, approximately three-quarters reported no/ineffective STI prevention, including 7% reporting “pulling out” as a form of prevention used. Almost 90% of women’s sex acts with a main partner were condomless compared to 75% of men’s; 100% of women’s sex acts with sex trade partner(s) were condomless compared to 25% of men’s; and 67% of women’s sex acts with casual partner(s) were condomless compared to 18% of men’s. Among women, approximately 20% reported price as a barrier to STI prevention compared to 4% of men, and 9% of women reported partners’ preference as a barrier compared to 2% of men. Few reported receiving condoms from drug-related services like needle exchange or treatment programs.

Conclusion: Considering overlap of drug and sexual networks, it is vital to reach men and women who use drugs with effective STI prevention education and resources, with particular attention to the needs of women.

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LOCATION OF SEXUALLY TRANSMITTED INFECTION TESTING USING ADMINISTRATIVE CLAIMS DATA

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Background: Background: Determining where people receive care for sexually transmitted infections (STI) is an important aspect of optimizing STI service delivery. Therefore, our analyses sought to identify where chlamydia, gonorrhea and syphilis testing was conducted using a large administrative claims dataset from the United States (US).

Methods: Methods: Medical visits with STI testing among male and female patients who were ≥ 15 years old identified using MarketScan commercial claims data from 2022. We identified syphilis, gonorrhea, and chlamydia tests using Current Procedural Terminology (CPT) codes and stratified these visits by age and sex of the patient as well as region of the country where the visit took place. Adjusted logistic regression models were used to further determine statistical differences by sex in testing rates.

Results: Results: A total of 12,629,299 medical visits were identified, including STI testing visits of 1,169,371 for chlamydia (CT), 1,160,474 for gonorrhea (GC), and 461,592 for syphilis (TP). The South had higher percentages of visits for chlamydia (44.6%), gonorrhea (44.7%) and syphilis (49.7%) testing compared to other regions of the US. Independent physician and hospital-based offices comprised the largest proportion of testing locations. Independent physician office settings accounted for 24.1%, 24.2%, and 23.8% and hospital-based office settings accounted for 19.35%, 19.28%, and 13.87% of CT, GC, and TP testing visits, respectively. After controlling for age and region of country, women had nearly three times the odds of receiving STI testing (OR:2.79, CI:2.78-2.80) than men.

Conclusion: Conclusions: As noted in previously published work, our analyses found that the proportion of visits for STI testing was greatest in physician and hospital-based office settings indicating that these settings are important locations for targeting important communications on STI testing recommendations. Additionally, women comprise the largest proportion of these visits. Maintaining access to these health services locations is important for ensuring proper care for STIs.

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EFFECT OF U.S. FEDERAL HOLIDAYS ON STI REPORTING, 2016–2022

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Background: Trends in STI surveillance data are usually examined annually to minimize surveillance artifacts that may occur at more granular levels (e.g., month or week). To describe the potential impact of U.S. federal holidays on weekly STI surveillance trends, we reviewed trends in weekly number of reported nationally notifiable STIs from 2016–2022.

Methods: We reviewed chlamydia, gonorrhea, and primary & secondary (P&S) syphilis case notifications provided to CDC's National Notifiable Diseases Surveillance System from 2016–2022. Cases from 2020 were excluded because of variability from the COVID-19 pandemic. Outliers were defined as weeks with counts that fell above or below set thresholds based on the distributions of weekly reported case counts by year and reported STI. Thresholds were set using values below the first quartile minus 1.5 times the interquartile range or above the third quartile plus 1.5 times the interquartile range.

Results: During 2016–2022, 38 outlier weeks were identified for chlamydia case notifications; 97% represented lower than average weekly case notifications. For most years, outliers occurred during weeks that included federal holidays, but in 2016 and 2022, some outliers occurred during the week before or after a federal holiday.

For P&S syphilis, there were 14 outlier weeks that were below average; all occurred on weeks with federal holidays. Three outliers with abnormally high weekly case notifications occurred directly before and after the week of Thanksgiving in 2016 and the week after Labor Day in 2018.

For gonorrhea, only 12 weeks included outliers (none during 2017–2019); most outliers coincided with federal holidays.

Conclusion: Variations in the annual reporting of STIs exist around federal holidays and differ by STI. Outliers around holidays likely reflect delayed access to clinical care versus changes in disease transmission. These variations should be considered when analyzing partial year STI data to communicate trends accurately.

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MINIMIZING THE BURDEN: BUILDING A MULTI-STATE EXCHANGE OF CONTACT EXPOSURES

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Background: Historically, there has been no common, disease-agnostic data standard for sharing public health data related to contact tracing. This lack of standardization makes sharing, integrating, and interpreting contact tracing and case data onerous and contributes to inconsistent, incomplete, untimely, and less effective public health follow-up. Emergency responses, like the COVID-19 and mpox response, and our complex landscape of data exchange highlight these gaps in interstate exchange of case and contact tracing data.

Methods:

In an effort to minimize the burden of interstate transfer of exposures, the District of Columbia, Maryland, and Virginia (DMV) developed a standard and secure way to exchange contact tracing information through a partnership with the APHL using the AIMS platform during COVID-19. The effort was successful in standardizing how exposure information was shared, greatly decreased the time and effort on overstretched public health staff, and built a network of peers who continue to convene regularly.

In 2021, CDC and MITRE partnered with the DMV group to expand and pilot this work with 9 additional states. The pilot aimed to standardize the content, format, and transport of contact tracing data to facilitate the automation interstate exchange. The pilot initially focused on data exchange efforts for COVID-19, but shifted to STI because of its high volume and its potential as an established, long-term use case.

Results: The group of 12 states developed a standard data schema for the interstate exchange of Syphilis contacts and is now preparing a pilot with two jurisdictions to demonstrate exchange of data using the schema.

Conclusion: This session will bring attention to and increase participation in the initiative. Expanding IDEP to other jurisdictions will help ensure prepared and efficient public health responses, ultimately minimizing the impact of emergent public health threats on our communities.

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ASSESSING THE INFLUENCE OF HURRICANE HARVEY ON STI TESTING FREQUENCY AND SERVICE LOCATIONS AMONG YOUTH (AGED 15-24): A CLAIMS DATA ANALYSIS

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Background: Youth, ages 15–24, account for approximately 50% of all new STI cases reported annually in the U.S. Our research builds upon previous analyses investigating the association between disaster events and STI testing services. Although the theory that disaster events can significantly impede STI services is widely accepted, the actual data supporting this notion is limited. This study utilizes Hurricane Harvey as a case study to investigate the effects of disaster events on the frequency and accessibility of STI testing among youth.

Methods: We utilized MarketScan claims data to assess changes in STI testing among youth during Hurricane Harvey by comparing weekly rates of STI testing over a 24-month period. These findings were also compared with changes in STI testing rates among all other age groups. Descriptive statistics were used to examine STI testing trends for youth during Hurricane Harvey across different places of service, including office-based testing, inpatient hospital testing, outpatient hospital testing (on-campus), and independent laboratory testing.

Results: Across the week of analysis (week-35), the total frequency of STI tests in 2017 decreased 39.9% for youth specifically. Moreover, the frequency of STI tests conducted at places of service regularly utilized by youth decreased by 64.6% (office), 19.0% (inpatient hospital), 55.7% (outpatient hospital-on campus), and 68.4% (independent laboratory) during the week of the disaster event.

Conclusion: There was a significant decrease in STI testing among youth for all STIs, chlamydia, gonorrhea, HIV, and syphilis, during Hurricane Harvey (Week 35). These declines in STI testing likely indicate missed opportunities for screening, posing a significant risk to mitigation strategies for youth and leading to continued transmission of STIs and other long-term sequelae. The findings of this study will contribute to raising awareness regarding STI testing among youth during emergency events and will expand the existing literature on the impact of disasters on STI care.

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CHANGES IN SEXUAL BEHAVIORS WITH OPPOSITE-SEX PARTNERS, NETWORK ATTRIBUTES, AND STI OUTCOMES AMONG FEMALE AND MALE 15-44-YEAR-OLDS IN THE UNITED STATES BY RELATIONSHIP STATUS AND NUMBER OF PARTNERS: NATIONAL SURVEY OF FAMILY GROWTH, 2008-2019

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Background: Changes in sexual behaviors, sexual network attributes, and STI testing contribute to rising STI rates, but less is known about how these factors relate to relationships and recent sexual experience.

Methods: We analyzed data from 28,027 female and 23,479 males ages 15-44 from the National Survey of Family Growth, 2008-2019. We used survey-weighted linear or logistic regression to evaluate linear temporal trends in vaginal sex behaviors with opposite-sex partners; sexual network attributes; and STI testing, stratified by sex, and separately, by current relationship status (married, cohabiting, divorced/separated/widowed, never married) and number of vaginal opposite-sex partners (1 vs. ≥ 2) in the past 12 months.

Results: From 2008-19, reports of condom use at last vaginal sex decreased among never-married females (51.9% in 2008-10 to 42.9% in 2017-19, OR=0.96, 95%CI=0.93-0.98) never-married males (61.9%-56.3%, OR=0.97, 95%CI=0.94-0.99) or those with ≥ 2 partners (females=45.3%-34.9%, OR=0.95, 95%CI=0.92-0.98; males=54.0%-45.7%, OR=0.96, 95%CI=0.93-0.99). Mean number of vaginal sex acts in the past 4 weeks decreased among cohabiting females (9.46-7.40; β =-0.242, 95%CI=-0.384,-0.102), never-married males (4.11-3.40, β =-0.075, 95%CI=-0.142,-0.008), and males with 1 partner (7.25-6.62, β =-0.073, 95%CI=-0.129,-0.016). The proportion of never-married females reporting sex with male partner(s) who had sex with males increased from 2.5% to 5.1% (OR=1.09, 95%CI=1.02-1.17); similarly, an increasing percentage of never-married males (3.8%-5.5%, OR=1.05, 95%CI=1.00-1.11) and males with ≥ 2 partners (4.6%-6.3%, OR=1.06, 95%CI=1.01-1.12) reported sex with males. Racial/ethnic homophily with current vaginal sex partners decreased among cohabiting females (86.5%-80.4%, OR=0.95, 95%CI=0.91-0.99) and married and never-married males (married=88.9%-85.9%, OR=0.95, 95%CI=0.91-0.99; never=81.2%-72.3%, OR=0.96, 95%CI=0.92-0.99). Past-year chlamydia testing increased among females who were married (13.0%-17.1%, OR=1.04, 95%CI=1.02-1.07), divorced/widowed/separated (27.6%-45.8%, OR=1.08, 95%CI=1.04-1.13), or had 1 partner (21.7%-25.4%, OR=1.03, 95%CI=1.01-1.05).

Conclusion: Understanding how trends in sexual behaviors, networks, and STI testing differ across relationship status and partner number can provide context for their contributions to the STI epidemic and support sexual health services tailoring and prioritization.

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CHARACTERIZING STI TESTING DISPARITIES BETWEEN ASIAN PWH AND OTHER RACE/ETHNIC SUB-POPULATIONS IN THE DC COHORT DURING PRE- AND POST-PANDEMIC PERIODS

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Background: CDC guidelines recommend annual sexually transmitted infection (STI) screenings for people with HIV (PWH), yet racial disparities in screenings exist. Given the ongoing lack of STI research on Asian PWH, our objectives were to assess differences in STI screening and incidence between Asian and non-Asian PWH and evaluate the impact of the COVID-19 pandemic on STI screening.

Methods: The DC Cohort is a longitudinal cohort of PWH in Washington, DC. We evaluated the participants' annual screening rates and diagnoses for gonorrhea, chlamydia, or syphilis from 2018 to 2023. Pacific Islanders were excluded in this analysis. Logistic regression with repeated measures was used to calculate odds ratios between and non-Asian PWH for each outcome, adjusting for gender, HIV transmission factor, age, HIV care site type, and prior STI.

Results: We evaluated 10,260 PWH who had at least one year of enrollment in the DC Cohort from 2018 to 2023. Of them, 91 (0.9%) were Asian. There were no differences in receiving annual STI screenings between Asian and non-Asian participants ($p = 0.495$). However, the number of people meeting screening recommendations remained low (26-30%) from 2020-2023, with a significant yearly decrease ($p < 0.0001$). Among those screened for an STI, Asian participants were significantly more likely to be diagnosed with syphilis ($OR = 2.55$, $p = 0.015$), but this association was not statistically significant after adjusting for covariates ($p = 0.076$). There were no racial differences in diagnoses of gonorrhea or chlamydia.

Conclusion: In this cohort of PWH, STI screening decreased during the pandemic and has not recovered since. In contrast to prior findings, we found no screening disparities between Asian and non-Asian PWH, although Asian PWH were significantly more likely to have syphilis. Future interventions on recovering STI screening rates as well as further investigation into racial disparities observed in our study is needed.

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P77

RECTAL DOUCHING IS NOT ASSOCIATED WITH INCIDENT RECTAL GONORRHEA OR CHLAMYDIA AMONG MEN WHO HAVE SEX WITH MEN (MSM)

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Background: Prior studies have identified an association between rectal douching and prevalent rectal *Neisseria gonorrhoeae* (GC) and *Chlamydia trachomatis* (CT), but few studies have examined associations with incident infections.

Methods: We implemented a case-crossover study nested within the ExGen study, a 48-week cohort study conducted in Seattle, Washington, 2016-2018. Each week, ExGen participants completed a survey and self-collected rectal specimens, which were tested for CT and GC using nucleic acid amplification testing (NAAT) at the end of the study. We identified individuals who had an incident rectal GC or CT infection, defined as two consecutive weeks of a positive NAAT. For each individual, we selected 1 case-week (defined as the first week of an individual's first incident rectal GC or CT infection) and 2 randomly-selected control-weeks (defined as weeks where the participant tested negative for rectal GC [in the GC analysis] or rectal CT [in the CT analysis]). We used multivariate conditional logistic regression to estimate the adjusted odds ratio (aOR) and 95% confidence interval (CI) for the association between douching and rectal GC/CT, adjusting for condomless receptive anal intercourse in the past week, number of sexual partners, and concurrent GC or CT infection.

Results: There were 140 individuals in ExGen. Our analytic sample comprised 17 GC case-weeks and 34 matched control-weeks, and 22 CT case-weeks and 44 matched control-weeks. Participants reported douching during 64.7% of GC case-weeks and 70.6% GC control-weeks (aOR=0.55; 95% CI=0.11-2.80). Water was used for douching during 91% of GC case-weeks and 96% of GC control-weeks. Douching was reported at a nearly identical frequency among CT case-weeks (45.5%) and CT control weeks (47.7%) (aOR=1.16; 95% CI=0.27-5.07). Water was the only douching solution reported among participants in the CT analysis.

Conclusion: Water-based douching does not appear to increase the risk of incident rectal GC or CT.

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RECEIPT OF CONTRACEPTIVE AND SEXUALLY TRANSMITTED INFECTION SERVICES AMONG SEXUALLY ACTIVE NON-PREGNANT ADOLESCENT AND YOUNG ADULT FEMALES — NATIONAL SURVEY OF FAMILY GROWTH, UNITED STATES, 2011-2013, 2013-2015, 2015-2017, AND 2017-2019

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Background: Examine contraceptive and sexually transmitted infection (STI) services received over time and by other characteristics among adolescent and young adult (AYA) females.

Methods: We analyzed National Survey of Family Growth data (2011-2013, 2013-2015, 2015-2017, and 2017-2019) to identify sexually active, non-pregnant 15–24-year-old females. Weighted prevalence estimates and 95% confidence intervals (CI) of receipt of contraceptive or STI services in the past 12 months were calculated for 15-19 and 20–24-year-olds. Trends were examined using linear regression. Estimates stratified by other characteristics were restricted to 2017-2019 data. Estimates were considered significantly different with Chi-squared P-values ≤ 0.05 and non-overlapping CIs.

Results: No significant trends in receipt of contraceptive services or STI services were found for either age group. In 2017-2019, among 15-19-year-olds, receipt of contraceptive services was 68.4%(60.4-75.4) and differed by race/ethnicity (non-Hispanic White 77.3%[64.2-86.6], Hispanic 43.6%[31.8-56.2]), number of sexual partners (1 partner 60.5%[49.6-70.5], ≥ 2 partners 83.0%[73.9-89.3]) and parent/guardian communication about contraception (yes 76.5%[69.0-82.6]), no (53.3%[39.0-67.0]). Receipt of STI services was 61.0%(52.1-69.2) and differed by number of sexual partners (1 partner 52.2%[41.3-62.9], ≥ 2 partners 77.1%[66.4-85.2]) and previous pregnancy (yes 87.4%[75.7-94.0], no 58.7%[49.2-67.6]). Contraceptive counseling (subset of contraceptive services) and STI testing (subset of STI services) prevalence were 36.0%(29.4-43.2) and 38.5%(31.5-46.1), respectively. Among 20–24-year-olds, receipt of contraceptive services was 64.8%(58.1-70.9) and STI services was 63.5%(56.0-70.4). STI services differed by number of sexual partners (1 partner 58.2%[49.3-66.5], ≥ 2 partners 78.7%[66.8-87.1]) and parent/guardian communication about: abstinence (yes 72.0%[63.1-79.5], no 53.5%[43.7-63.0]), STIs (yes 72.8%[64.1-80.1], no 51.5%[41.8-61.2]), and any topic (abstinence, contraception, or STIs) (yes 68.9%[60.5-76.3], no 49.6%[39.2-60.1]). Contraceptive counseling and STI testing prevalence were 31.8%(26.3-37.8) and 52.7%(45.6-59.8), respectively.

Conclusion: Prevalence of contraceptive services and STI services have remained stable from 2011-2013 to 2017-2019 in AYA females. Low prevalence of contraceptive counseling and STI testing suggests missed opportunities to improve equitable access to recommended services.

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REFERENCE POINT PERCENT CHANGE TREND ANALYSIS IN HEALTH DISPARITY MEASURES

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Background: Percent change analysis is widely used to assess temporal trends. However, conventional percent change (CPC) usually ignores reference points (e.g., rate ratio=1), potentially incorrectly calculating percent change when measures of association cross the reference point between time-points. We propose a new reference point percent change (RPPC) estimator incorporating the reference point and compare the performance of RPPC to CPC analysis in the context of mpox health disparities.

Methods: We examined early (May22-Aug31) and late (Sep01-Dec31) trends in mpox diagnoses and vaccination from the 2022 mpox outbreak. We calculate rate ratios (RRs) and associated trends of racial and ethnic disparities, using RPPC and CPC, highlighting where estimated trends were different.

Results: Black and Hispanic people experienced disproportionate case burden throughout (Black:White RRs=1.9, 6.9, and 6.5 at the early, peak, and late outbreak times and Hispanic:White RRs=2.2, 4.1, and 3.6). Because the reference point (RR=1) was never crossed, both approaches estimated identical trends, indicating initial disparity increases compared to Whites. Vaccination disparities were more complicated with RRs crossing the reference point over time (Black:White RRs=0.5, 1.4, and 1.2, and Hispanic:White RRs=0.9, 1.4 and 1.5), which led to diverging trends. Comparing Blacks to Whites, initially the RPPC estimated a 65% decrease while the CPC a 170% increase; both estimated a 10% decrease later. Comparing Hispanics to Whites, initially the RPPC estimated a 25% increase while the CPC estimated a 64% increase; both estimated a 9% increase later.

Conclusion: When RRs cross a reference point, CPC only considers either an uptrend or downtrend and ignores a reducing trend toward the reference point in determining percent changes, while RPPC accounts for the reducing trend toward the reference point, resulted in different percent change values for the temporal trends of the vaccination disparities. Findings from this analysis show the utility of RPPC in assessing temporal trends in health disparities.

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SOCIAL DEPRIVATION AND RISK OF SEXUALLY TRANSMITTED INFECTIONS DURING PREGNANCY

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Background: Prenatal sexually transmitted infections (STI) are associated with adverse pregnancy outcomes. Disparities in STI rates are observed and are likely explained by social factors rather than individual behaviors. We examined social deprivation and risks of prenatal STIs.

Methods: We analyzed data from 41,834 singleton pregnancies from three hospitals in Houston, TX. At the first prenatal visit, participants were screened for *Chlamydia trachomatis* (CT; screening rate 91.9%), *Neisseria gonorrhea* (GC; 91.6%), syphilis (98.1%), and HIV (92.2%) following hospital standards. Our primary exposure was the social deprivation index [quartiles (Q) 1-4, where Q1 is the least deprived and Q4 is the most deprived neighborhood] based on zipcode of residence prior to pregnancy. This index uses the American Community Survey and 7 neighborhood demographics to define deprivation. A modified Poisson regression was used to calculate relative risk (RR) and 95% confidence intervals (CI). Models were adjusted for maternal age, education, and marital status.

Results: Participants were primarily Hispanic (53.9%), foreign-born (44.0%), on Medicaid (58.4%), and married (75.5%). Compared to Q1, those living in Q2-Q4 neighborhoods had increased risk of STIs (Q2 RR 1.34, 95% CI 1.14-1.57; Q3 RR 1.52, 95% CI 1.30-1.77; Q4 RR 1.50, 95% CI 1.28-1.76). Estimates were similar for each STI. In US-born women, living in Q4 increased risk of CT (RR 1.44, 95% CI 1.14-1.81), GC (RR 3.87, 95% CI 1.89-7.94), and syphilis (RR 2.03, 95% CI 1.23-3.35). Among foreign-born individuals, those living in Q4 had an increased risk of CT (RR 1.54, 95% CI 1.07-2.22) but no other associations were observed.

Conclusion: Social deprivation appeared to be associated with STIs, but different patterns were observed for foreign-born and US-born individuals. Improving understanding of social determinants that drive STI disparities during pregnancy is important as STIs are increasing. Future studies should consider more granular measures for neighborhood deprivation.

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DIGITAL STI SURVEILLANCE REPORTS: SHOULD WE CHANGE OUR DISSEMINATION APPROACHES?

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Background: CDC's annual STI Surveillance Report presents data for a range of audiences, including policy makers, researchers, and the general public. Beginning with the 2019 Report, the content has been available exclusively in a digital format, featuring a streamlined narrative and easily downloadable materials. To explore trends in access to the digital-exclusive Report and identify opportunities to improve dissemination, we reviewed web metrics for recent Reports.

Methods: We reviewed web metrics for the month following the release of the 2022 Report on 1/30/2024. Using Adobe Analytics, we identified the number of website visits for each section of the 2022 Report, determined how the site was accessed by the user (mobile vs desktop), and quantified the number of downloads of supplemental materials. We compared the first month of web metrics for the 2022 Report to metrics for the previously released 2020 and 2021 Reports.

Results: During 1/30/24 to 2/26/24, the 2022 Report landing page was visited 31,150 times; greater than the first month of web metrics for the landing pages for prior year Reports (2020 Report: 14,880 visits 2021 Report: 20,519 visits. Additional pages of the 2022 Report were visited substantially less frequently: National Overview (10,650 visits); Tables landing page (3,322 visits); and Technical Notes (706 visits). State Ranking Tables were the most frequently downloaded supplemental material (3,849 downloads), followed by figures' data point file (2,009), and slide deck (1,742). Overall, 35.8% of users visited the landing page from a mobile device.

Conclusion: Web metrics indicate STI Surveillance Reports' content is accessed frequently soon after the Report is released. Many users visited via mobile devices suggesting the continued need for mobile-friendly content. Content with broader implications (e.g., landing page) were more frequently visited than technical content (e.g., datapoints file). Additional investigation is needed to determine if infrequently visited sections could benefit from alternative dissemination approaches.

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CORRELATION OF RAPID PLASMA REAGIN (RPR) VALUES WITH ACTIVE SYPHILIS INFECTION IN A UNIVERSAL SCREENING SETTING

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Background: As syphilis screening programs expand across the country, efficient means to determine active syphilis status remains a challenge. Understanding the clinical utility of positive rapid plasma reagin (RPR) cutoff value may assist with targeting outreach efforts.

Methods: We examined all cases with reactive quantitative RPR results over two years from an urban hospital emergency department with a universal syphilis screening program. Clinical history in the medical chart and past RPR values from the local health department were used as the gold standard to define cases of syphilis as active or previously treated. We assessed performance of this gold standard to the RPR value alone by calculating the accuracy (and 95% confidence interval), the sensitivity, the specificity and number of false positives and false negatives at various RPR cut points ($\geq 1:1$, $\geq 1:2$, $\geq 1:4$, $\geq 1:8$ and $\geq 1:16$).

Results: Over the study period, there were 1,315 individuals with RPR $\geq 1:1$ of which 44.9% had active syphilis. RPR $\geq 1:16$ had the highest specificity and lowest sensitivity (88.1% and 54.7% respectively), and RPR $\geq 1:1$ had the highest sensitivity and lowest specificity (100% and 0.0% respectively). The best performing cut off was an RPR $\geq 1:8$, with an accuracy of 73.3%, 95% CI (70.8%, 75.7%), a sensitivity of 67.7%, and a specificity of 78.7%. At RPR $\geq 1:8$ we falsely identified 197 persons as active infections and fail to identify 154 active cases. Using an RPR $\geq 1:1$ versus an RPR $\geq 1:8$ requires reviewing the charts of 527 additional patients who are not active syphilis cases.

Conclusion: With decreasing RPR cutoff values we saw increased detection of both true and false positives, highlighting the operational burden required for confirmation of low titer RPR results. Using an automatic determination of active cases at a RPR $\geq 1:8$ would reduce this burden but would also result in missed active cases of syphilis.

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ASSESSING THE ACCEPTABILITY OF SELF-ADMINISTERED AND AT-HOME STI/HIV TESTING AMONG CLINICS OF CHICAGO PUBLIC HEALTH STI SPECIALTY CLINICS

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Background: Amid rising rates of sexually transmitted infections (STIs) in Chicago, innovative testing strategies are urgently needed, particularly self-administered or at-home testing (SAHT). This study explores patient preferences for SAHT over conventional clinic-based methods among attendees of Chicago Department of Public Health (CDPH) STI Specialty Clinics.

Methods: Clients attending two CDPH STI clinics were offered an anonymous, tablet-based self-completed survey between June and September 2023. In addition to data on demographics, reasons for visit, health insurance, access to care, respondents answered Likert scale questions about their likelihood to use SAHT for STIs if cost was not a barrier, considering different aspects of the testing process. Descriptive statistics summarized responses.

Results: Among 316 participants, 71.5% were male, 28.85% female, 39% gay or bisexual, 33% non-Hispanic (NH) White, 28% Black, and 74 % were 18-34 years-old. Among 316 respondents, 75.3% (238/316) were “very likely” to use point-of-care SAHT that offered instant results. Online ordering and home delivery were “very likely” to be used by 52.7% and 58.5% of respondents, respectively. Notably, preferences were diverse; for example, 44.4% were very likely to use SAHT involving finger pricking, while 46.7% showed a similar preference for anal swabbing, and 56% were very likely to use SAHT involving swabbing genitals. Only 40% of respondents indicated a high likelihood of using/picking up SAHT from clinics.

Conclusion: The data indicate a strong patient preference for SAHT that is convenient and offers immediate results. Despite the high acceptability of multiple SAHT methods, preferences varied, underscoring the importance of providing diverse options to cater to individual needs. The findings support the potential integration of various SAHT options into public health strategies to increase accessibility and frequency of STI/HIV testing, particularly when clinic access is constrained. These preferences can guide the development of patient-centered services that enhance public health outcomes.

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EXTRAGENITAL SCREENING FOR GONORRHEA IN HEALTH DEPARTMENT CLINICS IN VIRGINIA, 2018-2023

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Background: The Virginia Department of Health began offering extragenital gonorrhea (GC) screening via Nucleic Acid Amplification Testing (NAAT) in mid-2017 for clients attending health department clinics. We assessed trends in site-specific extragenital screening over time and evaluated the value of performing routine extragenital screening in this setting.

Methods: We analyzed GC NAAT results for all laboratory tests ordered by participating 116 health department clinics in Virginia from 2018 through 2023 (including STI clinics). Analyses were restricted to clients with recorded sex and age; clients younger than 15 years were excluded. We summarized extragenital test counts and results by year stratified by anatomic site, sex, and age.

Results: There were 181,746 client testing events recorded from 2018 to 2023. All received urogenital screening. The proportion of clients screened rectally increased from 4.8% to 11.5%, while pharyngeal screening increased from 18.7% to 45.4%. Male clients were twice as likely as females to receive pharyngeal screening (46.6% vs. 22.2%) and almost five times as likely to be screened rectally (15.5% vs. 3.2%). Positivity was higher among males across all anatomical sites. Among female clients who received any extragenital screening, 3.7% (1,003/27,303) tested positive overall; 1.3% tested positive exclusively at extragenital sites (0.14% rectal, 1.08% pharyngeal, 0.04% both). Among males who received any extragenital screening, 9.1% (2,614/28,586) tested positive overall; 4.8% tested positive exclusively at extragenital sites (1.4% rectal, 2.5% pharyngeal, 0.9% both). Among all extragenitally screened clients testing positive, 34.5% (346/1,003) of females and 52.8% (1,380/2,614) of males were identified solely by extragenital screening. Pharyngeal screening alone identified 35.6% (1,286/3,617) of all infections in this population.

Conclusion: We observed an increase in the proportion of clients receiving extragenital gonorrhea screening. Among gonorrhea-positive clients who received extragenital screening, approximately half of all infections were detected solely through extragenital screening and would have been missed by urogenital screening alone.

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THE NECESSITY AND FEASIBILITY OF OPT-OUT SYPHILIS TESTING OF FEMALES IN LOCAL JAILS**Daisha Washington, BS, MPH¹**, Shelymar Acevedo-Ortiz, MPH²¹National Association of County and City Health Officials, DC, USA, ²Orange County Corrections, FL, USA

Background: During 2018-2022, primary and secondary (P&S) syphilis rates increased by 65.4%, nationwide. P&S syphilis rates in Florida increased by 54% (17th in the US). In 2022, Florida reported 127.6 congenital syphilis cases per 100,000 live births and 82.1 total syphilis cases per 100,000 females aged 15-44 years.

CDC's data highlights that most syphilis cases are found outside of STD clinics, suggesting the need for testing and treatment in non-traditional settings (e.g., correctional facilities). The U.S. Bureau of Justice Statistics shows that the number of women in prisons is over 90,000 and increased by 9% from 2021 to 2022. Thus, expanded syphilis testing in correctional facilities may help decrease syphilis transmission. NACCHO funded three local health departments to assess the feasibility and effectiveness of routine, opt-out syphilis screening of females and other individuals of childbearing capacity in local jails. Screening and treatment outcomes from Orange County Corrections - Health Services Department (OCC-HS) were analyzed.

Methods: From April 2023-January 2024, OCC-HS collected monthly quantitative data on the number of women booked, number tested for syphilis within 48 hours of booking, new case identification, and treatment outcomes. Monthly qualitative reports also captured progress and challenges and were thematically assessed.

Results: Over ten months, 6,344 females were booked, and 472 (7.4% of bookings) were tested for syphilis (130 within 2 days of booking). There were 11 confirmed positive tests resulting in a 1.4% (6/472) new syphilis case rate. Of those confirmed positive tests, 90% were treated (n=10) and 54.5% were new cases (n=6).

Conclusion: OCC-HS experienced challenges, including staff shortages, delays in confirmatory testing and results, and inmate refusals. Despite this, the percentage of positive cases and the high mobility of this population between the community and jail demonstrates that syphilis screening in jails could help address syphilis and congenital syphilis prevalence nationwide.

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OPT-OUT POPULATION-BASED SYPHILIS SCREENING IN LOUISIANA PARISH JAILS

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Background: Louisiana had the 9th highest primary/secondary syphilis rate in 2022 and has consistently had the highest incarceration rate in the United States. Beginning in December 2021, the Louisiana Department of Health (LDH) and the Department of Corrections (DOC) collaborated on a population-based opt-out screening program for syphilis, hepatitis C and HIV in Louisiana's parish jails. A mobile phlebotomy team conducted the screenings and referred all people with positive results to medical staff for treatment.

Methods: This analysis includes syphilis results from December 2021 through February 2024. Lab results were exported from an online laboratory portal, and demographic information was obtained from the DOC registration system. People diagnosed with syphilis were matched to the LDH STI Surveillance database to determine syphilis stage and treatment status.

Results: Screening is complete at 32 parish jails within 29 parishes. Of the 3,997 people screened, 213 (5.3%) had a reactive RPR, and 64 people were confirmed to be new syphilis cases. Two cases were primary, 3 were secondary, and 59 were late/unknown duration. The majority (84%) were appropriately treated. Of the new cases, 81% were male and 52% were black. Of those with a reactive RPR, 83 were previously treated, 20 were confirmed not to have syphilis, and 46 were administrative closures or not located.

Conclusion: Employing a mobile phlebotomy team is an effective model for opt-out population-based screening in local jails. However, disease intervention specialists had some difficulty interviewing positive cases, staging cases, and confirming treatment. Given the large number of new cases identified, syphilis screening at jail intake is recommended.

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IMPLEMENTATION OF A RAPID DIAGNOSTIC TOOL FOR SEXUALLY TRANSMITTED INFECTIONS IN A PEDIATRIC CARE NETWORK

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Background: Point of care testing (POCT) for sexually transmitted infections can address screening and treatment barriers and reduce loss to follow-up among adolescents. We assessed clinician attitudes regarding acceptability, feasibility, appropriateness, and usability of gonorrhea and chlamydia (GC/CT) POCT in adolescent clinics.

Methods: This cross-sectional, multi-method implementation study assessed clinician attitudes toward and determinants of GC/CT POCT in four pediatric health system clinics (primary care, adolescent medicine, and adolescent HIV treatment and prevention) implementing POCT. Within six weeks of GC/CT POCT implementation using the Binx io®, clinical staff received survey weblinks containing the Acceptability and Feasibility of Intervention Measures, Intervention Appropriateness Measure, System Usability Scale (SUS), and additional open-ended questions assessing attitudes toward GC/CT POCT. A subsample completed semi-structured interviews exploring facilitators and barriers. We calculated median and interquartile range (IQR) scores for scaled items, with a threshold usability SUS score of 68. Two independent reviewers deductively coded interviews using the Consolidated Framework for Implementation Research (CFIR), categorizing responses within CFIR domains and identifying emerging themes.

Results: The survey sample (n=33) consisted of physicians and nurse practitioners (70%), nurses (15%), medical assistants (6%), and other staff (9%); of which 71% had utilized GC/CT POCT. The median acceptability, feasibility, and appropriateness scores were 5 (IQR 4-5), 4 (IQR 3-5), and 5 (IQR 4-5), respectively. The median SUS score was 65 (IQR 57.5-75). In qualitative analysis (n=20), POCT implementation facilitators included ease of test administration and same-day test results, allowing for rapid directed care. Barriers included limited device availability and test duration (32 minutes), introducing workflow challenges.

Conclusion: While we found high acceptability and appropriateness of GC/CT POCT, feasibility was variable, and usability scores were below accepted thresholds. Clinical staff identified workflow changes as modifiable factors to improve implementation. POCT can be beneficial in adolescent-serving clinics; however, workflow challenges should be addressed to improve intervention uptake.

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ACCEPTABILITY OF AND PREFERENCE FOR RECTAL SWABS COLLECTION AND SEXUAL BEHAVIORS AMONG ADOLESCENT AND YOUNG ADULT MALES SEEKING PRIMARY CARE

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Background: Reluctance to discuss anal sex and collect rectal samples pose barriers to assessing risk and testing for rectal sexually transmitted infection (STI) in male adolescents and young adults (AYA). Our aim was to assess sexual behavior among AYA males receiving primary care and their attitudes about acceptability of and preference for self- and clinician-collected as well as home- and clinic-based collection of rectal swabs for testing for sexually transmitted infections.

Methods: Sexually active, self-identified male patients, 14-26 years old, receiving STI testing as part of their primary care visit were eligible to participate. Participants completed structured interview questions assessing types of sexual contact and attitudes about rectal STI sampling. Analysis included descriptive statistics.

Results: Of the 25 participants completing the study, all were assigned male at birth, the average age was 18.5 years (SD 2.24). Among these, 88% (n=22) reported sex with only women and 8% (n=2) reported sex with only men. Three men (12%) reported receiving anal sex from other men. Self-collection of rectal samples for STI testing was acceptable to 52%, clinician-collection was acceptable to 40%. All 12 men who reported self-collection to be unacceptable also reported clinician-collection to be unacceptable. A majority reported a preference for self-collection of rectal swabs (88%) versus clinician-collection (12%). A majority preferred to self-collect specimens at the doctor's office (76%) versus at home (24%).

Conclusion: Among AYA men seeking primary care, few reported receptive anal sex. Attitudes about rectal sampling may be a barrier to rectal STI testing in AYA men.

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CHLAMYDIA AND GONORRHEA SCREENING AND TREATMENT AMONG UNACCOMPANIED CHILDREN IN THE CARE OF THE U.S. OFFICE OF REFUGEE RESETTLEMENT — UNITED STATES, JANUARY 1, 2021–DECEMBER 31, 2023

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Background: During 2021–2023, an average of 120,000 Unaccompanied Children (UC) were referred to the Office of Refugee Resettlement (ORR) each year. UC are a uniquely vulnerable group of minors (aged <18 years) with no lawful immigration status and no guardian to assume custody at the time of U.S. entry. While in ORR custody, UC receive an initial medical exam (IME) and those reporting sexual activity are screened for sexually transmitted infections (STIs) including chlamydia and gonorrhea. This report describes sexual activity, chlamydia and gonorrhea screening, test-positivity, and treatment rates among UC.

Methods: Children's health data is stored on a web-based platform called the UC Portal. Data on reported sexual activity, chlamydia and gonorrhea test results, and CDC-recommended treatments were queried for all children in ORR custody who received an IME during January 1, 2021–December 31, 2023. Simple percentages were calculated to assess the following proportions: children reporting sexual activity, sexually active children receiving chlamydia and gonorrhea tests, positive results among those screened, and children with a positive test receiving recommended treatment while in ORR care.

Results: During 2021–2023, 324,310 children were admitted to ORR and received an IME; 21.1% (n=68,331) reported sexual activity. Among minors reporting sexual activity, 93.9% were aged 15–17 years and 59.6% were male. Nearly all sexually active minors were screened for chlamydia (97.9%) and gonorrhea (97.7%); 8.9% (n=5,926) of screened minors were diagnosed with chlamydia and 0.5% (n=355) with gonorrhea. Almost all minors diagnosed with infection were treated while in ORR care (chlamydia: 97.6%; gonorrhea: 95.5%).

Conclusion: The test-positivity of chlamydia and gonorrhea among children in ORR care is comparable to rates reported in prior studies for American youth, ranging from 3.7%–10% for chlamydia and 0.3%–0.5% for gonorrhea. ORR is successful in screening and treating this vulnerable population for chlamydia and gonorrhea infections.

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RETROSPECTIVE ANALYSIS OF HIV ANTIGEN/ANTIBODY FALSE POSITIVITY RATES IN A COMMERCIAL LABORATORY DURING THE COVID-19 PANDEMIC

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Background: The CDC-recommended HIV diagnostic algorithm is multistep, beginning with HIV p24 antigen/antibody (Ag/Ab) screening and reflexing as appropriate. Reports of a correlation between SARS-CoV-2 (SARS2) infection and false-positive (FP) HIV Ag/Ab results emerged during the COVID-19 pandemic. We investigated HIV Ag/Ab screening FP rates in patient cohorts with laboratory evidence of SARS2 infection/vaccination.

Methods: Retrospective analysis identified individuals tested using the Labcorp HIV algorithm from 2016–2023. The algorithm started with the ADVIA Centaur® HIV Ag/Ab assay and reflexed to the Bio-Rad Geenius™ HIV 1/2 assay and the cobas® HIV-1/HIV-2 RNA test, as appropriate. Individuals with SARS2 PCR testing up to 2 weeks, 1 month, or 3 months before HIV testing from 2020 to 2023 were identified. A positive SARS2 PCR result was considered evidence of SARS2 infection. Another cohort of individuals with SARS2 PCR and/or antibody test results up to 6 months before the HIV testing was identified. Positive SARS2 PCR and/or positive antibody test results were considered evidence of SARS2 infection and/or vaccination.

Results: Between 2016 and 2023, 2 to 5 million samples were submitted annually for HIV testing, with an annual HIV FP rate of 0.13–0.18%. Over 23 million distinct individuals, mean age 35.9±13.5, had HIV testing performed. FP HIV Ag/Ab screens occurred in ~40,000 individuals, mean age 39.4±15.2. The SARS2 cohorts (2wk, 1m, 3m, and 6m) increased from ~370,000 to 1 million individuals with an average SARS2 positivity rate of 13.4%. No significant relationship between FP HIV screens and SARS2 history was observed.

Conclusion: No increase in FP HIV Ag/Ab screens was observed during the COVID-19 pandemic. Additionally, no correlation between SARS2 infection/vaccination and FP HIV Ag/Ab screens was observed. These data suggest that FP HIV Ag/Ab associated with SARS2 may vary by platform and highlights the importance of interpretation based on the HIV algorithm rather than individual tests.

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RETROSPECTIVE ANALYSIS OF PATIENT-INITIATED, SELF-COLLECTED SEXUALLY TRANSMITTED INFECTION (STI) TESTING AND TELEHEALTH WITH PRESCRIPTION MEDICATION TREATMENT

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Background: Patient-initiated, home-collected testing options may improve access to STI care. Analysis of patient testing data provides useful insight into the efficiency and impact of patient-initiated STI screening.

Methods:

Data from STI testing at LetsGetChecked (a CAP-accredited, CLIA-certified lab) and associated telehealth consultations that occurred in 2022 and 2023 was reviewed. Patients selected which tests they wanted performed on their sample(s) including nucleic acid tests for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Trichomonas vaginalis* (TV), *Mycoplasma genitalium* (MG), *Gardnerella vaginalis* (GV), and *Ureaplasma* species, and serologic screening assays for Human immunodeficiency virus (HIV) and Syphilis. Patients mailed their sample(s) to the laboratory. Results were phoned to the patient and/or posted in the patient's secure portal. Patients could opt to purchase a telehealth consultation by secure messaging.

Results:

A total of 31,662 kits (175,831 individual tests) were ordered. The average patient age was 36.8 (+/- 11.3; range 18 - 88) with 47.7% females. Average time from kit activation to result was 6.6 days. 9506 (5.4%) tests were canceled: insufficient specimen (62%), clotted/hemolyzed (14%), identification issue (8%), stability exceeded (4.5%), other (11.5%). Positivity rates were CT: 4.3%, NG: 0.7%, TV: 1.8%, MG: 2.3%, GV: 40.7%, *Ureaplasma*: 41.6%, HIV: 0.6%, Syphilis: 1.5%. Telehealth consultations for abnormal results included prescriptions: CT: 93.7% (n=583), TV: 95.1% (n=204), MG: 96.3% (n=107), GV: 76.8% (n=870). Telehealth consultations were typically obtained and completed on the day results were released.

Conclusion: Patient-initiated home-collected STI testing with an option for consultation increases access to STI care. Test kits were purchased by females/males equally within a wide age range. Positivity rates were similar to published benchmarks. Telehealth consultations were an effective means of prescribing treatment when appropriate.

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ASSESSING THE CAPACITY OF JAILS TO SCREEN FOR AND TREAT SYPHILIS: RESULTS FROM A NEW YORK STATE SURVEY

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Background: Syphilis diagnoses are increasing nationally, and there is promising evidence jails are uniquely situated to screen and treat for syphilis. However, a significant knowledge gap about healthcare services in jails exists. To address this gap, the New York State (NYS) Department of Health AIDS Institute conducted a survey of county jails in 2022 (excluding New York City) to develop a better understanding of screening, treatment, and discharge planning capacity for opioid use disorder, HCV, and syphilis. Though this was an integrated survey, results presented are restricted to questions about syphilis.

Methods: An online questionnaire was distributed to 58 local jail facilities in New York State. Descriptive statistics were performed to analyze respondent demographics and frequency distributions of responses for each survey question.

Results: Forty-six of 58 (79%) NYS jail facilities responded to the survey. Most facilities (about 62%) have had policies in place for syphilis screening and treatment for more than three years; however, 26% do not have policies in place. Over half of facilities offer syphilis screening upon admission (54%) or during initial medical appointments (49%), although none offer screening upon discharge. Most facilities (69%) offer screening to incarcerated individuals requesting to be tested, 46% offer routine opt-in screening, and 14% offer routine opt-out screening. Among jails reporting screening for syphilis in the past year (n=27), over 64% reported at least one positive/reactive result. Among jails reporting positive/reactive syphilis results in the past year (n=18), 78% reported successfully treating all individuals.

Conclusion: Overall, while most jails reported partial capacity for screening and treating syphilis, the high proportion of jails identifying syphilis supports the need to increase availability of such services prior to transfer or discharge. Encouraging peer-to-peer education and technical assistance could be used to support policy development for syphilis testing and treatment.

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EXPANDING ACCESS TO STI SERVICES THROUGH COMMUNITY PHARMACY PARTNERSHIPS AND STI SELF- COLLECTION KITS

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Background: Most Americans live ≤ 5 miles from a pharmacy so there is significant potential for them to serve as access points for STI testing and treatment delivery in underserved communities. To understand how pharmacies might play this role, 2 local health departments (LHD) piloted partnership models with community pharmacies using LHD-funded self-collected STI testing kits for chlamydia and gonorrhea (CT/GC).

Methods: Starting October 2022, Linn (Iowa) and Allegheny (Pennsylvania) counties formed pharmacy partnerships. Nine pharmacies in Linn offered free STI kits provided by the LHD; some with bathrooms for onsite self-collection ($n=4$); otherwise, kits could be taken home and mailed back. For Allegheny, pharmacy access ($n=1$) and treatment were integrated into an existing STI campaign. Individuals could order a free kit online from the LHD and have it delivered to their chosen address or the pharmacy. In both models, patients mailed their specimen to the contracted lab for processing with results available to both the patient and LHD via an online portal. Positive patients could receive expedited treatment from the participating pharmacies.

Results: As of December 2023 in Linn, 47/570 kits were picked up at the pharmacy, with a 77% return rate; 10% identified as MSM; 8% tested positive, and 0 were treated at the pharmacy. In Allegheny, 107 kits were ordered to the pharmacy and 1,273 to another location with a 42% ($n=542$) return rate including 22% ($n=24$) ordered to the pharmacy. Overall, 36% were 3-site kits; 8% were positive for CT/GC (majority CT, one coinfection); and 5 were treated at the pharmacy.

Conclusion: Integration of STI self-collection kits into community pharmacies is feasible and increases access to testing and treatment. Both models reached MSM and detected infection outside of the clinic setting in underserved areas. Further investigation is needed to assess true demand and young adult familiarity with community pharmacies.

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EXPANDING FREE HOME-COLLECTION STI TESTING IN URBAN AND RURAL PITTSBURGH TO ENABLE ACCESS AND LINKAGE TO CARE

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Background: Allegheny County Health Department (ACHD) and Neelyx Labs offer a home-collection testing program for gonorrhea and chlamydia screening and linkage to care for area residents. Here, we report on our experience with this program with takeaways for other health departments who might consider implementing the same.

Methods: Through ACHD's website and via an online awareness campaign leveraging advertisements on hook-up applications like Grindr and social media platforms like Facebook, Allegheny County residents can order at-home collection kits for gonorrhea and chlamydia laboratory tests at no-cost to them. Adults reporting a zip code within the county create an account and complete a brief health assessment to request a kit. An ACHD provider standing order covers 3-site (oral, penile, anal) swab tests for men who have sex with men (MSM) and 1-site (genital) swab tests for non-MSM participants. Kits are sent to homes, and participants are reminded to complete and return their kits via an e-platform. Once kits are returned to the lab, specimens are processed and results released within 48 hours directly to participants and ACHD. ACHD providers follow up on any positive results encouraging participants to visit the clinic and/or a partnered community pharmacy for treatment. Once complete, participants are asked to complete a short survey with their experience.

Results: In the first quarter of 2024, 257 kits have been ordered and 66 of those kits have been returned (25.6%). Participants are evenly distributed in both rural and urban Pittsburgh. A 7.5% positivity rate for Chlamydia or Gonorrhea has been observed. All patients with a positive test result have received follow-up care either at ACHD's medical clinic or at a partnered community pharmacy.

Conclusion: Home-collection testing programs for STIs can increase access to care and can be a cost-effective intervention for public health departments.

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CONTACT SYPHILIS TESTING IN A TEXAS SEXUAL HEALTH CLINIC LEADS TO CRITICAL INTERVENTIONS IN A PATIENT'S MEDICAL CARE

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Introduction: From January 2023 thru December 2023, 14,254, patients were seen at the Dallas County Sexual Health Clinic (SHC). The diagnosis and treatment of concomitant STIs is a frequent occurrence. Kaposi sarcoma is seen in cases of uncontrolled HIV infection. We present a case of HIV, syphilis and Kaposi sarcoma diagnosed in a patient not in medical care. Critical steps taken by the SHC provider facilitated essential medical care for this patient.

Case Description: The patient, a male who has sex with males, was referred to the SHC for testing after exposure to syphilis. The patient initially denied previous STI diagnoses. On physical examination, flat macular violaceous colored lesions were noted on both arms/legs, lower back and chest. Rapid HIV testing was reactive and rapid syphilis testing was reactive with titer of 1:1024, done in the STAT Lab located in the SHC. Confirmatory STI testing was done. The patient was informed of STAT STI testing results and treatments needed. The patient disclosed that he was informed of HIV diagnosis in the past, but never received HIV treatment because the patient “didn’t believe the diagnosis”. The SHC provider counseled the patient providing needed education and empathetic support. The patient received the 1st of 3 Bicillin injections for syphilis, with weekly appointments for the 2nd and 3rd Bicillin injections with the same SHC provider

Discussion: The patient’s refusal to acknowledge HIV diagnosis led to non-treatment, uncontrolled HIV infection and the development of Kaposi sarcoma. The SHC provider focused on establishing a relationship with the patient, where the patient would feel comforted and protected, allowing arrangement for HIV care at an outside clinic and the patient returning to the SHC to complete syphilis treatment. Health care providers must acknowledge the interventions necessary for the individual patient in need, even in a busy urban public health clinic.

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AN ELICITATION STUDY TO UNDERSTAND LGBTQ YOUNG ADULT BELIEFS ABOUT BI-ANNUAL STI TESTING

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Background: The LGBTQ+ community has remained a population of concern due to the rising rates of STIs among its members. Consistent and bi-annual sexually transmitted infection (STI) testing of at-risk populations is crucial for preventing both adverse health outcomes and the spread of infection. Testing rates among LGBTQ+ members remain low. This project utilizes a theory-based approach to increase the effectiveness of LGBTQ messages that promote biannual STI testing.

Methods: Six focus groups with twenty-one college-aged LGBTQ+ members were conducted. The focus groups were based on the Reasoned Action Approach and designed to assess participants' 1) exposure to sexual health messages and 2) attitudes, perceived norms, and perceived barriers and facilitators towards adopting a habit of getting an STI test once every six months if they are sexually active.

Results: Thematic analysis from the focus groups revealed several salient points. First, participants had little to no exposure to sexual health advertisements on social media in their day-to-day lives. Key themes that emerged include testing anxiety, a belief that testing is only needed after an event (e.g., unprotected sex or a hookup), that testing will strain romantic relations due to perceptions of cheating and mistrust, and, a perception that sexual health advertisements targeted to LGBTQ+ youth were often made by people who were not members of the LGBTQ+ community and, therefore, less trustworthy. These advertisements were often identified via their use of the rainbow flag or symbol.

Conclusion: Messaging that seeks to promote the protective behavior by getting an STI test every 6 months needs to address attitudinal beliefs and barriers, such as testing anxiety and the effects of testing on romantic relationships. Scholars should also assess the impact of the rainbow flag on message credibility. Part two of this project will assess and verify these conclusions.

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IMPLEMENTATION OF MPOX TESTING AND TREATMENT AT A LARGE URBAN INDIAN HEALTH SERVICE FACILITY

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Background: Mpox is a viral infection which can be sexually transmitted. We examined mpox testing, treatment, and symptom improvement in an American Indian and Alaska Native (AI/AN) population at an urban Indian Health Service (IHS) facility during 2022.

Methods:

The electronic medical record was used to review patients who were tested for mpox from 7/13/22 to 12/21/22 using polymerase chain reaction (PCR). Among confirmed mpox cases, any recent STI, interval from mpox diagnosis to treatment, and intervals from treatment (tecovirimat 600mg PO x 14 days) to symptom improvement were evaluated.

Results: In total, 61 symptomatic patients were tested; 18 (29.5%) were PCR positive. Testing occurred in the urgent care/emergency department (27 tested, 6 confirmed), HIV/PrEP clinic (26 tested, 11 confirmed), and inpatient ward (6 tested, 1 confirmed). The median age was 32.5 years (n=18, range 21-47); Among cases, 16 (89%) reported male-to-male sexual contact (MSM), and 6 (37.5%) were persons living with HIV (PLWH). Among tested cases, 39% had a diagnosed STI 3 months before or after mpox diagnosis. In PLWH and mpox (n = 6), 83% were virally suppressed. Among HIV-negative mpox cases reporting MSM, 5 were on PrEP and 3 started PrEP near mpox diagnosis. Twelve cases (67%) were considered severe infections and received treatment with tecovirimat, 6 (50%) were PLWH. Of the 12 treated patients, 5 (42%) had 10 to 100 lesions; 7 (58%) had less than 10 lesions. A majority of patients received tecovirimat on the day of lab confirmation (67%); Five (42%) reported symptom improvement by day 3, 4 (33%) by day 6 and all (100%) upon treatment completion.

Conclusion: This IHS site successfully identified mpox cases in multiple departments and provided prompt treatment to patients with severe mpox symptoms. Most (75%) patients reported symptom improvement a week after treatment initiation.

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PERFORMANCE AND USABILITY OF TWO FDA-APPROVED RAPID DIAGNOSTIC TESTS FOR SYPHILIS

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Background: Incidence of syphilis, a sexually and perinatally transmitted infection caused by *Treponema pallidum*, has increased in recent decades. Prompt diagnosis and treatment of this curable infection reduces associated morbidity. New CDC guidelines for screening and/or diagnosis of syphilis include the use of point-of-care rapid treponemal antibody tests. We reviewed the performance and usability for two FDA-approved, CLIA-waived, treponemal antibody, rapid diagnostic tests.

Methods: We reviewed FDA pre-marketing approval documents and searched PubMed for reports presenting the performance of the Syphilis Health Check (Diagnostics Direct, LLC Stone Harbor, NJ) or the DPP HIV-Syphilis System (Chembio Diagnostic Systems, Inc Medford, NY). Systematic reviews, secondary reports referencing primary studies, and those not reporting performance metrics were excluded from analysis. Data about specimen type, population, reference test, and usability were also collected to allow further analysis. Pooled sensitivity and specificity with 95% confidence intervals were calculated based on reported positive and negative test results in comparison to a reference standard.

Results: 7 reports for Syphilis Health Check and 6 reports for DPP HIV-Syphilis System and their respective FDA-approved package inserts were included. Syphilis Health Check's pooled sensitivity and specificity were 88.8% (95% CI: 87.0-90.6%) and 96.0% (95% CI: 94.0-97.9%) respectively among 9061 tests; DPP HIV-Syphilis System's pooled sensitivity and specificity were 85.7% (95% CI: 83.9-87.9%) and 98.0% (95% CI: 95.9-100%) among 8491 tests. The DPP HIV-Syphilis System is more expensive (>\$15/test vs. \$10/test for the Syphilis Health Check) with longer time to result (15 minutes vs. 10 minutes), but advantages included a smaller volume blood specimen (10µl vs. 50µl), and concurrent HIV antibody detection. Additionally, DPP HIV-Syphilis System requires a DPP Micro Reader for result interpretation, which may increase complexity, but reduce risk of human error.

Conclusion: Test performance appears similar between both rapid treponemal antibody tests while usability varies depending on testing sites' needs and priorities.

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PERFORMANCE OF SYPHILIS TREPONEMAL AND NONTREPONEMAL SEROLOGIC TESTS IN SPECIMENS FROM PREGNANT WOMEN: A REVIEW AND META-ANALYSIS

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Background: Congenital syphilis continues to surge in the US, emphasizing the need for prompt screening and treatment during pregnancy. To inform assessments of emerging point-of-care tests for maternal syphilis screening, clarifying the diagnostic accuracy of existing laboratory tests is crucial. Our review aimed to evaluate the sensitivity and specificity of currently approved treponemal/nontreponemal serologic tests.

Methods: We searched PubMed, Embase, and Cochrane Library to February 2022 for diagnostic accuracy studies of serologic tests for syphilis in pregnant women. Methodological quality of studies was assessed using QUADAS-2 (Quality Assessment of Diagnostic Accuracy Studies). A bivariate meta-analysis was completed to generate pooled estimates of sensitivity and specificity in treponemal and nontreponemal tests, and forest plots were used to evaluate heterogeneity of these diagnostic parameter estimates.

Results: From over 5000 abstracts and 78 full texts screened, only 10 studies included pregnant women, evaluating 11 treponemal assays (N=4143) and 2 nontreponemal assays (N=9383). Our sensitivity analysis incorporated six studies with sufficient data, yielding a pooled sensitivity estimate of 0.81 (95%CI = 0.56 to 1.05) for treponemal tests and 0.90 (95%CI = 0.87 to 0.93) for nontreponemal tests. Specificity analysis incorporated data from eight studies, resulting in pooled estimates of 0.99 (95%CI = 0.98 to 1.00) for treponemal tests and 1.00 (95%CI = 1.00 to 1.00) for nontreponemal tests. Subgroup analyses revealed low heterogeneity between treponemal and nontreponemal tests.

Conclusion: Despite the limited number of eligible studies, the high specificity observed in both treponemal and nontreponemal tests in our analysis should give clinicians confidence in positive test results. However, the moderate sensitivity underscores the importance of adhering to current recommendations for repeat screening. Overall, more studies are needed in pregnant women, employing newer assays and rapid point of care tests.

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A COMBINED TREPONEMAL/NONTREPONEMAL ASSAY FOR POINT-OF-CARE SYPHILIS TESTING

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Background: Syphilis is one of the fastest growing sexually transmitted infections (STI) in the United States. The current diagnostic method requires a confirmatory test following an initial positive result. This leads to long turnaround times and higher chances of loss to follow-up, ultimately increasing the risk of continued spread. Here we present progress towards a combined treponemal/nontreponemal quantitative syphilis antibody detection assay for use on a point-of-care diagnostic platform.

Methods: We developed a magnetic bead-based proximity extension assay (PEA) to detect treponemal antibodies. Treponemal antibodies were captured using antigen-coated magnetic beads, tagged with DNA probes, and amplified with PCR. Ct values of qPCR results and R² values of standard curves were determined in the QuantStudio Design and Analysis software and Excel, respectively. In conjunction with the assay, a rapid diagnostics platform to automate sample processing and PCR has been developed.

Results: We have demonstrated sensitivity of 0.7 ng/mL, demonstrating nearly two orders of magnitude higher sensitivity than the gold standard TPPA assay (~56 ng/mL). We have also demonstrated the quantitative ability of the assay with a linear standard curve R²-value of 0.92. The portable diagnostic platform performs automated sample processing via magnetic bead transfer through different buffers in under 10 minutes. Within the same run, the instrument's rapid thermocycling can achieve 50 cycles of PCR in under 20 minutes.

Conclusion: We have demonstrated a proof-of-concept for a quantitative PCR-based immunoassay for the detection of treponemal antibodies. Further development with a nontreponemal antibody detection assay combined with our rapid diagnostic platform can streamline syphilis diagnosis by providing both treponemal and nontreponemal titer results within a single patient visit.

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P101

DETECTION OF TREPONEMA PALLIDUM IN GENITAL LESION SWABS AND SEROLOGIC TEST PERFORMANCE: SOUTH AFRICA AND BOTSWANA

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Background: Syphilis, caused by *Treponema pallidum* subspecies *pallidum* (TP), has been increasing in incidence globally. Syphilis may present with a broad spectrum of symptoms and signs, but genital chancres (primary syphilis) and condylomata lata (secondary syphilis) are common clinical presentations.

Methods: As part of an ongoing study to characterize genomes of TP in sub-Saharan Africa, we are enrolling patients with genital lesions suspicious of syphilis from public healthcare facilities in Gaborone (Botswana) and East London (South Africa). We collected lesion swabs for TP DNA detection by real-time PCR. Syphilis rapid diagnostic testing (RDT) was performed with Determine™ Syphilis TP (Abbott®) in South Africa and Standard Q Syphilis Ab Test (SD Biosensor) in Botswana. Treponemal serology was performed with the Alinity i Syphilis TP assay (Abbott GmbH) in South Africa and ARCHITECT Syphilis TP assay (Abbott GmbH) in Botswana.

Results: From October 2023 to March 2024, 61 participants (35 female and 26 male) were recruited in South Africa. TP PCR was positive in 22/45 (51%) genital ulcer swabs and in 11/16 (69%) condylomata lata swabs. Of those with TP PCR positive genital ulcer swabs, 13/22 (59%) were reactive by RDT and 22/22 (100%) by TP serology. Of those with TP PCR positive condylomata lata swabs, 7/11 (64%) were reactive by RDT and 10/11 (91%) by TP serology. From January 2024 to March 2024, 23 participants (17 female and 6 male) with genital ulcer were recruited in Botswana. All tested TP PCR negative. Of those participants, 3/23 (13%) were reactive by RDT and 2/23 (9%) by TP serology.

Conclusion: We observed high rates of TP DNA detection in lesion swabs from South Africa and very low rates in Botswana. The syphilis RDT was falsely negative in about 40% of those with TP PCR confirmed genital lesions in South Africa, raising concerns about the syphilis RDT sensitivity.

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FEASIBILITY OF A 10-MINUTE POINT-OF-CARE TREPONEMAL IGM ANTIBODY DIAGNOSTIC FOR CONGENITAL SYPHILIS TESTING OF NEWBORNS FROM HEEL STICK BLOOD

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Background: Congenital syphilis rates in the U.S. have increased drastically over the past decade. Diagnosis of congenital syphilis can be difficult due to the wide range of clinical presentations and the transfer of maternal treponemal and nontreponemal IgG antibodies to the fetus through the placenta. This study describes Diagnostics Direct's work to determine the feasibility of a rapid congenital syphilis test based on detection solely of IgM antibody to *Treponema pallidum* in newborn capillary blood.

Methods: *Syphilis IgM Health Check:* A 10-minute POC immunochromatographic test from capillary blood that detects IgM antibody to *Treponema pallidum*. The test input is 20 uL of capillary whole blood and has a visual readout.

Feasibility Studies: Two studies were performed using residual, de-identified clinical samples to assess the preliminary performance of the Syphilis IgM Health Check.

Results: In the first study, 18 syphilis IgM sera samples were tested with the Syphilis IgM Health Check and the Viramed ViraBlot IgM test and were positive by both tests. The Viramed test showed IgM reactions with 3 - 5 VDRL antigens and the early recombinant lipoprotein markers of 47 and 44.5 kDa. Minimal reactions to IgM were observed with the later stage markers of 17 and 15 kDa, indicating early syphilis infection. In the second study, Syphilis IgM Health Check was used to test 20 negative sera and 30 positive sera from late secondary, latent, and tertiary infections where only IgG is detectable. IgM was not detected in any sample, indicating the test design has the desired specificity to virtually eliminate the risk of false positive results.

Conclusion: The Syphilis IgM Health Check prototype provides robust detection of IgM antibody to *Treponema pallidum* in early syphilis infection and once complete, will provide clinicians a rapid test to support diagnosis of congenital syphilis providing for more rapid initiation of treatment.

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EVALUATION OF A POINT-OF-CARE PCR STI TESTING DEVICE AMONG YOUNG WOMEN IN SOUTH AFRICA

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Background: Globally, adolescent girls and young women (AGYW) experience a significant burden of sexually transmitted infections (STIs) and STI-associated sequelae; however, in many settings, syndromic management remains the standard of care. As part of ARISE, a prospective cohort study evaluating STI testing and expedited partner therapy among symptomatic and asymptomatic cisgender women in Johannesburg, South Africa, we evaluated the performance characteristics of a single-use point-of-care (POC) PCR test for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC) and *Trichomonas vaginalis* (TV).

Methods: From March to November 2023, we collected vaginal swabs, provider-collected or self-collected, for POC PCR testing (Visby Medical™ Sexual Health Test) from a subset of ARISE participants at enrollment and quarterly follow-up visits, in addition to provider-collected endocervical swabs for per-protocol STI testing with GeneXpert (Cepheid). We assessed validity and reliability by calculating sensitivity, specificity, and concordance-Cohen's kappa, between the POC PCR test and GeneXpert (as the gold standard) for CT, GC, and TV, overall and stratified by vaginal swab collection method.

Results: A total of 216 vaginal swabs were analyzed, of which 97 were provider-collected and 119 were self-collected. The overall sensitivity, specificity, and kappa for the POC PCR test were CT: 95.2%, 90.2%, 0.81; GC: 100%, 97.5%, 0.86; and TV: 100%, 86.9%, 0.41. Performance characteristics for provider-collected swabs (CT: 96.7%, 100% 0.98; GC: 100%, 100%, 1.0; TV: 100%; 97.6%, 0.85) and self-collected swabs (CT: 93.9%, 82.6%; 0.68; GC: 100%, 95.4%, 0.78; TV: 100%, 77.6%, 0.21) were generally similar, with slightly lower sensitivity and kappa for self-collected swabs.

Conclusion: Sensitivity and specificity of this single-use POC PCR test were high, with similar sensitivity between self-collected and provider-collected samples. Greater access to POC STI testing platforms is urgently needed to facilitate STI testing among symptomatic and asymptomatic individuals, treat STIs, and prevent STI-associated sequelae among AGYW.

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P104

HOW COMPLEX IS POOLED TESTING FOR STI DETECTION? A NEW METRIC TO EVALUATE ITS IMPLEMENTATION

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Background: Pooled testing has long been used to test large-volume clinical specimens for sexually transmitted infections. The reason is because fewer tests are needed on average by using pooled testing rather than when testing each specimen separately. There are many strategies to implement pooled testing. The simplest is to pool specimens and test this pool for a pathogen. If the pool is negative, the corresponding individuals represented within it are declared negative. If the pool is positive, portions of the same specimens are retested separately to determine a positive/negative outcome for each individual. Other strategies exist to implement pooled testing. And, many of these strategies are much more efficient (i.e., result in fewer tests). However, more efficiency can come with more complexity when implementing a strategy.

Methods: We developed a new statistical metric to represent complexity for pooled testing. This metric is found for the previously described strategy (formally known as “Dorfman testing”) and also other strategies, such as matrix pooling. We constructed a web-based app (www.chrisbilder.com/app) to compute this metric that provides a user-friendly interface for those without statistical experience. The R statistical software package provides the underlying calculation environment.

Results: We applied the metric to a simulated setting motivated by how testing for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) is performed in Iowa. We showed that modest gains of efficiency (approximately 5%) can be obtained by using matrix pooling rather than the current practice of Dorfman testing. However, matrix pooling is 52% (60%) more complex than Dorfman testing for CT (GC) detection.

Conclusion: Our proposed metric gives laboratories a new tool to examine pooled testing prior to being put into practice. This metric provides an analytical way to evaluate different strategies so that one can determine whether efficiency gains from a strategy are worth an increase in complexity.

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P105

BD ELIENCE POC CT/GC MOLECULAR ASSAYS FOR THE RAPID DETECTION OF CHLAMYDIA AND GONORRHEA INFECTIONS IN MALE AND FEMALE PATIENTS AT THE POINT-OF-CARE IN LESS THAN 20 MINUTES

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Background: In 2022, the CDC reported >2.3 million chlamydia and gonorrhea cases nationally. The BD Elience POC CT/GC – Urine and Vaginal Assays and instrument* are fully automated rapid molecular in vitro diagnostic tests utilizing Archaeal Polymerase Amplification for the qualitative detection of nucleic acids from *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (GC) in point-of-care and clinical laboratory settings in under 20 minutes from male urine and vaginal swab specimens.

Methods: In a prospective clinical simulation study, first catch male urine specimens were collected between November 2022 and March 2023 from symptomatic and asymptomatic participants at four collection sites and stored frozen. Aliquots were prepared to test with the BD Elience POC CT/GC Urine assays* and reference assays. The composite molecular comparator was calculated using the results from Cepheid Gene Xpert CT/NG, BD ProbeTec Q^xCT and GC assays on Viper LT, and BD MAX CTGCTV2 (two out of three algorithm).

In a benchmarking study against other CT/GC assays, a contrived model was used leveraging frozen vaginal swabs from asymptomatic donors spiked with quantified CT and GC target stocks at four clinically relevant titers.

Results: For BD Elience POC CT/GC Urine assays*, a PPA of 93.94% (CI 79.8-99.3%) and a NPA of 99.4% (CI 96.7-99.8%) were reported for CT, and a PPA of 96.6% (CI 82.2-99.99%) and NPA of 100% (CI 98.26-100%) were reported for GC.

For CT and GC detection, BD Elience POC Vaginal assay* achieved comparable performance to on-market POC platforms, Binx i/o CT/NG assay, and Visby Medical Sexual Health, with BD MAX CTGCTV2 assay as reference.

Conclusion: The BD Elience POC CT/GC-Urine and Vaginal Assays and instrument* aim to provide clinically relevant results for CT and GC infections in male and female populations in less than 20 minutes.

**Note: The BD Elience POC platform is in development and not FDA-cleared*

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P106

EVALUATION OF MALDI-TOF ON GC CULTURE TURNAROUND TIME, DENVER, CO, 2021-2023

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Background: Culture with antimicrobial susceptibility testing remains the most effective laboratory method to identify antimicrobial resistant gonorrhea (ARGC). However, the time required for gonorrhea (GC) culture limits its impact on clinical care and public health response. The use of matrix assisted laser desorption ionization-time of flight (MALDI-TOF) mass spectrometry for bacterial identification can reduce culture processing time. We evaluate the impact of MALDI-TOF on GC culture turnaround time (TAT) in the Colorado Strengthening the United States Response to the Resistant Gonorrhea (SURRG) Project.

Methods: Colorado SURRG retrospectively compared the average GC culture TAT in the pre-MALDI-TOF period (April 1, 2021 – April 27, 2022) using VITEK 2 for GC identification to the post-MALDI-TOF period (June 1, 2022 – May 30, 2023). TAT was defined as the number of days from culture collection to completion of GC antimicrobial susceptibilities. Cultures collected August 12, 2021 – October 27, 2021 (n = 171) were excluded due to a national shortage of Thayer-Martin agar plates. TAT analyses included stratification by clinic location and specimen collection site. Statistical analysis was performed in R with comparisons of TAT using t-test.

Results: There were 470 and 512 positive GC cultures included during the pre-MALDI-TOF and post-MALDI-TOF periods, respectively. The average TAT pre-MALDI-TOF was 4.66 days (95% CI: 4.59-4.73). The average TAT post-MALDI-TOF period was 3.67 days (95% CI: 3.61-3.74). There was a one-day decrease in GC culture TAT with the use of MALDI-TOF (p-value <0.005). MALDI-TOF reduced the TAT of GC culture for STD and non-STD clinics and at all anatomical sites of culture collection.

Conclusion: MALDI-TOF improves time to identification of cultured GC isolates and thereby provides antimicrobial susceptibilities to clinicians and public health staff one day faster than the previously used technology. MALDI-TOF enhances local capacity for the rapid identification and public health response to ARGC.

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P107

CORRELATION BETWEEN DISK DIFFUSION AND AGAR DILUTION RESULTS WHEN TESTING GEPOPIDACIN AGAINST NEISSERIA GONORRHOEAE

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Background: Gepotidacin is a novel, first in class, triazaacenaphthylene antibacterial that inhibits bacterial type II topoisomerases by a unique mechanism of action, a distinct binding site and for most pathogens provides well-balanced inhibition of two different Type II topoisomerase enzymes. Gepotidacin recently completed a Phase III clinical trial to assess its effectiveness for the treatment of patients with uncomplicated urogenital gonorrhea. This study determined the correlation between gepotidacin disk diffusion zone diameters (ZD) and MICs by agar dilution using *Neisseria gonorrhoeae* isolates collected between 2018-2021.

Methods: A total of 711 clinical isolates of *N. gonorrhoeae* were collected from sites in (n/percent of total): US (298/41.9), Australia (300/42.2), and India (133/15.9). A common inoculum was used to concurrently test the isolates against gepotidacin by disk diffusion using two disks (10 µg) manufactured by BD BBL and Mast Group Ltd and by agar dilution per CLSI guidelines. The combined data was analyzed by error-rate bounded method to select provisional ZD breakpoints (based on population distribution data only and not pharmacokinetic/pharmacodynamic or clinical data) using the dBETS software (CLSI M23).

Results: MICs for gepotidacin ranged from ≤ 0.06 to 2 µg/mL with MIC_{50/90} value of 0.5/1 µg/mL. The range of ZD was 22–50 mm. The correlation coefficient (R^2 value) between MIC and ZD was 0.28, which may reflect the low number of isolates with elevated gepotidacin MICs. Error-rate bounded analysis using tentative preliminary gepotidacin MIC breakpoints of $\leq 1/2/\geq 4$ (Susceptible/Intermediate/Resistant [S/I/R]) suggested provisional disk diffusion ZD breakpoints of ≥ 27 mm (S)/23-26 (I)/ ≤ 22 mm (R). These breakpoints resulted in no very major or major errors, acceptable minor errors in the I+1 to I-1 range (20.2%) and the $\leq$ I-2 range (0.6%), and an Index score of 0.252.

Conclusion: Error rates were within acceptable CLSI limits. These provisional breakpoints should be re-evaluated as additional nonclinical and clinical data become available.

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P108

PAIRING SYNTHETIC IMAGE GENERATION WITH DISEASE CLASSIFICATION MODELS: SYNERGISTIC MACHINE-LEARNING APPROACHES PERMIT RAPID DEVELOPMENT OF DIGITAL DIAGNOSTIC TOOLS

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Background: Machine-learning models for disease classification have the potential to transform many domains of clinical medicine. Development of those models, however, depends on large image databases, which are not available for many diseases, labor- and time-intensive to develop, and difficult to access due to patient privacy protections. Pairing classification models with synthetic image generation may overcome the barriers to developing classification models, and permit their use in numerous contexts.

Methods: Using 10 images of penises with human papilloma virus (HPV)-related disease, we trained a denoising diffusion probabilistic model. Pairing that model with a text-to-image model with text descriptors for a range of HPV-related disease presentations, we generated 630 synthetic images. Those images were assessed by an expert clinician for plausibility and quality, resulting in 500 synthetic images, which were used to train a downstream Vision Transformer model. We then assessed the model's performance on 70 clinical images of penises with HPV-related disease, 70 on diseases other than HPV (herpes simplex virus (HSV) (n=30), primary syphilis (n=20), penile cancer (n=10), penile eczema (n=5), and penile psoriasis (n=5)), and 70 penile images without disease, calculating recall (or sensitivity), precision, specificity, and F1-score, as well as the Area Under the Receiver Operating Characteristics Curve (AUC).

Results: The model correctly classified 64 of 70 images of HPV-related disease, with a recall (or sensitivity) of 91.4% (94% CI 82.3% – 96.8%). The precision of the model for HPV-related disease was 95.5% (95% CI 87.5% - 99.1%), and the F1-score was 93.4%. The model AUC was 93.1% (95% CI 88.3% - 97.9%).

Conclusion: We paired denoising diffusion probabilistic modeling with a text-to-image model to produce synthetic images based on minimal initial input, which we used to train a downstream disease classification model. That classification model demonstrated excellent performance for classifying images of penile pathology.

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P109

COMPLETION OF SYPHILIS DOXYCYCLINE REGIMENS DURING THE BENZATHINE PENICILLIN G (BPG) SHORTAGE, BALTIMORE CITY, MARYLAND.

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Background: Since July 20, 2023, the CDC has recommended use of 14- and 28-day doxycycline regimens for syphilis treatment for non-pregnant people to preserve limited supplies of BPG. On July 26, 2023, the Baltimore sexual health clinics implemented protocols to prescribe doxycycline for syphilis management for non-pregnant people. The objectives were to determine syphilis treatment completion rates during vs. pre-BPG shortage and identify characteristics associated with doxycycline treatment completion.

Methods: We reviewed sexual health clinic patients who underwent syphilis management between January 1 – December 31, 2023. Treatment completion was defined as documentation of one (for early syphilis/prophylactic treatment) or three (for late latent syphilis) 2.4 MU BPG injections or self-reported completion of prescribed doxycycline regimen. Chi-squared tests compared treatment completion rates across time periods (pre-shortage: January 1 – July 25, 2023; during-shortage: July 26 – December 31, 2023) and by demographic and clinical characteristics.

Results: In 2023, 540 patients underwent syphilis management (pre-shortage: 294; during-shortage: 246). Across the two periods, patients did not differ significantly by demographics or syphilis stage. During-shortage, 81.3% (200/246) were prescribed doxycycline and 13.4% (33/246) BPG vs. 8.2% (24/294) prescribed doxycycline and 83.7% (246/294) BPG pre-shortage ($p < 0.0001$). Treatment completion was lower during- vs. pre-shortage (63.9% vs. 37.0%, $p < 0.0001$). Among the 200 prescribed doxycycline during-shortage, treatment completion was confirmed for 35.0% (70/200), confirmed as not completed for 5.0% (10/200) and unknown for 60.0% (120/200). Confirmed doxycycline treatment completion was higher among those with early syphilis (53.4%, 31/58) compared to late syphilis (23.4%, 19/93) and those treated prophylactically (31.3%, 15/48) ($p < 0.001$), but did not differ by demographics, HIV status, or HIV/PrEP-care engagement.

Conclusion: Documented syphilis treatment completion rates declined two-fold during vs. pre-BPG shortage period. Treatment completion was unknown for most patients prescribed doxycycline, necessitating additional follow-up. Monitoring for impacts of potential decreased syphilis treatment rates also is needed.

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P110

SYPHILIS TREATMENT REGIMENS IN CALIFORNIA DURING THE 2023 BENZATHINE PENICILLIN G SHORTAGE

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Background: Benzathine penicillin G (BIC) is the recommended treatment for syphilis, delivered intramuscularly. Doxycycline is an alternative oral treatment for non-pregnant people. In April 2023 the U.S. FDA announced a BIC shortage. We compared syphilis treatment regimens before and during the BIC shortage.

Methods: We assessed treatment regimens documented for syphilis infections in California (excluding neurosyphilis and LA and SF counties) from July-December 2022 to July-December 2023, and by stage and gender using Pearson's chi-squared.

Results: In July-December 2022 and July-December 2023, 10,550 and 8,790 syphilis infections were identified, respectively. Treatment with doxycycline increased (9% to 38%), and BIC decreased (76% to 41%) comparing July-December 2022 to July-December 2023 ($p < 0.0001$); this was true for early (doxycycline 10% to 40%, BIC 84% to 53%) and late, unknown duration syphilis (9% to 37%, 70% to 34%) and among cisgender men (9% to 40%, 77% to 39%), cisgender women (10% to 34%, 75% to 45%), and transgender, gender non-conforming, and non-binary people (TGNCNB) (8% to 48%, 82% to 44%) ($p < 0.0001$). During the BIC shortage (July-December 2023), a significantly higher proportion of cisgender women received BIC compared to cisgender men (44% vs. 39%, $p < 0.0001$); BIC treatment did not differ significantly for TGNCNB (46%) compared to cisgender men or women ($p > 0.05$). A significantly higher proportion of cisgender men (40%) and TGNCNB (48%) received doxycycline compared to cisgender women (33%) ($p < 0.001$). Doxycycline treatment did not differ significantly between TGNCNB people and cisgender men ($p > 0.05$).

Conclusion: Doxycycline was used more often, and BIC was used less often to treat syphilis during the 2023 BIC shortage compared to 2022, and differences in treatment regimen were noted by key stratifications. Given doxycycline requires adherence to 14- or 28-day course compared to injectable BIC, increased doxycycline use during BIC shortages could impact syphilis cure and transmission rates and should be evaluated.

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P111

TIME TO SYMPTOM RESOLUTION AND ASSOCIATED FACTORS IN UGANDAN MEN WITH URETHRAL DISCHARGE SYNDROME: IMPLICATIONS FOR STI MANAGEMENT

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Background: Sub-Saharan Africa shoulders a disproportionate burden of curable sexually transmitted infections (STIs) and HIV. The objectives of this study were 1) estimate time from treatment to symptom resolution (time to resolution (TTR)) in Ugandan men with urethral discharge syndrome (UDS), and 2) examine the association between sociodemographic and behavioral factors and TTR.

Methods: 250 men with UDS were recruited at health centers in Kampala, Uganda. Participants underwent HIV and syphilis testing at the clinics and urogenital samples were retrospectively analyzed for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Mycoplasma genitalium* (MG), *Trichomonas vaginalis* (TV) using Aptima NAATs (Hologic Inc., Marlborough, MA, USA). Demographic and behavioral data were collected. After enrollment, participants received follow-up calls at 7, 14, and 21 days, to assess symptom resolution, antibiotic adherence, and sexual behaviors. Differences between participants by symptom resolution at Day 14 were determined by Fisher Exact test, Wilcoxon rank-sum test, Chi-squared test, and Welch's t-test as appropriate. Additionally, univariate and multivariate accelerated failure time (AFT) models were used to describe associations between participant factors and TTR as a continuous variable.

Results: Of 239 (95.6%) participants who completed follow-up surveys, 37 (16%) did not have symptom resolution 14 days post-enrollment and treatment initiation. Delayed TTR was associated with previous episodes of UDS in the prior six months (2.0 vs. 1.4, $p=0.010$) and when CT/NG/MG/TV tests were negative (35% vs. 15%, $p=0.004$). These relationships held true when controlling for potential confounders including prior microbial use, possible reinfection following sex post-enrollment, treatment non-adherence, HIV status, and other behaviors associated with increased risk of STI.

Conclusion: Delayed TTR was associated with prior UDS episodes, but the underlying mechanisms, e.g., reinfection or treatment failure, warrant further exploration. Intriguingly, negative tests for common STI pathogens were associated with delayed TTR, suggesting the possibility of other unidentified pathogens, false negative NAATs, or alternative pathologies.

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P112

IMPROVING ANTIMICROBIAL STEWARDSHIP: THE IMPLEMENTATION OF POINT OF CARE CHLAMYDIA AND GONORRHEA NUCLEIC ACID AMPLIFICATION TESTING (NAAT) IN AN URBAN STI CLINIC

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Background: The Centers for Disease Control and Prevention (CDC) has named drug-resistant *Neisseria gonorrhea* as an urgent antibiotic resistance threat in the United States. This study evaluated the implementation of on-site point of care NAAT gonorrhea and chlamydia testing at a public, urban STI clinic and its subsequent effects on antimicrobial stewardship.

Methods: Point of care urine NAAT chlamydia and gonorrhea testing was done for men presenting with symptoms of urethritis and/or testicular pain. If test results were positive for either infection, patients were treated according to CDC's STI treatment guidelines. If chlamydia and gonorrhea were both negative, the patient was treated for non-gonococcal urethritis (NGU) with doxycycline 100 mg BID for 7 days or no treatment. We then analyzed the relative reduction in doses of ceftriaxone administered compared to the routine standard of care of providing empirical urethritis treatment.

Results: Chlamydia and gonorrhea NAAT point of care testing was performed on 40 males with symptoms of urethritis and/or testicular pain from January - March 2024. 3 of the patients tested positive for gonorrhea and were treated with one dose of intramuscular ceftriaxone 500 mg. 2 of the patients tested positive for chlamydia and were treated with oral doxycycline 100 mg BID x 7 days. 35 of the patients tested negative for both chlamydia and gonorrhea. Of those patients, 22 were treated with only doxycycline 100 mg BID x 7 days for NGU. One patient was treated with azithromycin 1 g for NGU. 14 patients were not treated with any antibiotics. The relative reduction of ceftriaxone doses administered was 93% when compared to the standard of care practice.

Conclusion: Point of care NAAT chlamydia and gonorrhea testing for symptomatic urethritis in male patients in an urban STI clinic improves antimicrobial stewardship by minimizing empiric administration of intramuscular ceftriaxone.

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P113

EFFICACY AND SAFETY OF ORAL GEPOTIDACIN FOR UNCOMPLICATED UROGENITAL GONORRHEA: HIV AND OTHER SUBGROUP ANALYSES FROM A RANDOMIZED PHASE 3 TRIAL (EAGLE-1)

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Background: A Phase 3 trial (EAGLE-1) demonstrated that oral gepotidacin, a first-in-class triazaacenaphthylene bactericidal antibiotic, was efficacious in treating uncomplicated urogenital gonorrhea (uUGC) and had a safety profile consistent with Phase 1/2 data. Prespecified efficacy and safety subgroup analyses are presented.

Methods: EAGLE-1 (NCT04010539) was a Phase 3, randomized, open-label, sponsor-blinded, non-inferiority trial comparing two doses of oral gepotidacin (3000mg) with intramuscular ceftriaxone (500mg) plus oral azithromycin (1g) for the treatment of uUGC. Microbiological success was defined as culture-confirmed eradication of *Neisseria gonorrhoeae* from the urogenital body site at test-of-cure (Day 4–8). Unable-to-determine microbiological data (e.g. missing data, non-study antibiotic use) at test-of-cure were considered microbiological failure. Microbiological success was evaluated by participant HIV-status, geographic region, sex/sexual orientation combination, multiple body sites of infection (yes/no), and *Chlamydia trachomatis* and/or *Mycoplasma genitalium* co-infection, amongst others.

Results: Of 628 participants enrolled, 559 (89%) were male, 439 (70%) men who have sex with men, 69 (11%) female, and median age was 32 years. 406 met criteria for the microbiological intent-to-treat population and were included in efficacy analyses. Across subgroups, microbiological success rates were generally similar between the gepotidacin and ceftriaxone/azithromycin arms. Among participants with (n=78) and without (n=318) HIV, microbiological success rates were 38/43 (88.4%) and 147/155 (94.8%) in the gepotidacin arm, respectively. Microbiological success rates were 31/35 (88.6%) and 149/163 (91.4%) in ceftriaxone/azithromycin arm, respectively. There were no cases of urogenital bacterial persistence in any subgroup. All failures were due to unable-to-determine outcomes. AEs were more common in the gepotidacin arm irrespective of subgroup, driven by gastrointestinal events. AEs were mostly mild-to-moderate in nature.

Conclusion: Overall, gepotidacin consistently demonstrated high levels of microbiological success irrespective of sex/sexual orientation combination, geographic region, bacterial co-infection, and HIV. No new safety concerns were identified. Gepotidacin has potential as a novel oral treatment for uUGC in key patient populations.

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P114

PILOT STUDY OF LINEZOLID FOR EARLY SYPHILIS TREATMENT

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Background:

Syphilis, a genital ulcerative disease, remains a prominent sexually transmitted disease that disproportionately affects men who have sex with men (MSM) and increasingly cis-gender women. Linezolid is an FDA-approved, safe, low-cost, oral antibiotic that crosses the blood-brain barrier. A recent study showed that linezolid 600 mg, once a day for five days, was 70% effective in treating syphilis cases, showing that longer duration treatment may be necessary. We aimed to assess the efficacy of linezolid 600mg, twice a day for 10 days for the treatment of early syphilis.

Methods:

We are conducting a randomized, non-comparative, pilot study. We aim to enroll a total of 24 patients (18 linezolid, 6 penicillin) with early syphilis from Chicago, Illinois, and Jackson, Mississippi. The experimental arm receives oral linezolid 600 mg twice daily for ten days, while the control arm receives benzathine penicillin G 2.4 million units intramuscularly once. The main outcome is a ≥ 4 -fold RPR titer decline by 180 days after treatment. Participants are monitored for clinical outcomes and serological response with 1-month, 3-month, and 6-month follow-up visits after enrollment.

Results: Currently, a total of six out of 24 participants are enrolled in the study; three are in the linezolid arm, and three are in the penicillin arm. All participants had early latent syphilis. All participants receiving linezolid adhered 100%. One penicillin participant (enrollment RPR 1:16, 3-month RPR 1:2) and one linezolid participant (enrollment RPR 1:64, 3-month RPR 1:16) completed their 3-month follow-up. No serious adverse reactions have been reported.

Conclusion:

Alternative treatment options for syphilis are urgently needed to address ongoing shortages of benzathine penicillin and for individuals allergic to penicillin.

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"I DON'T SEE MYSELF AS A GATEKEEPER": DOXY-PEP KNOWLEDGE, ATTITUDES AND PRACTICES AMONG HEALTHCARE PROVIDERS IN NEW YORK

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Background: Doxycycline post-exposure prophylaxis (Doxy-PEP) can prevent STIs. Despite its efficacy, CDC guidance remains preliminary and incorporation into provider practice has been limited. Few studies have assessed provider knowledge, attitudes, and practices (KAP) regarding Doxy-PEP. We studied KAP among healthcare providers in New York State, which ranks 14th, 15th, and 22nd for chlamydia, gonorrhea, and syphilis incidence in the US, respectively.

Methods: Between July 2023-January 2024, 18 in-depth, semi-structured interviews were conducted with healthcare providers including infectious disease physicians (n=8), adolescent medicine physicians (n=2), an emergency medicine physician (n=1), nurse practitioners (n=4), and physician assistants (n=3). We analyzed transcripts according to KAP constructs, which were iteratively refined to identify the following five themes: STI Incidence/Disparities (Knowledge), Doxy-PEP Experience (Knowledge), Doxy-PEP Benefits (Attitudes), Doxy-PEP Concerns (Attitudes), and Doxy-PEP Implementation Challenges (Practice Implications).

Results: Providers recognized the national rise in STIs and attributed this to impacts of COVID-19 and disparities in both sexual health education and access to prevention services. Doxy-PEP knowledge was high: all providers were aware of Doxy-PEP; most (78%) prescribed it to patients. Knowledge gaps included counseling approaches for patients with daily exposures. Doxy-PEP benefits included its potential to reduce stigma and anxiety among patients. Doxy-PEP concerns included its potential contribution to antimicrobial resistance. Implementation challenges included competing priorities and difficulties obtaining prior authorization for prescriptions.

Conclusion: This sample of New York providers were aware that STI incidence is increasing nationwide and reflects larger disparities in access to healthcare and health information. Further, they welcomed the addition of Doxy-PEP among available STI prevention strategies. Concerns about antimicrobial resistance were common. Accordingly, providers indicated the need for Doxy-PEP to be targeted to patients with a history of recurrent STIs who remain vulnerable to reinfection. However, they also expressed discomfort with being “gatekeepers”, by withholding or restricting access to Doxy-PEP especially when requested by patients.

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P116

COMMUNITY DISPENSING OF DOXYPEP IN THE DISTRICT OF COLUMBIA

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Background: Doxycycline post-exposure prophylaxis (DoxyPEP) is a preventative treatment for chlamydia, syphilis, and gonorrhea proven effective for men who have sex with men (MSM) and transgender women (TGW) meeting certain criteria. Mid-Atlantic Leather Weekend (MAL) is an annual 3-day fetish event catering to thousands of gay, bisexual, and other men who have sex with men (GBMSM) held in Washington, DC. DoxyPEP education and starter packs were provided to interested MAL attendees as a bacterial sexually transmitted infection (STI) prevention intervention.

Methods: During MAL 2024, clinicians provided STI education and counseling, took brief medical histories, and dispensed six 100 mg tablets of Doxycycline (3 doses of DoxyPEP). Name, date of birth, and limited contact information were obtained to establish clinical care for those receiving DoxyPEP. A 5-question follow-up survey was sent via text a month after MAL to assess DoxyPEP knowledge, behaviors, and subsequent STI diagnoses.

Results: During MAL 2024, 419 GBMSM were provided DoxyPEP starter packs. Of those, 358 (85.4%) received a follow-up survey via text (61 records were incomplete or illegible) and 67 (18.7%) responded. The majority (n=50, 74.6%) reported knowing about DoxyPEP prior to MAL, 53 (79.1%) reported taking DoxyPEP during MAL (1.9 mean doses taken; range: 1-3 doses), and 60 (89.6%) had discussed or planned to discuss DoxyPEP with their primary care provider after MAL. The most reported reason for not taking DoxyPEP was not having unprotected sex during MAL. Only 1 respondent (1.5%) reported being diagnosed with an STI (chlamydia) after MAL and this person reported not taking DoxyPEP during MAL.

Conclusion: MAL 2024 attendees were interested in learning more about DoxyPEP, including receiving DoxyPEP starter packs. MSM and TGW may benefit from increased community outreach and direct DoxyPEP dispensing. Providing DoxyPEP education to medical providers in parallel with community outreach may also increase DoxyPEP knowledge and utilization.

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IS DOXY-PEP RIGHT FOR ME? PILOTING A NOVEL PATIENT DECISION AID IN AN URBAN AMBULATORY CLINIC

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Background: Utilizing doxycycline as post-exposure prophylaxis (Doxy-PEP) requires shared decision-making between patients and providers. Patient decision aids (PDAs) are tools that help patients and providers talk together about care options. We piloted a Doxy-PEP PDA to assess its impact on the knowledge and attitudes of participants considering Doxy-PEP and its ability to be implemented in the clinical setting.

Methods: The PDA was iteratively developed by New York Presbyterian-Columbia sexual health providers and coordinators and reviewed by our sexual health research group. Participants assigned male at birth and with at least one STI in the past 12 months were eligible for enrollment. After enrollment, participants completed a pre-intervention questionnaire covering Doxy-PEP attitudes, knowledge, and experiences. The intervention involved 5-10 minutes of provider counseling using the PDA. Participants then completed a post-intervention questionnaire re-assessing knowledge and attitudes, as well as the intervention's acceptability, appropriateness, and feasibility.

Results: 18 participants were enrolled. 33% self-identified as white, 89% as cisgender men, 89% as gay or bisexual and 17% as living with HIV. At enrollment, 28% had taken Doxy-PEP from a provider or friend. After the intervention, there was a positive change in most attitude categories, including a 32% increase in familiarity, 26% in comfort, 14% in safety and 8% in efficacy. There was a 16% increase in Doxy-PEP knowledge. 89% found the intervention acceptable, appropriate, and feasible.

Conclusion: Using a PDA among participants undergoing a brief counseling session in a sexual health clinic increased their familiarity, comfort with, and knowledge of Doxy-PEP. They found this intervention acceptable, appropriate, and feasible. New sexual health interventions may benefit from the use of formally evaluated PDAs to enhance patient-provider communication. Further research is needed to see if this intervention could be delivered by non-provider staff and whether its use has impacts on Doxy-PEP effective use.

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EXAMINING THE LEGAL AUTHORITY FOR PHARMACIST-ADMINISTERED DOXYCYCLINE AS POST-EXPOSURE PROPHYLAXIS (DOXY PEP): A COMPARATIVE LEGAL ANALYSIS OF ANALOGOUS PUBLIC HEALTH PRACTICES

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Background: Pharmacist-administered doxycycline post-exposure prophylaxis (PADP) could improve STI prevention. Despite parallels with expedited partner therapy (EPT), naloxone, and pharmacist-initiated pre-exposure prophylaxis (PI-PrEP) and post-exposure prophylaxis (PI-PEP) for HIV, no state currently authorizes PADP. PADP could be authorized under pharmacist collaborative practice agreements (CPAs), which expand pharmacist scope of practice under physician collaboration/supervision. This study investigates legal frameworks for PADP-like interventions.

Methods: We examined operational characteristics of EPT, PI-PrEP, PI-PEP, and naloxone, for physician involvement, diagnostic requirements, subject matter (sexual health, STI, or other), and feasibility of CPA policies authorizing PADP. We also assessed the existence of these PADP-analogous policies across states.

Results: Only PADP and EPT are explicitly STI-focused, and only naloxone lacks a sexual health focus. Receipt of confirmatory diagnosis is not required prior to administration of PADP, PI-PEP, and naloxone, although testing recommended prior to PADP and PI-PEP could limit pharmacist practice. EPT and PADP address bacterial infections; apprehensions about antibiotic overuse and resistance may be specific to STI-related interventions where confirmatory diagnoses (as exist with EPT) clearly indicate exposure and necessity of treatment. Physicians are involved with EPT, and generally provide oversight of PI-PrEP and PI-PEP, but not naloxone. CPAs could authorize PADP in an operational characteristic-neutral manner, although PADP is outside the scope of these policies in most jurisdictions. Across states, the prevalence of policies varies from universal (naloxone; available over-the-counter in all states), nearly universal (EPT; permissible in 46 states but 22 states include additional pharmacy-related barriers, e.g., prescription labeling), to less common (PI-PrEP and PI-PEP, authorized in 17 states).

Conclusion: Operational alignment of, and legal authority for, analogous interventions may illustrate PADP acceptability within jurisdictions, informing policy development. EPT policies may be especially relevant due to their STI focus, although EPT and PADP may differ in important ways in terms of antibiotic stewardship.

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IMPLEMENTING DOXYPEP: A NEW OPPORTUNITY FOR STI PREVENTION IN A HEALTH DEPARTMENT PREP CLINIC

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Background: For many years, HIV pre-exposure prophylaxis (PrEP) has been known as a safe and efficacious method of HIV prevention among populations at risk of HIV acquisition. However, rates of other STIs remain high among these same groups. Recent studies using doxycycline as post-exposure prophylaxis (PEP) have shown reduced incidence of the bacterial STIs chlamydia, gonorrhea, and syphilis.

Methods: Patients receiving routine HIV PrEP services in a local county health department PrEP clinic were provided counseling on DoxyPEP as a method of prevention for chlamydia, gonorrhea, and syphilis. A retrospective chart review was conducted to evaluate multiple variables related to patients' sites of exposure, use of DoxyPEP, and incidence of STIs before and after starting DoxyPEP.

Results: Of the 95 patients seen for a PrEP visit from September 1 – November 30, 2023, 94 were eligible for and counseled on DoxyPEP. 85 (90%) chose to start DoxyPEP. In 2022, 60 of the 85 patients were tested for bacterial STIs at least once in the PrEP clinic and 26 (43%) had at least one positive result. In 2023, all 85 patients were tested at least once prior to starting DoxyPEP and 40 (47%) had at least one positive result. 72 (85%) patients returned for their 3-month follow-up. Of those, 68 (96%) had taken at least 1 dose of DoxyPEP. 7 of those 68 (11%) had at least one positive test result for a bacterial STI since starting DoxyPEP. There were no reported side effects. Anecdotal reports indicate both patient and provider acceptability.

Conclusion: Overall, DoxyPEP was favorably received and there was a reduction in incidence of chlamydia, gonorrhea and syphilis. An existing relationship with the PrEP provider and categorical STD clinic likely facilitated DoxyPEP uptake. Ongoing surveillance should add further clarity to additional factors influencing uptake and reduction in bacterial STI acquisition.

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STAPHYLOCOCCUS AUREUS TETRACYCLINE RESISTANCE AND ASSOCIATED RESISTANCE TO OTHER ANTIBIOTICS IN A DOXY-PEP-ELIGIBLE POPULATION

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Background: Doxycycline post-exposure prophylaxis (doxy-PEP) decreases the incidence of bacterial sexually transmitted infections (STIs) among men who have sex with men and transgender women (MSMTW). However, doxy-PEP may select for increased tetracycline resistance and associated co-resistance to other antibiotics. The extent of tetracycline resistance and co-resistance in *Staphylococcus aureus* in MSMTW are unknown.

Methods: We performed a retrospective analysis of all *Staphylococcus aureus* cultures collected in people assigned male at birth who were either HIV-positive or prescribed HIV-PrEP, 18 or older, and receiving care at two tertiary care centers in Boston, MA between May 2015 and May 2022. Unique episodes of infection were defined as all positive cultures collected from a patient within a 14-day period. We analyzed rates of resistance defined by the CLSI mean inhibitory concentration (MIC) breakpoints to common anti-staphylococcal antibiotics among tetracycline-resistant (TET-R) vs tetracycline-susceptible isolates (TET-S). We tested for significance with Fisher's exact test and corrected for multiple comparisons.

Results: Among 534 patients, 837 unique isolates of *S. aureus* were identified. Of 834 isolates with tetracycline MICs, 707 (84.8%) were susceptible, 4 (0.5%) were intermediate, and 123 (14.7%) were resistant to tetracycline. Of TET-R specimens, 12.2% were resistant to doxycycline, compared to 0% of tetracycline-susceptible TET-S specimens ($p = < 0.001$); 54.1% of TET-R specimens and 43.7% of TET-S specimens were resistant to oxacillin ($p = 0.15$), 20.3% of TET-R specimens and 9.8% of TET-S specimens were resistant to trimethoprim-sulfamethoxazole ($p = 0.007$), and 35.0% of TET-R specimens versus 11.1% of TET-S specimens were resistant to clindamycin ($p < 0.001$).

Conclusion: In doxy-PEP eligible patients at two Boston hospitals, *S. aureus* tetracycline resistance is associated with higher rates of resistance to common anti-staphylococcal antibiotics. Selection for tetracycline resistance may increase the prevalence of more antibiotic-resistant *S. aureus* in this population.

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PERCEPTIONS ABOUT DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXY-PEP) AS AN STI- PREVENTION STRATEGY AMONG SEXUAL MINORITY MEN (SMM) IN THE UNITED STATES: RESULTS FROM A QUALITATIVE STUDY

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Background: Bacterial sexually transmitted infections (STIs) are on the rise in the United States, with sexual minority men (SMM) experiencing disproportionately high rates of STIs. Doxycycline post-exposure prophylaxis (Doxy-PEP) is a novel biomedical STI-prevention strategy that involves taking one dose of 200-mg doxycycline within 24 hours (and no later than 72 hours) after condomless sex, effectively reducing the risk of acquiring bacterial STIs. The Centers of Disease Control and Prevention (CDC) released draft guidelines for Doxy-PEP as an STI-prevention strategy in October 2023; though official guidelines have not been released. Little is known about Doxy-PEP's acceptability in the U.S., nor how best to engage those most vulnerable to STIs in taking up this nascent prevention strategy. To that end, this study leverages qualitative data to explore SMM's perceptions about Doxy-PEP.

Methods: Between July and September of 2023, twenty-four cisgender men from across the U.S. completed qualitative interviews about their perceptions regarding Doxy-PEP. Participants were asked if they knew about Doxy-PEP, if they would be interested in using Doxy-PEP, what they liked about Doxy-PEP, and their concerns regarding it as an STI-prevention strategy. Interviews were audio-recorded, transcribed verbatim, and analyzed using thematic approach.

Results: The sample's mean age was 34.58 years and nearly 70% of the sample were people of color. One participant had been prescribed Doxy-PEP. Participants were generally interested in using Doxy-PEP, but were concerned about the potential for antibiotic resistance, side-effects, medication interactions, along with the potential for stigmatizing discourse to occur around its use. Meanwhile, participants were motivated by Doxy-PEP's simplicity, and the protection it could confer on both an individual and community-level— along with its potential to reduce STI-related anxiety. Finally, participants desired additional information on Doxy-PEP to address their concerns.

Conclusion: There is a need for clearer guidelines and expanded public health messaging on Doxy-PEP in the United States.

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THE LEGAL ENVIRONMENT FOR PHARMACIST SCOPE OF PRACTICE IN PROVIDING STI PREVENTION AND TREATMENT SERVICES

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Background: Addressing increases in sexually transmitted infections (STIs) requires innovative approaches. Pharmacists are uniquely positioned to offer critical STI services due to their consumer acceptability and accessibility. This study examines the legal environment for pharmacists' scope of practice (SoP) and payment in US STI prevention and treatment across states.

Methods: Laws across all 505 states and the District of Columbia as of October 2023 were reviewed to assess pharmacists' ability to interpret and deliver test results, administer injectable medications, and dispense prescription medications for expedited partner therapy (EPT). Relevant law was identified using LexisNexis. All laws were categorized, and state pharmacy associations and boards of pharmacy utilized in legal interpretation.

Results: The patchwork of state policies is the biggest barrier to large scale implementation of STI care in pharmacies. Pharmacists' SoP for STI screening, testing, and treatment, including EPT, varies by state. At least 23 states grant a pharmacist the necessary level of collaborative or independent authority to perform these services. Pharmacists can administer injectable antibiotics in 37 states (72.5%), pursuant to a CPA in 4 (states (7.8%)), and this authority is unclear in 1 state. Pharmacists are authorized to dispense antibiotics under a prescription for EPT in 49 states (96.1%).

Conclusion: The legal landscape for pharmacist involvement in STI prevention and treatment varies widely between topics and across states, highlighting opportunities and barriers to expanding their role in public health. By understanding the legal environment within states, strategies can be developed for engaging pharmacists in STI prevention. This analysis also provides for interjurisdictional comparisons for jurisdictions wishing to increase the role of pharmacists in states where pharmacists do not have authority to provide these STI services. The benefit of expanding pharmacists' scope of practice to include STI testing, and treatment could be significant to reducing new cases of STIs.

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P123

OPPORTUNITIES FOR MEDICAID MANAGED CARE PLANS TO ADDRESS BACTERIAL STIS

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Background: Medicaid is a dominant payer for STI services for lower-income Americans, and most enrollees are in managed care organizations (MCOs). We previously investigated how Medicaid can better address the persistent epidemics of bacterial STIs, with specific attention to congenital syphilis; the role of community health workers; and social determinants of health. The current project explores specific policy and program levers for Medicaid MCOs, specifically, to better address STIs.

Methods: We reviewed all state contracts for Medicaid MCOs and provider manuals for the highest-enrollment plans. We conducted key informant interviews with national experts on Medicaid, STIs, and managed care; and with a geographically representative set of Medicaid MCOs.

Results: STIs are not currently a top priority for most Medicaid MCOs, but they have many levers available to better address STIs. Medicaid MCOs have considerable flexibility to adapt their existing payment and service delivery approaches to better address STIs. The majority of states require MCOs to have performance improvement projects, and plans are aggressively working to promote best practices, particularly in the prenatal and postpartum periods. MCOs can offer incentives to providers to deliver STI care, and may also choose to provide patient incentives for receiving preventive, prenatal, or postpartum care, along with supports to address barriers to care. MCOs may also be able to use their more flexible funding mechanisms to support nontraditional STI-related needs such as OTC condoms or STI tests, or to support non-clinical community-based organizations. In addition, the recent expansion of the postpartum eligibility period to 12 months in nearly all states gives MCOs, along with broader state Medicaid programs, an opportunity to address STIs, sexual health, and other health needs in a more sustained way.

Conclusion: Public health stakeholders and STI service providers can approach Medicaid MCOs in their state to identify opportunities for collaboration, service support, and performance improvement.

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P124

USE OF PATIENT INITIATED ELECTRONIC VISITS (E-VISITS) TO INCREASE ACCESS TO SEXUALLY TRANSMITTED INFECTION TESTING AND PREVENTION SERVICES IN AN INTEGRATED HEALTH SYSTEM

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Background: In the integrated health system Kaiser Permanente Northern California (KPNC), a sexual health electronic visit (E-visit) was launched in 2/2022. In addition to other sexual health services, the E-visit allows users to request sexually transmitted infection (STI) screening, including self-collected extra-genital swabs for gonorrhea and chlamydia and opt-in HIV testing, and referrals for pre-exposure prophylaxis for HIV prevention (PrEP) evaluation. Members with symptoms are referred to a regional call center. Lab orders and PrEP referrals are generated automatically at completion of the E-visit. Treatment of identified infections is undertaken by the user's primary care doctor.

Methods: STI testing rates and demographic data were collected for the cohort of KPNC members who obtained STI testing via the E-visit between the launch 2/2022 and 12/2023. A separate collection over the same date range was performed on members who obtained STI testing via other mechanisms including telephone, video, office, or emergency department visits, between the E-visit launch 2/2022 and 12/2023.

Results: During the study period, over 120,000 members used an E-visit and over 650,000 members obtained STI testing via other pathways. Younger members (age 18-34 years) were more likely to use the E-visit. Black members appear more likely to use the E-visit to complete testing compared with other ethnicities. E-visit use was similar among men and women and among members from various geographic locations in Northern California, including urban, suburban, and rural locations. E-visit users completed pharyngeal testing for gonorrhea and chlamydia more frequently than rectal testing. Tests ordered from the E-visit had a higher rate of positivity for urogenital chlamydia than those ordered through other mechanisms.

Conclusion: An E-visit is a feasible adjunctive method to provide STI screening services and reaches a different demographic group than telephone, office, and emergency department-based care.

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INCREASING STI/HIV PREVENTIVE BEHAVIORS AND ADDRESSING COMMUNITY-PRIORITIZED SOCIAL DETERMINANTS OF HEALTH AMONG YOUNG GBQMSM AND TRANSGENDER WOMEN OF COLOR: OUTCOMES FROM THE PILOT OF IMPACT TRIAD, A BILINGUAL MULTILEVEL INTERVENTION

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Background: STIs and HIV disproportionately affect young people; gay, bisexual, queer, and other men who have sex with men (GBQMSM); transgender women; and persons of color. Our community-based participatory research (CBPR) partnership developed and implemented *Impact Triad*, a bilingual multilevel intervention that harnesses peer navigation and mHealth to increase STI/HIV preventive behaviors and address four community-prioritized social determinants of health (education, employment, social support, and discrimination) among young African American/Black and Latine GBQMSM and transgender women.

Methods: Fifteen community-based peer navigators were trained to serve as “community navigators”/“navegantes comunitarios” and were supported for 12 months. Each worked with 5 enrolled social network members in-person and via social media. Social network participants completed baseline and immediate post-intervention follow-up assessments. The retention rate was 97.3%. In this single-arm study, regression modeling was used to assess the change in outcomes between baseline and follow-up with random intercepts for participants and navigators.

Results: Seventy-four social network members enrolled; mean age was 27.8 (range=18-34); 61% identified as African American/Black, 31% as Latine, and 8% as multiracial; and 26% reported being born outside of the US. The majority self-identified as male, and 8% as transgender female; 78% identified as gay. Half reported monthly income below \$1,000.

Compared to baseline, at immediate post-intervention follow-up, social network members significantly increased: STI ($P=.001$) and HIV screening ($P=.001$), condom use ($P=.03$), and PrEP uptake ($P=.02$). Participants also increased knowledge of PrEP ($P<.0001$) and of community-based educational ($P=.047$), job training ($P=.002$), and job-finding resources ($P=.02$). Social support increased ($P<.0001$) and perceived discrimination decreased ($P<.01$).

Conclusion: Evidence-based strategies are needed to reduce risks and increase health equity among sexual and gender minority populations. *Impact Triad* was efficacious in increasing STI/HIV preventive behaviors and addressing social determinants of health within a sample of young GBQMSM and transgender women of color. *Impact Triad* is ready for rigorous evaluation.

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P126

“I JUST HAVE A QUICK QUESTION” – REACHING TOWARDS ENDING THE HIV EPIDEMIC GOALS THROUGH ELECTRONIC MEDICAL RECORD SECURE GROUP MESSAGING

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Background: The Ending-The-Epidemic (EtE) initiative calls for diagnosing all persons with HIV, linking and retaining persons living with HIV to maximize viral suppression, and facilitating access to pre-exposure prophylaxis (PrEP) for patients vulnerable to HIV. While most providers agree these are important population health goals, they frequently do not receive training on HIV care or prevention and don't have dedicated time for these efforts. The EPIC secure group chat functionality provides a unique opportunity for rapid, low-barrier, questions and referrals to comprehensive sexual health services. In Northern Manhattan, a three-hospital system created EPIC secure chat groups to field questions and referrals from all settings. We describe the use of EPIC group chat and services provided.

Methods: Messages received by the HIV/HCV coordination group chat (HIV/HCV) and sexual health program group chat (SHC) from October 15, 2023, to February 15, 2024, were retrospectively reviewed. Message characteristics were collected including date/time, message setting, message reason, patients' HIV status, and services provided including social work/care coordination, medications, or appointments.

Results: 87 messages (0.7 messages per day) were received in 123 days; this includes 59 (68%) to the HIV/HCV chat and 28 (32%) to the SHC. Chats came from all care settings; ED (39%), inpatient (38%), and outpatient (23%). The most common reason for outreach included initial linkage or re-linkage to HIV care (55%), linkage to STI and prevention care (15%), and positive results (HIV test 7%, STI test 9%). The response team was able to arrange for social work for 43% of patients, appointments for 34%, and medications for 20%.

Conclusion: The EPIC secure group chat allows for patient care providers to immediately connect to receive advice or refer patients while simultaneously addressing barriers to testing and re-linkage to care. Further study is needed to determine if a secure chat approach is viable in all care settings.

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A DIGITAL SYNDEMIC APPROACH TO POSITIVE RECTAL STIS AND HIV PREVENTION IN COMMUNITIES OF COLOR

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Background: Contracting HIV increases by 300% in individuals with rectal chlamydia or gonorrhea. Given the urgent need for HIV prevention in individuals that can be met through Pre-Exposure Prophylaxis (PrEP), Healthvana, a digital client engagement platform, in collaboration with AIDS Healthcare Foundation, an HIV prevention provider, initiated a messaging program as part of clients' routine care. Following a positive rectal chlamydia or gonorrhea result, clients were immediately presented with a pleasure- or risk-based question asking whether they would like to start PrEP.

Methods: Between May and December 2023, 400 clients at a Los Angeles AHF clinic tested positive for rectal chlamydia or gonorrhea and received their results via Healthvana's platform. They were notified of their positive status and randomly assigned to receive either a pleasure-based message highlighting PrEP's role in enhancing sexual confidence or a risk-based message emphasizing its effectiveness in reducing HIV risk. Those who clicked "Yes" (options: Yes/No/Already on PrEP) to start PrEP were contacted within 2-3 days for an initiation appointment.

Results: Out of 400 clients messaged, 50 showed interest in PrEP, with 24 declining and 316 not responding (excluding 10 already on PrEP). Pleasure-based messages yielded higher engagement (21% vs. 16%) and more affirmative responses (75% vs. 56%) compared to risk-based messages, leading to more PrEP prescriptions (40% vs. 29%). Among the 41 respondents who shared demographic details, 52% were from Communities of Color, with 48% of these receiving PrEP prescriptions.

Conclusion: Automatically identifying good PrEP candidates through a syndemic approach, based on positive tests for rectal STIs, aids in HIV prevention and helps connect clients with PrEP. Our work also suggests that focusing less on risk may boost engagement in sexual health. Moreover, this model has shown how technology can mitigate access barriers for communities of color, who represented a majority of the contacted clients.

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USING TEXTING FOR COMMUNICABLE DISEASE OUTREACH: COVID-19 TO GONORRHEA

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Background: Automated texts generated from our surveillance system during the COVID-19 pandemic provided control measure information and automated anonymous contact notification, and linked people to resources, vaccine and treatment. Our goal was to transition this functionality to be useable for other urgent outreach settings, such as an outbreak of antibiotic-resistant gonorrhea, and for non-emergency use to support access to treatment and partner notification in North Carolina.

Methods: COVID-19 case outreach and contact tracing records were reviewed to understand what kind of engagement we might expect. We worked with our legal team to establish this process in a non-emergency setting. We created new fields to support gonorrhea texting, our automated contact tracing process was copied for gonorrhea and new landing pages with gonorrhea information were created.

Results: COVID-19 outcomes demonstrated that at least 80% of people with a valid phone number received a delivered text; between July 15-December 15, 2021, 1% of people with a delivered text (5,824) entered 10,733 contacts (1.8 contacts per person). A protocol for gonorrhea case outreach without prior opt-in was established. Risks were defined and law supporting text outreach to control communicable diseases without prior opt-in was identified and reviewed. We worked with our texting provider agency (Twilio) to establish public health texting without prior opt-in. We constructed our automated process for outreach including links to testing and treatment, the ability to enter contacts for automated anonymous notification, and an optional follow-up survey to collect risk information in our contact tracing software. The pilot is expected to run for three months starting in April 2024 and send texts to at least 500 people during the pilot.

Conclusion: In a public health emergency, public health agencies must be able to use texting as a tool for outreach without prior opt-in; gonorrhea outreach can serve as a useful pilot for this process.

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P129

CAMPUS CONFIDENTIAL: DECODING SEXUAL HEALTH EDUCATION FOR COLLEGE STUDENTS

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Background: Safe sexual practices are crucial in reducing the risk of Sexually Transmitted Infections (STIs). Previous studies have reported that individuals aged 16 to 24 are more at risk of developing STIs, as they are more likely to engage in unprotected sex and have multiple sexual partners. The purpose of this project is to evaluate how sexual health education was taught among college students to guide educational and outreach initiatives to prevent STIs.

Methods: This pilot quality improvement project utilized an anonymous survey to investigate the methods and approaches used in sexual education among college students served by an STI outreach unit of Forsyth County Department of public health in collaboration with the WFUSOM Sexual Health Awareness Group (SHAG). A total of 30 undergraduate and graduate students from local colleges in Winston-Salem, NC were included in this project.

Results: Among the 30 college student participants, 14 reported a comprehensive sexual education curriculum taught by their schools, with 25 being from public institutions. Among the topics discussed in sexual education in school, 90% of the participants reported discussing STIs and Development and Reproductive Anatomy, 83.3% discussed use of condoms while only 33.3% discussed use of dental dams.

Conclusion: Based on the project findings, it can be inferred that many college-aged individuals still require a more comprehensive sexual education. While the majority of participants reported knowledge on STIs, a small portion of participants had knowledge of dental dams while a larger portion reported knowledge of proper condom use, suggesting that a focus on additional methods of contraception in sexual education may be useful in reducing the incidence of STIs in this population. Educators need to enhance sexual education to address the diverse needs of college students and spread awareness of cost-effective birth control resources in the community to decrease the risks associated with STIs.

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LOS ANGELES COUNTY DPH CREATES A NO COST DELIVERY PROGRAM FOR PRIORITY POPULATIONS: A RESPONSE TO THE NATIONAL BICILLIN L-A SHORTAGE

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Background: Syphilis in persons of reproductive potential (PRP) continued to experience a dramatic resurgence in Los Angeles County (LAC), the incidence of congenital syphilis (CS) increased 17-fold from 8 cases in 2013 to 136 cases 2022. Treating a pregnant person for syphilis also treats their fetus and treating non-pregnant PRP can prevent future CS sequelae should she become pregnant. In late April 2023, the FDA announced a benzathine penicillin G (Bicillin L-A) shortage; lasting until the fourth quarter of 2024. Bicillin L-A is the only recommended treatment option for syphilis for persons infected or exposed during pregnancy. Healthcare providers (HCPs) should prioritize Bicillin L-A to protect neonates exposed to syphilis in utero. In response to shortage and surge in syphilis the LAC Division of HIV & STD Programs (DHSP) created a no cost Bicillin Delivery Program (BDP).

Methods: LAC-DPH/DHSP can help providers obtain no cost Bicillin utilizing the US Federal Government's 340b pricing program. LAC providers call the DPH Consultation Line to initiate the BDP. This program ensures Bicillin L-A to: 1) All pregnant LAC residents diagnosed with syphilis and 2) PRP and their partners. To qualify for BDP: 1) Provider must not carry Bicillin at their clinic, 2) Provider/patient cannot afford the cost of medication (average cost/injection \$621.15) and 3) Provider is willing to treat if provided with medication. Public Health Nurses deliver medication to clinic, provide education, and complete required documentation.

Results: Since BDP inception, 383 Bicillin L-A injections have been deployed free of cost to LAC medical providers/clinics. Preliminary surveillance for 2023 shows a 9-10% decline in CS, 123 cases in 2023 compared to 136 cases in 2022.

Conclusion: The ongoing Bicillin-LA shortage poses significant challenges to addressing syphilis in pregnancy and CS when the epidemic is at its peak. The BDP model demonstrates promising results to treat pregnant and non-pregnant PRP.

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COLORADO SURRG JOINT RESPONSE TO SUSPECTED GONORRHEA TREATMENT FAILURES, 2023

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Background: The Colorado Strengthening the United States Response to Gonorrhea (SURRG) project hosts the Colorado Center for Excellence for Gonorrhea, a virtual resource platform for healthcare providers (HCPs) and local public health agencies (LPHAs), that provides resources for managing difficult to treat gonorrhea (GC) . This service is a collaboration between the Colorado Department of Public Health and Environment (CDPHE) and Denver Health (DH).

Methods: Colorado SURRG directs HCPs and LPHAs to report suspected GC treatment failures to the National Network of Prevention Training Center's (NNPTC) STD Clinical Consultation Network (STDCCN) which is supported by DH's Denver Prevention Training Center or to the CDPHE disease reporting channel. Reports requiring clinical consultation are forwarded to the SURRG Medical Director. Simultaneously, a disease intervention specialist (DIS) interviews the patient and provides partner services. When indicated, the provider is instructed to collect GC nucleic acid amplification tests (NAATs) and/or cultures. Specimens are transported via CDPHE's state-wide courier network or via FedEx to the DH laboratory for processing and antimicrobial susceptibility testing. Consultation is extended until the patient's test of cure (TOC) is obtained and negative.

Results: In 2023, Colorado SURRG responded to 3 suspected treatment failure reports. The average time to respond for clinical consultation was 1 day (range 0-3). Patient interview and sexual history were obtained on 3 (100%) with 2 (40%) determined to be likely reinfection. Both GC NAAT and culture were obtained on 3 (100%) with 1 GC NAAT positive, and 1 GC culture positive. TOC was performed on 3 (100%). The average time to case closure was 13 days (range 7-23) and varied by patient availability for clinical evaluations.

Conclusion: By leveraging the STD CCN, state-wide resources and local expertise in antibiotic resistant GC (ARGC), Colorado SURRG provides timely and efficient response for difficult to treat GC infections as part of ARGC surveillance.

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COMPARING RESPONSE RATES FOR DAILY ECOLOGICAL MOMENTARY ASSESSMENT BY LEVEL OF MONETARY COMPENSATION AMONG URBAN SEXUAL MINORITY MEN

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Background: Ecological momentary assessment (EMA) can measure behaviors related to STI transmission risk in near real-time. However, the impact of participant compensation on response rates for daily EMA surveys is unclear. In preparation for a prospective network study of urban sexual minority men (SMM), we compared response rates between two groups that received different per-survey compensation.

Methods: We enrolled 40 cisgender SMM in a 4-week study between December 2018 and July 2019. Participants were assigned to one of two groups: higher compensation (Group A, n=20) and lower compensation (Group B, n=20). We asked participants to respond to study-initiated (push notification) surveys in a smartphone application twice weekly, and to submit self-initiated surveys once daily during the remaining 5 days per week. For each completed study-initiated survey, Group A received \$5 and Group B received \$3. For each day they completed a self-initiated survey, Group A received \$3 during weeks 1-2, and was not paid during weeks 3-4. Group B was not paid for self-initiated surveys. We used Wilcoxon rank sum tests to analyze response rates by compensation group for each survey type, and Wilcoxon signed rank tests to analyze response rates between weeks 1-2 and weeks 3-4 for self-initiated surveys by compensation group.

Results: Group A participants completed somewhat fewer study-initiated surveys than Group B, but the difference was not significant (Group A median=6 vs. Group B median=7.5, p=0.13). Group A (compensated) completed more self-initiated surveys than Group B (not compensated) (Group A median=14 vs. Group B median=5.5, p<0.01). When compensation was removed, Group A completed fewer self-initiated surveys (weeks 1-2 median=8 vs. weeks 3-4 median=6.5, p=0.02).

Conclusion: Among this sample of SMM, response rates to daily EMA surveys were higher when participants received compensation. However, the amount of compensation received per survey appeared to be less important.

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NAVIGATING PREVENTION IN RURAL COMMUNITIES: OKLAHOMA'S STATEWIDE CONDOM DISTRIBUTION PROGRAM

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Background: Oklahoma continually has high rates of STIs and high rural burden of HIV. With Oklahoma being mostly rural, access to basic prevention resources remains a challenge. As a result, a Condom Distribution Program was created by the Sexual Health and Harm Reduction Service (SHHRS) within the Oklahoma State Department of Health to increase access to free condoms and lube in rural areas and statewide. The program allows for online ordering and anonymous mail-based delivery to persons and facilities.

Methods: Facility addresses and person addresses were geocoded to assess participation across the state, utilizing SAS and ArcGIS for data analysis. SHHRS partnered with the Oklahoma HIV and Hepatitis Planning Council to expand website to enable online ordering. SHHRS has also leveraged funding from various federal sources: HIV prevention, hepatitis prevention and STI prevention. SHHRS is also working to improve quality of data collection by developing a REDCap tool.

Results: From 2020 to 2023, the number of condoms distributed to facilities by the program increased by more than five and a half times and included facilities in 46 of the 77 counties in Oklahoma. Similarly, the number of condoms distributed to individuals increased from 1,420 to 44,340. Oklahoma also had broad uptake by individuals geographically, with requests coming from 68 of the 77 counties. More specifically, 31.1% of condoms ordered were sent to persons living outside of the Oklahoma City and Tulsa Metropolitan Statistical Areas.

Conclusion: The condom distribution program in Oklahoma has been widely utilized across the state by both individual persons as well as facilities. SHHRS has also seen demonstrable increases in the number of requests since the program started. Facility addresses and person addresses were geocoded to assess participation across the state and SHHRS found strong participation from rural areas.

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MODEL-BASED ESTIMATES OF ONE-DOSE AND TWO-DOSE JYNNEOS VACCINE EFFICACY AGAINST MPOX USING SURVEILLANCE AND VACCINE ADMINISTRATION DATA ACROSS COUNTIES THAT HAD COMMUNITY TRANSMISSION OF MPOX

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Background: CDC recommends the two-dose JYNNEOS vaccine for gay, bisexual, and other men who have sex with men at increased risk of mpox infection. Estimates of vaccine effectiveness vary greatly from observational studies: 36%(95%CI 22-47) -75%(95%CI 61-84) for the first dose and 66%(95%CI 47-78) -89%(95%CI 44-98) for the second. Potential explanations of this variability include differences in (A) vaccine administration or exposure route, (B) study design, (C) vaccine administration timing relative to outbreak phase between jurisdictions, and (D) the vaccinated and unvaccinated people within jurisdictions (e.g., risk aversion or immunocompetence), among other possibilities.

Methods: We used mathematical modeling to derive model-based estimates of vaccine efficacy (per exposure reduction in susceptibility) from one (VE1) or two (VE2) doses of JYNNEOS. We used data across the 50 Ending the HIV Epidemic counties in the United States. This deterministic model was integrated into a Bayesian framework to estimate 3 county-specific transmission parameters (effective population size, force of infection, and initial number of imported cases—150 total parameters) and 3 shared outbreak control parameters (VE1, VE2, and temporal behavioral adaptations). Primary model inputs included weekly county-specific case-reports and vaccine-administration data from 10/2022 to 07/2023. We excluded 8 counties where the outbreak dynamics were indistinguishable from stochastic noise (i.e., <100 cumulative cases or <100 cases per 100,000 vaccine-recommended people).

Results: Our fitted model replicated each county's outbreak with error less than 8% of the observed cases on average. We estimated that VE1 was 40.1% (95%CI 36.1, 43.8%) and VE2 was 47.9% (95%CI 40.9, 54.7%).

Conclusion: This study provides the first model-based estimates of vaccine efficacy against mpox acquisition. These estimates represent highly conservative values since we permitted maximal behavioral adaptation. These model-based estimates of vaccine efficacy can inform preparedness activities for control scenario modeling, determining vaccine coverage goals, conducting qualitative and quantitative risk assessments, and planning and prioritization.

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P135

COMMUNITY-ENGAGEMENT TO REDUCE SYPHILIS MORBIDITY AMONG BLACK MEN WHO HAVE SEX WITH MEN (MSM) IN MARION COUNTY: EXAMINING THE ROLE OF SOCIAL DETERMINANTS OF HEALTH IN SYPHILIS ACQUISITION

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Background: Despite only representing 29.6% of the total population in Marion County, the Black non-Hispanic (NH) population represented 51% of all early syphilis cases, with MSM accounting for 54% of all early cases in 2021. Data from 2022 and 2023 suggest a downward trend in syphilis morbidity among MSM, from 54% to 34.3%, yet MSM and the Black NH populations still account for a large proportion of syphilis cases in Marion County. Research suggests Black MSM do not engage in riskier individual and interpersonal-level behaviors when compared to their White counterparts. These findings indicate higher level disparities operating at the community, societal, and structural levels; therefore, we conducted a literature review to examine social determinants of health to initiate discussion among a community advisory board (CAB) of Black MSM.

Methods: A narrative literature review was conducted through Google Scholar and APA PsycArticles between January – February 2024. The search aimed to include racial, gender, and sexual minorities with a focus on urban geographic locales with high syphilis and sexually transmitted infection morbidity.

Results: A total of 28 peer-reviewed articles were included in the narrative literature review exploring barriers to engaging in syphilis care and the historical context of structural bias, social inequities, and racism. The most frequently cited barriers to engaging in syphilis screening and treatment included the implications of low socioeconomic status (n=6), availability of resources (n=5), geographic location (n=2), anticipated stigma (n=6), enacted stigma (n=4), internalized stigma (n=1), and social support (n=4).

Conclusion: Understanding what barriers exist across the literature provides insight into future intervention strategies in reducing syphilis among Black MSM. The barriers identified in this review are not exhaustive and may differ across communities. Therefore, results will be used to initiate discussion among CAB members to determine salient barriers to engaging in syphilis care in Marion County.

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TRACKING THE LOCAL RISE AND FALL OF SYPHILIS CASES IN TANDEM WITH DISEASE INTERVENTION SPECIALIST RESOURCE ALLOCATION

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Background: The City of Milwaukee experienced a rapid uptick in syphilis cases starting in 2020 and has now reported the first significant decrease in primary and secondary syphilis cases in 2023. Syphilis' long incubation period offers a unique opportunity to disrupt community transmission with public health intervention. Allocation of Disease Intervention Specialist resources was markedly reduced in 2020 with the onset of the COVID-19 pandemic. There were 3.5 DIS completing syphilis case investigations in 2020 compared to 13.5 DIS in 2023.

Methods: Cases of primary, secondary, and latent syphilis in the City of Milwaukee are reported by year from 2018-2023. Data was extracted from the Wisconsin Electronic Disease Surveillance System and Sexually Transmitted Disease Management Information System. Data on DIS staffing was obtained from internal records and corroborated by DIS staff.

Results: Cases of primary and secondary (P&S) syphilis in the City of Milwaukee increased by 783% from 2018 to the peak in 2021. The proportion of P&S cases nearly doubled from 26% (n=52) in 2018 to 49% (n=459) in 2021 reflecting a surge in active community transmission. Due to reduced workforce and increased morbidity, DIS caseload rose by 196% (n=175) in 2021 compared to 2018 (n=59). Increased caseloads resulted in a 59% reduction in contact tracing in 2020 (n=140) from 2019 (n=339). Increased staffing amid the peak syphilis morbidity in 2022 expanded partner follow-up (n=369) and increased preventative treatment. The proportion of P&S syphilis cases have since fallen to 34% (n=294) in 2023.

Conclusion: Increased funding allowing the hiring of more disease intervention specialists led to expanded syphilis case management in May 2022. This expansion increased the number of contacts pursued and treated which may contribute to the 33% decline in primary and secondary syphilis cases in the City of Milwaukee from 2022 to 2023.

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THE ROLE OF PARTNER SERVICES IN HIV CLUSTER DETECTION AND RESPONSE: OUTCOMES, SUCCESSES, AND CHALLENGES

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Background: Partner services (PS) plays an important role in HIV cluster detection and response (CDR). Health department (HD) staff conducting PS are uniquely positioned to support cluster investigation and response by connecting cluster members and network members (partners) to HIV care, preexposure prophylaxis, and HIV and STI testing. We described CDR-related PS outcomes and highlighted relevant successes and challenges.

Methods: We explored data reported to CDC by CDC-funded HDs in 2023 using a mixed-methods approach. We examined key PS outcomes, including testing outcomes, from closeout cluster report forms (CRFs), through which HDs report CDR activities. We used inductive coding to identify common PS-related themes, successes, and challenges in HD programmatic documents submitted to CDC.

Results: In 2023, 25 HDs submitted closeout CRFs for 87 clusters, which included 2,132 cluster members and 466 network members initiated for PS. Of 232 network members tested for HIV, 7.8% tested positive. Among the 234 network members not tested, 33.8% were not located, 21.8% had previously tested positive, 18.4% were not tested for other reasons, 15.8% refused testing, 6.4% were located outside of the jurisdiction, 2.1% had unknown outcomes, and 1.7% were deceased.

Among the 60 CDC-funded HDs, common reported successes included ensuring cluster and network members were interviewed and referred to appropriate services, conducting enhanced PS (e.g., expanding interview questions to identify gaps in services), and training PS staff on CDR. Common PS-related challenges included competing priorities for staff, insufficient PS staffing, and unsuccessful partner elicitation.

Conclusion: These results highlight that CDR PS can identify new HIV infections and provide access to services among cluster and network members. While staffing is an ongoing challenge, PS plays an essential role in addressing the needs of communities affected by rapid HIV transmission. Addressing these needs can include providing testing and treatment for other STIs.

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THE APPLICATION OF A WEIGHTED LINEAR MODEL AS A VULNERABILITY INDEX TO GUIDE MPOX OUTREACH EFFORTS IN ORANGE COUNTY, FL-2023

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Background: Mpox (MPX) is an emergent, viral, rash-producing illness. Identified risk factors include coinfection with HIV, a recent sexually transmitted infection (STI), and men who have sex with men. The Jynneos vaccine may lower the risk and severity of MPX infection. After the recent multi-country outbreak of non-endemic MPX, the Florida Department of Health in Orange County (DOH-Orange), a county with previously elevated transmission, sought to maintain MPX outreach efforts and prioritize underreached populations at greater risk.

Methods: A weighted linear model was developed to characterize census tracts (CTs) of greatest vulnerability to MPX infections based on four explanatory variables. The rates of STIs, prevalence of HIV, past MPX infections, and Jynneos naivety rate all among each CT were incorporated into the model. Weights were assigned to coefficients based on the documented correlation of each variable to mpox incidence. These calculations were run for all CTs, and higher indices were prioritized for a geofenced social marketing campaign to promote DOH-Orange immunizations and HIV/STD testing services. In addition, higher indexed CTs were targeted by epidemiology strike teams for public health intervention.

Results: The model resulted in the top 10% of CTs, ranked by index and clustered immediately around the downtown Orlando Area. These areas were subsequently covered by eight geofences. There was a 120% increase in Jynneos doses administered after the launch of the geofencing campaign which reached 868,000 impressions, mostly through mobile applications.

Conclusion: Using risk factors identified from the 2022 multi-country outbreak of MPX, a weighted linear model informed the vulnerability of CTs within Orange County. The CTs were prioritized for a geofenced social marketing campaign. There was a coincident increase in community uptake during the campaign period. Despite limited resources, the application of this model may be beneficial for other public health agencies to specifically target underreached and at-risk populations.

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IT ISN'T WHAT YOU KNOW, IT IS WHO YOU KNOW. EPIDEMIOLOGIC TREATMENT OF CONTACTS TO CHLAMYDIA TRACHOMATIS AND/OR NEISSERIA GONORRHOEAE IN SEXUALLY TRANSMITTED INFECTION CLINIC PATIENTS FROM 5 U.S. CITIES, STI SURVEILLANCE NETWORK, JANUARY 2021-JUNE 2023

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Background: Treatment of sex partners of persons diagnosed with chlamydia (CT) or gonorrhea (GC) without a confirmed infection likely results in overuse of antibiotics, contributing to antimicrobial resistance. We characterized treatment practices among CT and GC contacts in six STI clinics participating in the STI Surveillance Network.

Methods: We conducted a cross-sectional analysis of clinic visits of patients reporting being CT and/or GC contacts from 1/1/2021-6/30/2023. Visits were evaluated by sex and sex of sex partners (women, men who have sex with men [MSM], men who have sex with women only [MSW]), symptoms, and same-day CT/GC testing and treatment with an antimicrobial appropriate for each diagnosed pathogen. Overtreatment (contacts who were tested/treated but subsequently tested negative) was the primary outcome.

Results: Of 114,997 visits, 6,306 (6%) CT contact and 4,013 (4%) GC contact visits were identified. Among CT contact visits, 2,002 (32%) were among MSM, 2,977 (47%) among MSW and 1,327 (21%) among women. Among GC contact visits, 2,343 (58%) were among MSM, 986 (25%) among MSW and 684 (17%) among women. In 65% of the CT and 68% of the GC contact visits, same-day test results were subsequently negative, regardless of same-day treatment. Symptomatic contacts were tested and treated (93%, 95% confidence Interval (CI) 92-94%) more often than those without symptoms (88%, 95% CI 86-88%). CT overtreatment did not differ across the three groups (MSM 53%, 95% CI 51-55%); MSW 50%, 95% CI 48-51%; women 51%, 95% CI 48-53%). However, GC overtreatment was higher among MSM (39%, 95% CI 37-41%) vs. MSW (15%, 95% CI 14-16%) and women (14%, 95% CI 12-15%).

Conclusion: Overtreatment occurred in more than half of CT contact visits. Although GC overtreatment was less common, over a third of MSM were overtreated. Implementation of sensitive point-of-care tests may be useful in balancing individual clinical care while optimizing antimicrobial use.

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PERFORMANCE OF AUTOMATED CASE CREATION, REPORTING, AND CLOSURE OF CHLAMYDIA AND GONORRHEA CASES IN FLORIDA

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Background: In 2022, the Florida Department of Health (FDOH) implemented procedures to automate the processing of electronic laboratory results (ELR) for chlamydia (CT) and gonorrhea (GC). A pre-implementation model estimated that automation would significantly reduce manual data entry by automatically closing 259,418 (45%) CT/GC ELR that either did not meet the surveillance case definition or that were not prioritized for investigation, resulting in substantial time savings for FDOH personnel (11,040 hours saved). We used post-implementation ELR results to compare observed time savings to modeled outcomes.

Methods: We used CT/GC ELR data reported to the FDOH in December 2022 for the post-implementation model and multiplied the counts by 12 to estimate annualized data. ELR from 2019–2021 were used for the pre-implementation model. Post-implementation ELR results were compared to pre-implementation model predictions (i.e., record closed, requires field investigation, reported with no investigation). Time and cost savings were estimated by assuming one minute for each step that was automated, \$50,000 salary for each full-time equivalent (FTE) employee, and 2,080 annual work hours per FTE.

Results: In total, 44,723 CT/GC ELR, extrapolated to 536,676 ELR annually, were processed using automation, and 65% were automatically closed. Of those determined to be a new infection (15,808 of 44,723 CT/GC ELR), the implemented procedures auto-closed and reported 66% (10,418 of 15,808) of all CT/GC ELR that did not require field investigation, similar to the 67% (259,418 of 386,763) expected based on the pre-implementation model. The implemented procedures would save an estimated 16,140 hours and \$388,000.

Conclusion: Post-implementation evaluation of automation procedures for CT/GC ELR demonstrated high alignment with the pre-implementation model for case closure and reporting new infections. The pre-implementation model under-estimated time savings; automation resulted in greater observed time savings than expected.

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LOW CASE-FINDING FROM SYPHILIS PARTNER SERVICES IN KING COUNTY, WA

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Background: While partner services (PS) are traditionally a core component of public health efforts to control syphilis, its effectiveness in addressing the current epidemic is uncertain. We evaluated case-finding efficacy of PS and how PS may have helped index cases receive syphilis treatment.

Methods: We analyzed routinely collected syphilis PS data for King County, WA from 2023 and compared to outcomes observed in 2017. Analyses evaluated the following indices measured per interviewed index case: contact (partners named), epidemiologic (partners treated) and brought-to-treatment (infected partners treated). We assessed how many index cases were treated after their PS interview. Analyses were stratified into the following groups: cisgender (cis-) men and transgender or non-binary persons who have sex with men (MSM/trans/NB); cis-men who have sex with women (MSW); and cis-women.

Results: In 2023, 1,662 cases of syphilis were reported, of which 1,094 (66%) were initiated for PS and 464 (28%) were interviewed. DIS initiated 31% (225/716) of cases in MSM/trans/NB persons, of whom 42% (95) were interviewed. Among MSW/cis-women, DIS initiated 94% (741/787) of cases, of which 45% (355) were interviewed. In 2017, the contact, epidemiologic, and brought to treatment indices, respectively, were as follows: MSM/trans/NB (1.04, 0.53, 0.10), MSW (0.68, 0.32, 0.09), cis-women (1.31, 0.42, 0.19). In 2023, compared to 2017, all three indices among all three populations declined: MSM/trans/NB (0.24, 0.04, 0.02), MSW (0.46, 0.09, 0.06), cis-women (0.59, 0.13, 0.06). Only 21 partners, 13 diagnosed with syphilis, and 72 (16%) index cases were treated after DIS interviews.

Conclusion: Syphilis PS indices have declined substantially in King County. Syphilis PS seldom lead to partner treatment, with the lowest success occurring in MSM/trans/NB index cases. PS facilitate index case treatment in some cases. Among other jurisdictions with similar outcomes, health departments should investigate modifying their approach to PS and investing in alternative syphilis case-finding activities.

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**DREAMING BIG: ADVANCING STD/HIV DISEASE INVESTIGATION USING CALIFORNIA
CONFIDENTIAL NETWORK FOR CONTACT TRACING (CALCONNECT)**

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Background: The COVID-19 pandemic response brought a wave of technological advances for public health. In 2020, California Department of Public Health (CDPH) developed CalCONNECT (California Confidential Network for Contact Tracing), a Salesforce-based platform developed to support case investigation and contact tracing activities with modernized features at the scale necessary for COVID-19.

Methods: In September 2023, CDPH announced expansion of CalCONNECT to include integrated STD/HIV Case and Contact Investigation Records. The CDPH Sexually Transmitted Diseases Control Branch (STDCB) and Office of AIDS (OA) are actively collaborating to leverage CalCONNECT functionality and develop a case management and partner services module that will significantly improve STD/HIV disease investigation outreach capabilities, workflow efficiency, outbreak management and real-time data accessibility.

Results: Key CalCONNECT functionality includes: SMS capabilities that can send one-way “informational” messages or two-way surveys to clients; integrated softphone with real-time access to translation services; custom list views that support rapid triage by aiding the identification and assignment of priority records (e.g., pregnant persons diagnosed with syphilis and infants; persons co-infected with syphilis and HIV; persons out-of-care for HIV); integration with statewide vaccine registries; ability to create investigation teams and make within-system referrals to improve patient care coordination (e.g., HIV care/PrEP or Doxy PEP navigators; prenatal/maternal care coordinators); tools to support cluster/outbreak management at the LHJ-level or within specific settings (e.g., schools; workplaces; households); and user-ability to create custom reports or dashboards reflecting real-time CalCONNECT data that support timely assessments of staff workload, disease investigation outcomes and epidemiological trends.

Conclusion: CDPH will share key findings identified by overburdened public health staff as essential to improve the timeliness and reach of STD/HIV disease investigations and promote workflow efficiencies. This information may help to inform other jurisdictions looking to implement state-of-the-art case management IT infrastructure. The anticipated minimum viable product roll-out for syphilis and HIV is Summer 2024.

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USING AUTOMATED SURVEILLANCE CLOSURE TO INCREASE EFFICIENCY OF STI HANDLING

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Background: Second in volume to Chlamydia reporting, gonorrhea cases have steadily increased during 2018 (227 per 100,000 persons) to 2022 (255 per 100,000). To manage the rise in gonorrhea and other STIs, and make the most efficient use of staff time, the NC DPH developed an automated case closing protocol in the reportable disease surveillance system, NC EDSS.

Methods: Our data set included confirmed and probable gonorrhea cases, reported by paper lab report, electronic lab report (ELR), and other means. NC EDSS, a Maven-based system, was programmed to automatically close gonorrhea cases with complete case data and full documentation of CDC-recommended treatment at 30 days following the date of creation. Case handling outcomes for cases created prior to or during the period and closed during or after the period were compared for a two-month period prior to (April-May 2023, “pre-autoclose”) and a two-month period following implementation (September-Oct 2023, “post-autoclose”).

Results: Similar numbers of cases were open during both periods (pre-autoclose: 3,976; post-autoclose, 4,126). The mean time of report to CDC decreased by 17 days (pre-autoclose: 40 days; post-autoclose: 23 days). This decrease was similar for cases reported by ELR (75% of cases) (from mean of 41 to 22) and cases entered by staff (from mean of 39 to 23). Staff reported more opportunity to clean and improve case data, including initiating work with local health department staff closer to case creation date. More capacity to identify common errors with reassignment of cases, demographics, clinical findings, and treatment have fostered training opportunities.

Conclusion: The goal of this automated approach was to improve case handling and reporting efficiency. As cases rise, funding for sexually transmitted disease surveillance remains level and salaries rise, this automation supports a reasonable workload for the staff we have and serves as a pilot for automated case closing for other conditions.

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P144

IMPACT OF AUTOMATED PRIORITIZATION OF CHLAMYDIA AND GONORRHEA ELECTRONIC LABORATORY RESULTS ON FLORIDA DEPARTMENT OF HEALTH SEXUALLY TRANSMITTED DISEASE PROGRAM METRICS

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Background: The Florida Department of Health (FDOH) receives approximately 500,000 chlamydia (CT) and gonorrhea (GC) results through electronic laboratory reporting (ELR), of which 65% do not meet the CT/GC surveillance case definition. FDOH implemented automated CT/GC ELR processes to triage and prioritize case records for follow-up based on sexually transmitted disease (STD) program priorities (e.g., pregnant females, enhanced gonorrhea surveillance projects, FDOH clients), resulting in deprioritized cases being closed and reported to the Centers for Disease Control and Prevention (CDC) automatically. We assessed the impact of improvements made by the automated processes to CT/GC event records on a variety of timeliness metrics.

Methods: We compiled CT/GC ELR results from January–April 2022 (pre-implementation) and January–April 2023 (post-implementation). We examined the timeliness of disposition, closure, and reporting to the CDC for cases and disposition and closure for non-cases, using the ELR received date as the reference point. Due to staffing reorganization related to the enhanced gonorrhea surveillance project, all ELR results for these cases were excluded. We used ANOVA to determine differences (post-implementation vs pre-implementation) in mean times calculated for cases and non-cases.

Results: Pre-implementation, CT/GC ELR results included 44,584 cases and 11,401 non-cases, compared to 47,656 cases and 82,439 non-cases post-implementation. CT/GC cases were, on average, dispositioned (mean difference of 0.8 days 95% CI 0.7-0.9), closed (1.1 days 95% CI 1.0-1.2), and reported to the CDC (1.4 days 95% CI 1.3-1.5) quicker with automation. Slight improvements were observed with non-cases as well. Non-cases were closed and dispositioned (mean difference 0.2 days 95% CI 0.17-0.20, 0.1 days 95% CI 0.12-0.15, respectively) quicker with automation.

Conclusion: Automated prioritization of CT/GC ELR results improved program timeliness metrics overall, allowing program staff to respond to priority cases quicker. Further evaluation of CT/GC automation may describe the impact of time savings on treatment and disease intervention.

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P145

CAN PARTNER NOTIFICATION REDUCE POPULATION-LEVEL GONORRHEA INCIDENCE? MODEL-BASED ANALYSIS OF KEY DETERMINANTS OF INTERVENTION IMPACT

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Background: Limited estimates exist on population-level impact of partner notification (PN) for gonorrhea with uncertainty in the influence of local epidemiology on PN effectiveness. An ecological study in New York found a 6% reduction in diagnoses with a 10% increase in PN coverage. We modelled reductions in gonorrhea incidence through use of PN under varying epidemiological conditions to compare effect sizes to this prior estimate and understand key determinants of variation.

Methods: We developed a stochastic network model of men who have sex with men and calibrated gonorrhea transmission dynamics to varied epidemiological conditions. Calibration targets were prevalence, incidence, diagnosis rate, and proportion diagnosed with symptoms (2-10% prevalence and 2-23% incidence). We captured parametric and stochastic uncertainty. Population-level impact of increasing PN was summarized by incidence rate ratios (IRRs), and relative importance of explanatory variables (including network density, baseline burden, natural history parameters) was assessed via linear regression modeling of IRR, considering calibrated parameters as independent variables, and bootstrapping to evaluate uncertainty in estimation.

Results: Modeled effect sizes were compatible overall with the previous ecological study. We estimated IRR of 0.97 (95% range 0.93-0.99) for a 10% relative increase in PN coverage, comparable to the IRR of 0.94 (0.91-0.97) identified in the prior study. PN retained effectiveness under diverse epidemiological conditions. The strongest correlates of variation in the estimated IRR were parameters governing index case testing probability, with higher testing probability associated with higher impact. In univariate sensitivity analysis maximum testing frequency for symptomatic or asymptomatic patients yielded estimated IRRs of 0.92 (0.90-0.94) or 0.93 (0.93-0.94), respectively. Network density, baseline incidence and other natural history parameters had relatively modest effects on IRR.

Conclusion: Improved understanding of the contextual factors that influence the effectiveness of PN can inform more effective programming, and be useful in benchmarking impact across varied settings.

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DIFFERENCES IN SYPHILIS PARTNER SERVICES OUTCOMES AMONG ASYLUM SEEKER AND NON-ASYLUM SEEKER SEX AT BIRTH FEMALES, CHICAGO, IL

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Background: Between 01/01/2023 - 12/31/2023, Chicago saw an influx of asylum seekers (AS) from the southern border. Among this population, 106 new syphilis cases were reported among sex at-birth females (SABF) and referred to Partner Services (PS) staff at the Chicago Department of Public Health (CDPH) for follow-up. During this time-period, 600 new cases were reported among non-asylum seeker SABF Chicagoans that were referred for follow-up. The objective of this evaluation was to assess differences in PS outcomes.

Methods: Cases of syphilis were reported to the Chicago Health Information Management System and assigned based on syphilis reactor-grid and PS matrix that prioritizes SABF of reproductive age. From 05/2020 to present, CDPH PS team conducts telephonic case investigations & interviews. Outcomes were based on CDC-defined syphilis case dispositions.

Results: Among non-AS cases (n=600), 56.0% were dispositioned C (Brought to Treatment) or E (Previously Treated), 38.2% were D (Infected, Not Treated), and 3.0% were missing a disposition. Common reasons for D dispositions included: unable to locate (UTL) (48.5%), active/passive refusals (23.6%), and unable to confirm treatment (9.2%). For AS cases (n=106), 42.5% were dispositioned C or E, 49.1% were D, and 4.7% were missing an outcome. Most common reasons for D dispositions included: UTL (59.6%), active/passive refusals (19.2%), provider refusing to treat (7.7%), and unconfirmed treatment status (7.7%). Differences between AS and non-AS by disposition were significant at 0.1 alpha-level (p-value=0.053) using Fisher's exact test.

Conclusion: AS clients had a 13.5% lower frequency of C and E dispositions than non-AS. When comparing rationale for D dispositions, each population listed the same factors, however a higher proportion of AS were UTL (+11.1%) and refused intervention less often (-4.4%) than non-AS, indicating this disparity may be from difficulties reaching this population through current methods. There is a need to conduct in-person field investigations to improve PS outcomes.

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PARTNER SERVICE AUTOMATED-CLOSURE INCREASES THE VERIFICATION OF PARTNER TESTING

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Background: After launching an anonymous digital Partner Service (PS) tool in 2016 and booking module in 2018, the closure of PS remained a challenge for the Disease Intervention Specialist (DIS) prompting the development of an automated follow up questionnaire in 2021; however, it was not known how it would support the DIS team. We therefore evaluated the engagement with and utility of this new service for PS closure.

Methods: Data from English services using the digital PS tool in 2023 was analysed focussing on partners verified tested by four different routes and filtered for the index patients who were sent a link to inform partners using the PS tool on their cell phone and subsequent receipt of a follow-up questionnaire. Analysis included clinics, infection(s) and index patient demographics.

Results: The digital PS tool was used with 20155 index patients across 54 clinics and a PS tool link was sent to the majority (15294, 76%). The gender, age, sexuality and diagnosed sexually transmitted infections were comparable in index patients regardless of PS tool enrolment; however, more heterosexuals were recorded in index patients who were not sent the link. The 15294 index patients had a total of 14606 partners verified as seen and tested (0.96 partners/index (P/I)) of these 2578 partners were verified at PS initiation (0.17 P/I), 4170 partners had testing verified via the digital PS software (0.29 P/I), 5270 of verified partners were reported via the follow-up questionnaire sent to the index patient (0.36 P/I) and 2588 of the confirmed partners were recorded by the DIS during the follow-up call (0.18 P/I).

Conclusion: The digital PS tool was able to complement the DIS team and verified two thirds of the tested partners. Further developments are required in increase digital PS tool enrolment, optimise engagement and support the DIS to target their follow-up calls.

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IMPACT OF AUTOMATED PROCESSING OF ELECTRONIC SYPHILIS LABORATORY RESULTS ON FLORIDA DEPARTMENT OF HEALTH SEXUALLY TRANSMITTED DISEASE PROGRAM METRICS

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Background: The Florida Department of Health (FDOH) receives tens of thousands of syphilis electronically reported laboratory results (ELR) for individuals both meeting and not meeting (e.g., serofasting/seroreverting, discordant results, duplicated results) the syphilis surveillance case definition. FDOH developed automated processes based on a person's current and historical syphilis laboratory results to efficiently triage results for field investigation (cases) or closure (non-cases). We aimed to identify whether the implementation of these automated processes improved syphilis event record timeliness metrics.

Methods: We compiled reported non-congenital syphilis event records, including both syphilis cases and non-cases, among Florida residents from January–April 2022 (pre-implementation) and January–April 2023 (post-implementation). We examined the timeliness of case interview, treatment, disposition, closure, and reporting to CDC, as well as the timeliness of non-case disposition and closure, using the ELR received date as the start time. We used ANOVA to determine differences (post-implementation vs pre-implementation) in mean times calculated for cases and non-cases.

Results: A total of 6,133 syphilis cases and 30,855 non-cases were reported pre-implementation; 6,106 cases and 31,277 non-cases were reported post-implementation. Among cases, case closure and reporting to CDC occurred quicker post-implementation vs. pre-implementation (mean difference of 0.6 days, 95% CI 0.0-1.1 and 1.0 days, 95% CI 0.3-1.7, respectively). Automated processing also resulted in slightly faster interview completion (0.7 days, 95% CI -0.5-1.9), record disposition (0.1 days, 95% CI -0.4-0.6) and patient treatment (0.3 days, 95% CI -0.5-1.1) but differences were not statistically significant. The greatest time savings occurred among non-cases, where record closure and disposition were 1.8 days (95% CI 1.7-1.9) and 0.8 days (95% CI 0.7-0.9) quicker post-implementation, respectively.

Conclusion: Automated processing of syphilis ELR improved some but not all timeliness metrics. Time savings were most notable for non-cases, as automated closure and disposition of non-cases replaced previous manual review.

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PREP CARE CONTINUUM OUTCOMES AMONG BLACK WOMEN IN EHE PRIORITY JURISDICTIONS: HIGH STI BURDEN, LOW PREP UPTAKE

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Background: Black women have disproportionately high rates of HIV infection yet low rates of pre-exposure prophylaxis (PrEP) use. Barriers to PrEP initiation exist on the clinic, provider, and individual level. To improve PrEP uptake among Black women, accurate data regarding each step in the PrEP care continuum is needed.

Methods: We present data from the control year (1/1/2023- 12/31/2023) of the stepped-wedge cluster randomized POWER Up implementation trial, designed to increase PrEP use among Black women at two federally qualified health centers (FQHCs) in Pinellas County, Florida and Chicago, Illinois. We calculated the proportion of Black women out of all persons for total medical visits, sexually transmitted infection (STI) testing, STI diagnosis, and PrEP prescriptions. Potential opportunities for PrEP education were defined by encounters with the following ICD-10 diagnosis codes: Z11.3, Z11.4, Z20.2, Z20.6, and Z71.7. STI diagnoses were either positive tests for chlamydia, gonorrhea, or syphilis (rapid plasma reagin test (RPR>8)) or one the following ICD-10 diagnosis codes: A74.9, A54-A55, and A51-A53.

Results: Among all medical visits at the two FQHCs in 2023, Black women accounted for 12.4% (7,109) of all medical encounters, 16.9% (2,864) of STI testing, and 32.0% (367) of those diagnosed with an STI. There were 791 potential opportunities for PrEP education among Black women, representing 12.2% of all potential PrEP education encounters. However, only 8 Black women received a PrEP prescription in 2023, representing just 7.8% of the people who initiated PrEP.

Conclusion: Despite a disproportionate burden of STIs diagnosis, Black women remained underrepresented among PrEP starts at these two FQHCs located in priority jurisdictions for the national Ending the HIV Epidemic initiative. Programs must recognize vulnerable populations such as Black women as priorities for PrEP education and HIV prevention.

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HIV PRE-EXPOSURE PROPHYLAXIS (PREP) USE AT THE TIME OF GONORRHEA DIAGNOSIS AMONG CENTRAL OHIO GONORRHEA CASES USING 2022-2023 STD SURVEILLANCE NETWORK (SSUN) DATA

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Background: Major racial and gender disparities persist in use of pre-exposure prophylaxis (PrEP) for HIV prevention. People recently diagnosed with a sexually transmitted infection are a target population for PrEP use. This analysis assessed whether demographic and health behavior factors differed between PrEP users and non-users at the time of gonorrhea diagnosis.

Methods: We included 585 people diagnosed with gonorrhea in the central Ohio region in 2022 and 2023. We conducted bivariable logistic regression analyses to evaluate odds of PrEP use at the time of gonorrhea diagnosis by age, ethnicity, gender, sexuality, race, number of sex partners, insurance, primary care provider status, and injection drug use. We also conducted a multivariable logistic regression to generate adjusted odds ratios and 95% confidence intervals.

Results: At the time of gonorrhea diagnosis, Black people had lower odds of PrEP use compared to any other race (OR, 0.18; 95% CI, 0.10-0.31). Cisgender females also had lower odds of PrEP use (OR, 0.01; 95% CI, 0.002-0.10). People with three or more sex partners (OR, 6.62; 95% CI, 3.66-11.98), people with a primary care provider (OR, 6.67; 95% CI, 3.58-12.42), and people reporting a sexual minority identity (OR, 118.19; 95% CI, 28.51-490.01) had higher odds of PrEP use. Hispanic ethnicity (OR, 1.69; 95% CI, 0.75-3.81) and injection drug use (OR, 0.51; 95% CI, 0.07-3.94) were not significantly associated with PrEP use.

Conclusion: Race, number of sex partners, and primary care provider status were associated with using PrEP at the time of gonorrhea diagnosis in unadjusted and adjusted analyses. Sexuality and gender were also significantly associated with PrEP use, but these estimates were unstable due to low cell counts. Identifying predictors of PrEP use at the time of gonorrhea diagnosis helps identify populations in need of additional health care interventions at the time of gonorrhea diagnosis.

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STI SCREENING IN EMERGENCY DEPARTMENTS: ASSESSING LINKAGE TO HIV PREVENTION SERVICES PROGRAM

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Background: The Centers for Disease Control and Prevention (CDC) recommends that Emergency Departments (EDs) offer routine opt out HIV screening. St. Joseph's Medical Center (SJMC) implemented routine HIV/HCV and Syphilis screening within the hospital's ED. Cases of patients who had previously tested HIV negative at SJMC's ED but were subsequently diagnosed HIV positive were observed. A workflow to identify patients at high risk for HIV and link them to prevention services was implemented in response.

Methods: From April 2022 – December 2023, ED medical providers offered routine opt-out HIV and syphilis testing for patients 13 years of age or older, who were having blood drawn. Fourth generation laboratory testing procedures were implemented for HIV screening and the reverse algorithm implemented for syphilis testing. Patients receiving a negative HIV result and a positive syphilis result were offered linkage to HIV prevention services.

Results: A total of 34,692 patients were screened for HIV and 48,933 were screened for Syphilis. Of those screened, 999 patients had a positive syphilis result and a negative HIV result. Among the 999 patients, 50.2% were male, 49.5% female and 0.3% identified as other gender. The racial breakdown included 27.2% Black/African American, 38.0% White/Caucasian, 21.4% Bi-racial/Multi-racial, 10.1% Asian, 0.7% American Indian/Alaska Native, 0.2% Native Hawaiian/Pacific Islander and 2.3% not reported. Of those patients 109 were linked to HIV prevention services, and at minimum assessed by an outpatient clinician for PrEP. Some barriers to linking patients to care/patients beginning PrEP were: lack of accurate contact information for follow-up, costs, housing, side effects, and stigma.

Conclusion: The enhanced workflow offered via SJMC's ED identified patients at high risk for HIV transmission and linked them to PrEP. Further research is needed to comprehensively evaluate the possible HIV positive cases averted by implementing a linkage to HIV prevention services program in the ED.

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ASSESSING POPULATION CHARACTERISTICS IN PATIENTS ACCEPTING VERSUS DECLINING PREP AFTER TARGETED COUNSELING

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Background: Pre-exposure prophylaxis (PrEP) for Human Immunodeficiency Virus (HIV) is safe and effective with optimal uptake and adherence. However, PrEP implementation in many areas of the US is suboptimal. The US South has disproportionately high numbers of new HIV infections, but low overall PrEP use.

Methods: Parkland Health has implemented interventions to improve PrEP uptake, including a best practice advisory with an HIV predictive model, provider education, and outreach team. A retrospective electronic record review was conducted to assess the outcome of targeted PrEP counseling for eligible patients in Dallas, Texas, comparing differences between those who accepted versus declined PrEP. All patients offered PrEP in 2022 aged 16 and above were included. Those who accepted were defined by receiving a PrEP prescription or completing a PrEP clinic visit.

Results: Of 2,219 patients who received PrEP counseling, 287 were excluded for having HIV (7.3%), already receiving PrEP (12.2%), or community screening without follow up (78.4%). Of the remaining 1,932 patients, 195 (10%) accepted a PrEP offer. Those who accepted were younger (median 31 vs 46 years). Males or transgender females with male partners (32/195(16.4%) vs 26/1737(1.5%) and 7/195(3.6%) vs 5/1737(0.3%), respectively) were more likely to accept. Patients tended to be White (102/195(52.3%) vs 745/1737(42.9%)), Hispanic (76/195(39.0%) vs 428/1737(24.6%)), employed (63/195(32.3%) vs 440/1737(25.3%)), and insured (116/195(59.5%) vs 874/1737(50.3%)), with higher rates of active pregnancy and recent STIs. Those who accepted were seen in many outpatient clinics, including Infectious Diseases (34%), maternal-fetal medicine (24%), homeless outreach (21%), and primary/urgent cares (17%).

Conclusion: A multipronged approach to increasing PrEP uptake in a large safety-net health system in the South reached a variety of eligible patients. Along with a dedicated PrEP clinic, other outpatient settings were excellent PrEP distribution alternatives. Future efforts should focus on improving PrEP engagement for Black, uninsured, heterosexual, and older individuals at risk for HIV.

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SCALING UP HIV PREVENTION AT THE SEXUAL HEALTH CLINIC OF A LOCAL HEALTH DEPARTMENT IN TEXAS WITH THE IMPLEMENTATION OF UNIVERSAL ACCESS TO ORAL AND LONG-ACTING INJECTABLE PRE-EXPOSURE PROPHYLAXIS

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Background: With 2.6 million residents, Dallas County is the second most populous county in Texas and is celebrated for its vibrant diversity. In 2021, Dallas County accounted for 798 out of 4,363 or 18.3% of new HIV diagnoses in the state. In May 2020, to address this concern, Dallas County Health and Human Services (DCHHS) Sexual Health Clinic (SHC) began an initiative offering PrEP (pre-exposure prophylaxis) to targeted priority populations at high risk for HIV transmission—men who have sex with men (MSM), transgender individuals, people who inject drugs (PWID), and Black or Hispanic women with recent STI diagnoses. The initiative expanded in September 2021 to include status-neutral PrEP access, initially offering oral PrEP (Truvada and Descovy), and later introducing injectable Cabotegravir (Apretude) in June 2022. Both oral and injectable PrEP are highly effective in preventing new HIV infections through sex.

Methods: A retrospective review was conducted on the medical records of 95 patients newly prescribed PrEP at the SHC from June 2022 to September 2023. The study examined retention rates for both oral and injectable PrEP, defined as patients who maintained at least one follow-up visit at 6 months (± 30 days) from their first appointment.

Results: Out of the 95 patients, 10 (11%) started on injectable PrEP, while 85 (89%) started on oral PrEP. At 6 months, 43 patients (45%) remained engaged, with 20 (47%) on injectable PrEP and 23 (53%) on oral PrEP. No HIV seroconversions occurred among adherent PrEP users during this time.

Conclusion: The study indicates a potential preference for injectable PrEP over oral PrEP, with higher retention rates observed at 6 months. These findings highlight the importance of offering PrEP options to meet individual preferences. Further research is needed to understand the factors influencing retention rates and medication preferences, providing valuable insights to optimize PrEP utilization and HIV prevention efforts.

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RAPID PREP AS PART OF TAKE ME HOME'S ONLINE TESTING PLATFORM: EARLY FINDINGS FROM ALAMEDA COUNTY, CALIFORNIA

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Background: In Alameda County, a majority of clients accessing free HIV and STI testing through TakeMeHome's (TMH) online platform are younger, racially and ethnically diverse, and same-gender loving men who report not using PrEP. Alameda County Public Health Department (ACPHD) and TMH implemented a first-of-its-kind Rapid PrEP program (RPP) to increase access to and use of PrEP.

Methods: ACPHD's RPP was launched on October 12, 2023, as an addition to TMH. After a client receives their HIV, HBV, and kidney function results from TMH's PrEP panel, ACPHD via telephone conducts a safety and eligibility screening for a free PrEP 28-day starter pack and provides a warm handoff to a local PrEP provider. All clients with unexpired unreturned PrEP panels were contacted to conduct semi-structured interviews about their understanding of the PrEP panel and interest in PrEP. We describe key themes from RPP outreach and interviews.

Results: Sixty-eight clients ordered a PrEP panel, ten (14.7%) clients returned it, and of those, nine received RPP outreach during which they reported unintentionally ordering the PrEP panel and did not start PrEP. ACPHD contacted 44 clients with unreturned panels, fourteen (31.8%) were reached and three of those declined to be interviewed. Key themes from the interviews include interest in starting PrEP through RPP (n=2) and intended to order tests for HIV/STIs (n=9). Of the 20 clients that received either RPP outreach or were interviewed, eighteen (90.0%) did not understand the test they ordered and did not intend to start PrEP.

Conclusion: TMH is a platform that can be used to increase access to HIV and STI testing, and PrEP. TMH website improvements to decrease confusion over the PrEP panel and increase PrEP use are in process. ACPHD will outreach to all clients who order a PrEP panel to provide PrEP education and help to complete the panel.

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EVALUATING THE IMPACT OF PROVIDER-DIRECTED QUALITY IMPROVEMENT INTERVENTIONS ON HIV PRE-EXPOSURE PROPHYLAXIS PRESCRIBING PATTERNS BY PRIMARY CARE PROVIDERS IN A LARGE SAFETY-NET AMBULATORY CARE NETWORK.

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Background: Despite overall increased use of oral HIV Pre-Exposure Prophylaxis (PrEP) medications since tenofovir/emtricitabine was approved for this indication in 2012, it remains an underutilized tool for HIV prevention. Previous studies demonstrated that clinician-directed educational interventions increase providers' confidence prescribing PrEP. However, there is limited research evaluating the impact of these interventions on rates of PrEP prescribing.

Methods: We implemented a set of interventions for primary care providers in the Los Angeles County Department of Health Services Ambulatory Care Network (ACN) during 2021-2022 that included educational sessions, an Expected Practices guide, and an electronic medical record order set for PrEP prescribing. Oral PrEP prescriptions were pulled for the years 2019 and 2022 and the rates per 100,000 empaneled patients were tested for differences using Fisher's exact test. Patient characteristics were compared with 2-tailed Fisher's exact test.

Results: Oral PrEP use increased from 84 to 144 unique patient prescriptions (27.7 to 32.7 per 100,000; $p=0.25$). Patients who received PrEP did not differ by age ($p=0.88$), race ($p=0.85$) or ethnicity ($p=0.88$) between 2019 and 2022. The largest represented groups in 2022 were aged 25-34 (42.4%), Hispanic ethnicity (43.1%), and cisgender males (88.2%). The proportion of Black PrEP patients increased from 5.9% in 2019 to 11.1% in 2022. Patient-driven prescriptions decreased from 56.0% to 47.2%, and provider-driven prescriptions decreased from 39.3% to 8.3% ($p<0.001$), a difference likely driven by poor documentation in 2022 (44.4% unknown).

Conclusion: Provider-directed interventions did not lead to a significant increase in the rate of PrEP prescribing in the ACN, despite absolute numbers increasing. This population warrants particular focus due to the high proportion of patients who are Hispanic and/or Black, as these groups experience disparities in PrEP access. More research is needed to determine optimal strategies for increasing PrEP utilization in primary care settings serving safety-net populations.

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P156

FINDING OPPORTUNITIES TO IMPROVE HIV PREP UPTAKE AND KNOWLEDGE USING STI SURVEILLANCE DATA IN ALAMEDA COUNTY

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Background: Persons with recent STIs, including early syphilis and rectal gonorrhea, are at higher risk of HIV acquisition and could benefit from HIV pre-exposure prophylaxis (PrEP). This evaluation aims to assess PrEP knowledge and interest among persons recently diagnosed with an STI in Alameda County.

Methods: From November 2022 to August 2023, as routine practice we assessed California's disease management system (CalREDIE), to identify persons with early syphilis and/or rectal gonorrhea. Persons taking PrEP or living with HIV were excluded. Eligible persons were contacted via phone, asked about PrEP knowledge, and educated on PrEP, DoxyPEP, and self-testing resources through TakeMeHome.org. Clients were offered OraQuick® In-Home HIV Tests and referred to providers if interested.

Results: Among 106 persons with rectal gonorrhea or early syphilis, 65 (61.3%) were eligible for PrEP counseling and 21 (19.8%) were subsequently reached via phone. Of those spoken with, 19 (90.5%) identified as male, 15 (71.4%) identified as Black, Indigenous, and People of Color, and 17 (81.0%) were under age 39 years. Ten of these 21 clients received PrEP counseling due to insufficient knowledge. The majority 7 (70.0%) of clients who received PrEP counseling had limited familiarity with PrEP, having heard of it but lacking specific knowledge. Additionally, 3 (30.0%) had no familiarity or confused it with antiretroviral therapy.

As a result of these 21 conversations, 2 clients ordered tests through TakeMeHome, 2 ordered OraQuick® tests, 1 was referred to a DoxyPEP provider, and 4 were referred to PrEP providers.

Conclusion: Almost half of those we reached who are at high risk for HIV infection had limited to no knowledge of PrEP. Our findings indicate that public health investigators could use surveillance data to identify individuals at high risk of HIV acquisition, engage with them proactively to enhance their PrEP knowledge, and facilitate connections to PrEP and other sexual health services.

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IMPROVEMENTS IN LINKAGE TO HIV PRE-EXPOSURE PROPHYLAXIS (PREP) CARE AFTER IMPLEMENTATION OF A SEXUAL HEALTH CLINIC'S ONGOING PREP PROGRAM IN NEW YORK CITY

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Background: The traditional model of HIV PrEP services at New York City's public sexual health clinics (SHCs) includes same-day prescriptions and referrals for linkage to ongoing PrEP care at community providers. Low rates of linkage, particularly among young men, Latinx men, and uninsured patients had been observed. In 2022, we implemented an ongoing PrEP program in Corona SHC (the Corona Continuity PrEP Clinic [CPCC]). We compared PrEP linkage rates for the traditional model versus CPCC.

Methods: Using medical record data, we compared linkage – defined as presentation at either the community provider (for traditional model) or SHC (for CPCC) within 60 days of initiation – for two cohorts: a) patients who received PrEP at CPCC (2022-2023) versus at the Corona SHC via the traditional model (2018-2019), and b) patients who received PrEP at CPCC versus via the traditional model at all SHCs (December 2022-November 2023).

Results: A total of 206 patients enrolled in CPCC over one year, a 62% increase from 127 at Corona SHC under the traditional model. The majority of CPCC patients were MSM (83%), Hispanic/Latinx (62%), < 30 years old (49%) and born outside the United States (72%). Linkage rates were higher among patients enrolled in CPCC compared with both the earlier time period at Corona SHC (68% vs 58%, $p=0.03$) and the same time period at all other SHCs (68% vs 45%, $p<0.001$). CPCC patients of all genders, ages, races, and ethnicity groups demonstrated increased uptake and higher linkage rates than those receiving PrEP through the traditional model.

Conclusion: We observed increased rates of linkage among PrEP initiates after offering a continuity model, both overall and among key subgroups. SHCs are an ideal setting for ongoing PrEP care and can reduce barriers for patients, especially those who have historically been disenfranchised from the health care system.

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P158

UTILIZATION OF AN OFF-SITE PATIENT NAVIGATOR TO FACILITATE HIV PRE-EXPOSURE PROPHYLAXIS REFERRALS FOR PATIENTS DIAGNOSED WITH SEXUALLY TRANSMITTED INFECTIONS IN THE EMERGENCY DEPARTMENT

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Background: Emergency Departments (EDs) offer a unique opportunity to identify people at increased risk of HIV infection who may otherwise have limited access to the healthcare system. While ED visits for sexually transmitted infections (STIs) are common and on the rise in the United States, HIV pre-exposure prophylaxis (PrEP) prescribing and linkage to care for PrEP in the ED setting is not widespread. The purpose of this study is to evaluate the use of a fully remote/off-site HIV PrEP patient navigator to facilitate PrEP access for patients who seek care for STIs in the ED.

Methods: Between January 1 2023 and June 30 2023, all patients who tested positive for a bacterial STI (gonorrhea, chlamydia, or syphilis) in the ED were eligible for telephone/virtual outreach by an off-site PrEP patient navigator. Interested patients were scheduled for telehealth appointments for PrEP initiation. Demographic and clinical information/outcomes were obtained for all patients.

Results: During the study period, there were 160 patients eligible for PrEP outreach. PrEP outreach was successfully completed in 75 (47%) of patients, with 46/75 (61%) agreeable to scheduling a PrEP appointment. Of these 46 patients, median age was 30 years old [IQR 23, 35], 25 (54%) were male, 40 (87%) were Black/African American, 1 (2%) was Hispanic/Latino, and 6 (13%) identified as a man who has sex with men (MSM). Forty three of 46 patients (93%) scheduled an appointment and 35/46 (76%) completed an appointment. Thirteen of 35 (37%) of patients who completed an appointment were prescribed PrEP, with 6/13 (46%) and 2/13 (15%) remaining on PrEP at 3 and 6 months, respectively.

Conclusion: Use of an off-site patient navigator can facilitate referrals for HIV PrEP for patients who are diagnosed with bacterial STIs in the ED.

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P159

TO RECEIVE AN HIV VACCINE OR NOT? A QUALITATIVE EXPLORATION OF GAY AND BISEXUAL MEN'S PERCEPTIONS ABOUT A POTENTIAL HIV VACCINE IN A POST-COVID-19 ERA, U.S.

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Background: To end the HIV epidemic, targeted strategies like an HIV vaccine could help reduce HIV incidence for those most vulnerable. This study explores the perceptions that gay, bisexual, and other men who have sex with men (GBMSM) have about a potential HIV vaccine in the context of heightened vaccine hesitancy that has emerged since the COVID-19 pandemic.

Methods: Between March and May of 2022, we interviewed 20 adult GBMSM across the United States who were eligible for but not taking Pre-Exposure Prophylaxis (PrEP). We conducted in-depth, semi-structured interviews over video conferencing software exploring participants' perceptions of an HIV vaccine. Interviews were recorded and transcribed verbatim, then analyzed using a codebook approach to thematic analysis.

Results: All participants were HIV-negative and not taking PrEP, with 45% ($n=9$) non-white, 90% cisgender male ($n=18$) and 10% ($n=2$) transgender male. The majority were vaccine hesitant (75% unvaccinated against COVID-19). Participants expressed a range of skepticism, cautious optimism, and enthusiastic support for a future HIV vaccine. Factors driving willingness to receive the vaccine included community-oriented altruism and improving sexual experiences by reducing HIV-related stress. Participants also described concerns about the vaccine's efficacy and potential side-effects, mistrust in the vaccine development process, and structural and practical barriers preventing receipt of the vaccine. Participants offered insights into specific vaccine-related information they wanted, including how "thorough" the research was, how to access the vaccine, and how personally beneficial the vaccine could be, along with where/how they preferred to receive this information.

Conclusion: By offering insights into factors that motivate and deter GBMSM from receiving an HIV vaccine, these findings can help inform future HIV vaccine implementation efforts. Our results suggest that prioritizing the vaccine's accessibility and affordability, partnering with LGBTQ+ and sexual health community resources, and distributing credible vaccine-related information across multiple sources may help inspire HIV vaccine uptake among GBMSM.

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P160

HIV VIRAL LOAD MONITORING – RURAL BARRIERS TO CARE

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Background: The US engaged in an aggressive strategy to reverse the steep increase in HIV infections during the early 1980's. It's a multipronged approach including protective PrEP treatments, focal messaging, public health surveillance, partner services, and rigorous ART (antiviral therapy). Viral load monitoring is a supportive but integral element in the successful mitigation of HIV incidence but requires repeated visits. Many rural patients encounter barriers to consistent viral load monitoring (needed every 3-6months).

Methods: This abstract is a literature review and discussion of HIV viral load testing in conjunction with ART. CDC and Pub Med articles were used, as well as a review of snowball articles. Fourteen studies were used, including both primary observation studies and meta-analysis. Inclusion criteria encompassed HIV monitoring strategies, rural barriers, mental health concerns, and treatment strategies for low-income HIV patients.

Results: HIV patients who maintain an undetectable viral load, protect their partners and stop further proliferation of the virus. Adjusting and monitoring regimen may become complicated if a patient is unable to keep consistent blood draw appointments. Patients living in rural settings will often face transportation challenges, mental health concerns, financial instability, and lack insurance coverage.

Conclusion: HIV patients often encounter barriers to consistent care which can seem overwhelming for rural public health offices and clinics. Addressing barriers one at a time will simplify community efforts. A strategic first step is addressing the need for consistent transportation. Unreliable transportation is a barrier most communities can address with limited resources. Rural communities can begin by concentrating on supplying medical transport services for patients. Medical transport services are the more economical solution than mobile medical units.

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A HIGH PREVALENCE OF DIAGNOSED- AND UNDIAGNOSED HIV IN UGANDAN ADULTS WITH GENITAL ULCER DISEASE: FINDING NEW HIV DIAGNOSES THROUGH COMMUNITY OUTREACH

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Background: Genital ulcer disease (GUD) is strongly associated with HIV acquisition and transmission. To reach 95-95-95 HIV elimination goals it is essential to identify those undiagnosed and ensure all people living with HIV (PLWH) are linked to care and have undetectable viral loads (VLs).

Methods: Participants with GUD were enrolled at government clinics and through community outreach in Kampala and Wakiso, Uganda between 07/2023 to 03/2024. After written informed consent, blood was collected for HIV/syphilis rapid diagnostic tests (RDT) (SD Bioline-Duo, Abbot, Princeton, NJ), and genital swabs or urine collected for chlamydia and gonorrhea NAA testing (GeneXpert CT/NG, Cepheid, Sunnyvale, CA). A researcher-administrated demographic and biobehavioral questionnaire was administered.

Results: Of 92 participants screened, 75(85.1%) with clinician-confirmed GUD enrolled; 10(13.3%) were men and 65(86.7%) women. Overall, the median (IQR) age was 29(23-37) years; 25(33.3%) had completed 7th grade education. 7 of 75(9.3%) reported >10 sex partners in the prior 3 months; 24(32.0%) were aware of HIV PrEP, of these 5(20.8%) had previously used it; 22(29.3%) reported transactional sex in the prior 6-months, and 27(36.0%) reported alcohol use in the past 3-months. HIV and syphilis positivity by RDT was 29(38.7%) and 9(12%) respectively; of 29 with a reactive HIV test, 8(27.6%) were newly diagnosed; none were pregnant and 7(87.5%) were linked-to-care. Most, 17(58.6) PLWH were identified during outreach activities including 6 of 8(75%) of those newly diagnosed. Of 21 previously diagnosed, 19(90.5%) reported current ART use; 8(38.1%) had a self-reported undetectable VL. Overall urogenital gonorrhea and chlamydia prevalence was 9.3% and 8.0%; in those LWH it was 13.8% and 0% respectively.

Conclusion: HIV was common in this Ugandan population with GUD; of concern a substantial minority were previously undiagnosed, and - of those diagnosed - virally unsuppressed. Efforts to reach individuals with STI syndromes in community settings is crucial to meet 95-95-95 targets.

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EVALUATION OF A LINKAGE TO HIV CARE PROGRAM IN A LOCAL JAIL – ORANGE COUNTY, FLORIDA, 2022-2023

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Background: Linkage to care is a critical step of the HIV care continuum. While the prevalence of incarcerated people with HIV (PWH) is nearly five times that of the general population, this population may experience significant barriers to linkage to care notably upon release. Facilitation of continuity of care from jail to the community through an integrated linkage to care program may provide unique opportunities for improving health outcomes for PWH released from jail.

Methods: A retrospective analysis of HIV-positive adults in Orange County's Jail Linkage Program who were released between March 2022 and December 2023 was conducted. To assess outcome measures of the program, demographic and clinical data were extracted from Orange County's HIV care management system and linked with administrative custody data from the Orange County Jail. Linkage to care is defined as having a recorded viral load test, CD4 test, or documented kept medical appointment after release.

Results: Of 254 individuals released from jail, the median age was 39 years (range 20-69 years). Most were male (77.2%), Black/African American (63.4%), and identified as heterosexual (52.8%). Approximately 45.3% of individuals were linked to care, 16.9% of whom were linked within 30 days, 25.2% within 60 days, and 31.5% within 90 days post-release. The median time from the individual's release to their first case management appointment was 14 days, while the median time from release to their first kept medical appointment was 42 days. Among those linked to care, 45.2% were documented to be virally suppressed (median=29 copies/mL).

Conclusion: The findings from this analysis are limited yet promising. Nevertheless, significant barriers to successful linkage to care persist among PWH released from jail. Continued implementation of the current jail-based linkage to care program is warranted and may offer new opportunities for improved health outcomes.

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THE PROVISION OF A LABORATORY-BASED HIV RNA ASSAY DID NOT INCREASE LINKAGE-TO-CARE IN THOSE WITH HIV OR AT RISK OF HIV IN BALTIMORE, MD: RESULTS OF A RANDOMIZED CONTROL TRIAL

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Background: Rapid linkage-to-care (LTC) for antiretroviral therapy (ART) or pre-exposure prophylaxis (PrEP) is essential to curbing the HIV epidemic. We evaluated the impact of providing HIV RNA testing on LTC.

Methods: People with HIV (PWH) not virally suppressed and persons with risk factors for HIV infection not on PrEP were recruited from Johns Hopkins Emergency Department (JHED), social media, and other sources, then randomized 1:1 to receive either standard-of-care (SOC) HIV testing plus HIV RNA testing (cobas® HIV-1 Test, Intervention) or SOC HIV testing alone (Elecsys® HIV combi PT and Geenius™ HIV-1/2 Supplemental test, Control). The primary outcome was LTC (ART or PrEP) 12-weeks post-enrolment. Descriptive analyses, adjusted and unadjusted Cox model hazard ratios (HR) with 95% confidence intervals (CI), and Kaplan-Meier survival curves were generated.

Results: From 08/21–01/23, 191 participants were enrolled (64%, 27%, and 9% from the JHED, social media, and other sources, respectively; 18% aged <25 years, 38% female sex, 58% African-American, 65% heterosexual, 74% reported condomless sex, 20% reported illicit drug use, 16% were PWH). Turnaround time for RNA testing was 26.3 (standard deviation 12.2) hours. In multivariable analysis, female sex (HR=2.6, 95%CI=1.1–6.1, p=0.030), post-high school education (HR=2.2, 95%CI=1.0–4.6, p=0.04), and social media recruitment (HR=2.7, 95%CI=1.3–6.7, p=0.03) were significantly associated with overall LTC; being in the intervention arm was not (HR=1.9, 95%CI=0.9-3.9, p=0.09). LTC for PrEP was associated with social media recruitment (HR=4.5, 95%CI=1.4-14.0, p=0.01) and having health insurance (HR=4.6, 95%CI=1.0-20.7, p=0.05). There were no factors associated with LTC for ART. There was a significant reduction in time to LTC in PWH in the intervention arm (Log-rank p=0.04) but not overall, or in PrEP LTC.

Conclusion: Laboratory-based HIV RNA testing did not improve LTC for ART or PrEP. Further studies are required to assess differences using HIV viral load platforms with shorter turnaround times.

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P164

COST AND COST-EFFECTIVENESS OF ONLINE RECRUITMENT STRATEGIES TO INCREASE HIV SELF-TESTING AMONG BLACK AND HISPANIC/LATINO MEN WHO HAVE SEX WITH MEN IN THE UNITED STATES, 2020-2021

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Background: Diagnosing HIV as early as possible is key to preventing new infections. Black or African American and Hispanic or Latino gay, bisexual, and other men who have sex with men (BMSM and HLMSM) in the United States are disproportionately affected by HIV. Providing HIV self-tests (HIVSTs) is a feasible strategy to increase testing. We analyzed the cost and cost-effectiveness of online recruitment strategies for enrolling BMSM and HLMSM into an HIV self-testing study.

Methods: Participants aged ≥ 18 years without previous HIV diagnosis or current pre-exposure prophylaxis use were recruited through two recruitment strategies: online dating and general interest websites/apps (sites), from 11 US states (2020-2021). Using the health care provider's perspective, we assessed four-month economic costs (2022 US Dollars) of implementing the recruitment and testing strategies, including: recruitment, administration and overhead, HIVST distribution, and shipping and handling. We analyzed cost-effectiveness of the recruitment strategies for the following outcomes: incremental cost per person tested and cost per new diagnosis.

Results: Overall, 1906 men were enrolled either through the dating (n=1306) or general interest (n=600) sites. Dating sites costs were \$275,776 to enroll, provide HIVST, and support 1005 MSM who used an HIVST, with 118 positive results (11.74% positivity). General interest sites costs were \$168,099 to enroll, provide HIVST, and support 511 MSM who used an HIVST, with 28 positive results (5.48% positivity). Recruitment via dating compared to general interest sites was more costly, however more effective, with incremental cost-effectiveness ratios of \$218/HIVST used and \$1,196/positive diagnosis.

Conclusion: Recruiting BMSM and HLMSM via online sites is an effective approach to providing HIVSTs to persons with undiagnosed infections. Recruitment via dating sites resulted in more men tested and new HIV diagnoses, and has the potential to be a cost-effective recruitment strategy for increasing awareness of HIV among these populations.

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PERFORMANCE EVALUATION OF TWO INTERNET-BASED PARTICIPANT RECRUITMENT PLATFORMS IN A RANDOMIZED CLINICAL TRIAL FOR HIV TESTING AND LINKAGE-TO-CARE

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Background: To prevent new infections, it is important to identify and provide linkage to HIV care for persons with HIV (PWH) and to link persons with risk factors for HIV to pre-exposure prophylaxis (PrEP). We report on two internet recruitment platforms used to reach people in a randomized clinical trial of linkage to care and PrEP.

Methods: Participants were recruited through an academic institution's in-house social media campaign (SMC) and a commercial internet recruitment platform (CIRP). SMC displayed ads to Facebook and Instagram users ≤25-years in the Baltimore-metropolitan area based on profile information. CIRP used machine-learning and data mining algorithms to search digital footprints using predetermined inclusion and exclusion criteria, using advertisements on social media sites and search engines, e.g., Google, Meta, TikTok. Viewers of both platforms completed an online screening form, CIRP automatically pre-screened leads based on select eligibility criteria; study coordinators screened and invited eligible persons to the study site. Platform-generated study analytics were used to evaluate each platform's enrollment performance over their first 5 months post-launch.

Results: From 01/2022 to 05/2022, SMC generated 177 (100%) leads; 121 (68%) were contacted, 49 (27%) were eligible, and 34 (19%) were enrolled in the study; 1 (1%) were out-of-care PWH. From 09/15/2023 to 02/07/2024, CIRP generated 462 study leads; of which, 123 were deemed ineligible by automatic response screening. Of the 339 (100%) remaining leads, 262 (77%) were contacted, 86 (25%) were eligible, and 49 (14%) were enrolled; 7 (2%) were out-of-care PWH. On average, CIRP generated about 10 enrollees/month while SMC generated 7 enrollees/month.

Conclusion: Non-internet-based recruitment of study participants is time- and labor-intensive; machine-learning platform may be more effective in increasing study enrollments/month compared with traditional advertising on social media platforms.

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P166

MANUAL WHOLE BLOOD SEPARATION FOR POINT-OF-CARE HIV-1 VIRAL LOAD TESTING

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Background: Monitoring viral suppression and adherence to antiretroviral therapy is done by measuring the viral load (VL) in patient blood plasma. Bringing this testing to the point-of-care (POC) enables treatment decisions to be made within a single patient visit, without having to send the sample to a centralized lab. With operation simplicity and equipment cost in mind, we investigated an alternative to other expensive and inadequately sensitive tests that streamlines whole blood separation for rapid and sensitive VL detection in a portable PCR instrument.

Methods: Custom 3D-printed blood separation modules facilitated manually operated immunomagnetic red blood cell depletion and subsequent white blood cell filtration. Automated magnetic processing of the filtered blood plasma with viral particles enabled capture of RNA from the lysed viral particles to be amplified through rapid qPCR to estimate VL. An MS2 bacteriophage control was multiplexed with HIV RNA extraction and amplification to confirm successful sample extraction and PCR.

Results: With our blood separation module, automated downstream sample processing and qPCR, HIV VL was quantified from whole blood in less than 30 minutes. Compatible with fingerstick and venipuncture collection methods, the manual blood separation process was completed in less than 5 minutes. From 250 µL of whole blood we observed a VL detection down to 1000 copies/mL. The blood separation module was designed for a capacity of up to 500 µL of whole blood for potential further improvement in sensitivity.

Conclusion: It is critical that POC VL tests are both adequately sensitive and universally accessible for maintained viral suppression and the global eradication of HIV. We propose our blood separation method, in combination with our rapid PCR platform under development, as an alternative to other more costly and less sensitive POC VL tests. Future work will ensure our platform sensitivity meets the CDC defined threshold of <200 copies/mL for viral suppression.

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A RAPID INITIATION OF ANTIRETROVIRAL THERAPY PROGRAM AT DENVER SEXUAL HEALTH CLINIC

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Background: Rapid initiation of antiretroviral therapy (ART) has been shown to improve short term linkage to care (LTC) and reduce time to viral suppression in people with human immunodeficiency virus (HIV). In 2019, the Denver Sexual Health Clinic (DSHC) implemented a Fast Anti-Retroviral Start (FAST) program for patients newly diagnosed with HIV. The program prioritized treating individuals experiencing barriers to accessing insurance.

Methods: FAST services included a medical provider evaluation, LTC to an HIV provider, and a 1-month supply of ART. Outcomes of FAST patients from 9/1/2019 to 12/30/2023 were evaluated. Demographics, risk factors, laboratory values, and visit data were extracted from the DSHC medical record and the Enhanced HIV/AIDS Reporting System. Retention in care was defined as a viral load (VL) obtained >1 year after FAST enrollment.

Results: FAST was initiated in 119 patients. Patient characteristics were median age 33 years (IQR 28-39); 94.1% men; 26.9% White non-Hispanic, 13.5% Black non-Hispanic, and 55.5% Hispanic; 72.3% uninsured; 42.9% with substance use; 37.8% with incomes below the federal poverty level. Baseline median CD4 cell count was 431 cells/ μ l (IQR 254-569) and VL was 68,157 copies/ml (IQR 15,626-373,300). The median time from a confirmatory test to a FAST visit was 3 days (IQR 0-6); median time from ART to VL suppression (<200 copies/ml) was 28 days (IQR 17-55) and ART to VL undetectable (<30 copies/ml) was 56.5 days (IQR 28-123.5). 116 (97.5%) patients were linked to care; 98/117 (84.5%) had viral suppression within 3 months of FAST start; 88/116 (75.9%) had a VL >1 year after their FAST visit.

Conclusion: The FAST program achieved high levels of viral suppression and linkage to care in a population predominantly Hispanic, uninsured, with low-income levels. Rapid ART implementation in sexual health clinics is feasible and may present an opportunity to advance Ending the HIV Epidemic goals.

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LOCAL, STATE, AND PRIVATE PARTNERSHIP TO ADDRESS AN INCREASE IN RECENT HUMANITARIAN REFUGEE AND ASYLEE HEALTH ASSESSMENTS AND HIV SCREENINGS AT A TEMPORARY RESPONSE CLINIC – ORANGE COUNTY, FLORIDA, APRIL 2023 – JANUARY 2024

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Background: In the U.S., a greater percentage (31.2% vs 23.9%) of foreign-born people than U.S.-born people had AIDS upon a new HIV diagnosis. With the decreased intake of humanitarian refugee and asylees (R/As) during the pandemic period of 2019-2022, Orange County, Florida saw an increase in new arrivals needing health assessments, once the public health emergency ended in 2023.

Methods: Beginning in March 2023, to address an accumulation of R/As with a need for assessments, the Florida Department of Health (DOH), in partnership with an external provider, stood up a temporary clinic to provide a large volume of R/A assessments for a short-term period. Recommended services including HIV screenings were provided to new arrivals.

Results: In 2023-2024, 6,507 HIV assessments were conducted at DOH-Orange; of those, 56 were reactive. Percent reactivity of assessments in 2023-2024 was 0.89%, in 2022, prior to the mass screening, it was 1.77%, and in 2019 was 0.79%. The volume of assessments rose from 503 (2019), 395 (2022), 6,507 (2023-2024). Those with reactive assessments in 2023-2024, 85.7% were Black/African American, 86% were Non-Hispanic/Latino. Between pre/post pandemic, the demographic makeup of the R/A clients remained comparable. Reactive assessments were highest among individuals from Haiti or Cuba, 2019 (3/4, 75%), 2022 (7/7, 100%), 2023-2024 (55/56, 98%).

Conclusion: With the demographic distribution of R/As entering DOH-Orange comes a possible increase in HIV incidence. With foreign-born individuals being at greater risk for AIDS upon HIV diagnoses than U.S.-born individuals, close monitoring is needed among new arrivals for early linkage to care and resource allocation.

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RAPID QUALITATIVE ASSESSMENT OF CULTURALLY SENSITIVE APPROACHES FOR HIV MOLECULAR EPIDEMIOLOGY

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Background: HIV Molecular Epidemiology (HME) is used to identify and halt HIV networks of rapid transmission. In Georgia, the identification of two networks impacting Black cisgender women underscores the importance of culturally sensitive HME methods. Our study seeks input from community members and Public Health Officials (PHO) to identify necessary skills and training and develop recommendations for effective HME practice tailored to priority populations.

Methods: In late 2023, we held eight virtual focus groups on culturally sensitive HME methods for Black cisgender women, engaging 16 Public Health Officials nationwide and 23 Black cisgender women from Georgia, recruited via public health networks and community partners. Each session began with a 10-minute HME explanatory video.

Results: Participant Perspectives.

About 88% of PHOs were familiar with HME, but only 38% had received HME-specific training. Among the community members, 57% reported unfamiliarity with HME.

PHO characteristics, skills, and training.

The ideal PHO for interviewing HIV network members and partners should have preferably have lived-experiences as network members, ensuring patient-centered, empathetic, and non-judgmental interactions.

HME-specific trainings for PHO should include topics such as people-first language, motivational interviewing, and trauma-informed care; a local resource guide and interactive materials were suggested.

Participant-Informed Best Practices.

Use people-first language and prioritize patient preferences, then follow with a gentle introduction to HME and its role.

Adopt a casual, non-judgmental, conversation tone, avoid a 'government employee demeanor', provide follow-up, maintain transparency, and adhere to privacy guides.

Be knowledgeable about available local medical and social services for convenient referrals.

Simplify HME language and avoid jargon, like "cluster," opting for "shared networks."

Conclusion: Most participants view HME positively. PHOs face challenges in HME implementation, emphasizing a need for enhanced guidance. Recommendations include using people-first language and adopting a non-judgmental, transparent, and patient-centered approach for effective HME practice.

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P170

EXPANDING THE HIV PREVENTION WORKFORCE THROUGH NATIONAL CERTIFICATION PROGRAMS FOR PROVIDERS AND NAVIGATORS

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Background: In 2021, an estimated 36,136 new HIV infections occurred, following a 7% decrease from 2017. While the decrease is promising, further reducing transmission of HIV is key to end the HIV epidemic. Pre-exposure prophylaxis (PrEP) has been effective to prevent HIV for over a decade. However, only 30% of people who could benefit from PrEP in the U.S. were prescribed it in 2021, and disparities in PrEP coverage persist.

While the PrEP field is quickly evolving as next-generation PrEP medications become available, providers are challenged to keep up with emerging technologies and how patients can access them. In some areas, there simply aren't enough culturally-competent providers that can navigate clients to, and prescribe, PrEP. To fully scale-up PrEP, RWHAP and PCPs must be able to identify PrEP candidates, navigate them to PrEP, and identify appropriate PrEP strategies.

Methods: HealthHIV launched two first-of-their kind programs—the HIV Prevention Certified Provider (HIVPCP) Certification Program and the HIV PrEP Navigation Certification (HIVPNC) Program—to help elevate and expand the HIV prevention workforce through certification. The two programs prepare and educate clinical providers (MD, DO, NP, PA, RN) and pharmacists, as well as social workers, navigators, community health workers, and other allied health professionals to implement the most individualized and up-to-date methods to prevent HIV infection and navigate clients to PrEP.

Results: HealthHIV's HIVPCP certification program—a curriculum that prepares providers to utilize individualized and up-to-date methods of HIV prevention—has enrolled over 10,000 learners and certified over 2,000 providers. HealthHIV's HIVPNC certification program—preparing providers to navigate clients through the PrEP continuum—has enrolled 2,189 learners and certified 529 navigators since the December 2023 launch.

Conclusion: Participants who complete the certifications receive a national designation and are added to national online directories that allow consumers to locate skilled and culturally-competent providers and HIV navigators in their area.

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HEALTHCARE PROFESSIONALS' PERSPECTIVES: MAINTAINING HIV CARE CONTINUITY DURING PANDEMICS - A CASE STUDY FROM CHILE

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Background: The emergence of the COVID-19 pandemic in 2019 significantly impacted healthcare resource allocation, prioritizing the response to this novel public health threat. This research investigated the impact on the clinical management of people living with HIV (PLHIV) within healthcare services of the Aconcagua Valley in Chile during this period.

Methods: This qualitative case study, utilizing a phenomenological approach, explored the lived experiences of healthcare professionals regarding the clinical management of PLHIV in Chile's Aconcagua Valley during the COVID-19 pandemic. Semi-structured interviews delved into topics such as clinical procedures, factors influencing patient attendance, and the pandemic's impact on continuity of care. Thematic analysis was applied to the collected data.

Results: Eleven healthcare professionals working with PLHIV in the Aconcagua Valley and two key informants from surrounding regions participated, with an average of 12 years of clinical experience. Participants described the clinical management experience during the pandemic as challenging, complex, and at times, even rewarding. They emphasized the participants' sense of responsibility, noting high adherence to check-ups and antiretroviral therapy among PLHIV. Reported barriers to accessing healthcare services included transportation limitations and fear of COVID-19 infection. Notably, a decrease in HIV screening was observed. Professionals recommended developing protocols for public health emergencies to ensure the continuity of HIV care and STI screening during future pandemics.

Conclusion: While PLHIV maintained good adherence to treatment, the COVID-19 pandemic presented significant challenges. The study highlights the importance of considering healthcare professionals' recommendations for comprehensive and adaptable healthcare strategies during future public health emergencies.

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EVALUATION OF URETHRAL GONORRHEA CULTURE YIELD USING THE BD BBL CULTURE TRANSPORT SYSTEM, FINDINGS FROM COLORADO SURRG, 2023-2024

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Background: The Colorado Strengthening the United States Response to Resistant Gonorrhea (SURRG) project uses several different gonorrhea (GC) culture methods. Little is known about the comparative yield of different culture systems. Here, we evaluate the difference in GC culture yield at the male urethra comparing direct inoculation of JEMBEC plates to use of Beckton Dickinson (BD) BBL CultureSwab.

Methods: This was a retrospective study evaluating male urethral GC culture yield using two different collection systems. From January to June 2023, GC culture was performed by direct inoculation of JEMBEC plates (JEM). From November to February 2024, cultures were collected using BD BBL CultureSwabs (BBL) stored at room temperature and transferred to JEMBEC plates the next day. Comparisons of culture yield were conducted using a Chi-Square test. Analysis was stratified by culture collection time from positive GC nucleic acid amplification test (NAAT) (same day or delayed).

Results: The study included 85 male urethral cultures collected by JEM and 34 collected by BBL. When GC culture was collected the same-day as a GC positive NAAT, culture yield was 94.7% (71/75; 95% CI: 89.6-99.8%) for JEM and 96.6% (28/29; 95% CI: 89.9-100%) for BBL. When culture collection was delayed from positive GC NAAT, yield was 80% (95% CI: 55.2-100%) for JEM (8/10) and 80% (95% CI: 44.9-100%) for BBL (4/5). There was no statistically significant difference in culture yield between the two culture collection systems, irrespective of culture collection time ($p > 0.05$).

Conclusion: Despite a small sample size, our findings suggest that the BD BBL CultureSwab is an effective option for collecting male urethral GC cultures. Use of the BD BBL CultureSwab may reduce provider training needed for direct plate inoculation, eliminate the need for onsite incubators and thereby expand settings where cultures can be collected.

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INVESTIGATION OF A CLUSTER OF CEFTRIAXONE RESISTANT GONORRHEA: THE COLORADO SURRG PROJECT

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Background: In 2016, the CDC initiated the Strengthening the United States Response to Resistant Gonorrhea (SURRG) project to explore rapid, integrated strategies to identify and respond to antibiotic-resistant gonorrhea. The Colorado Department of Public Health and Environment (CDPHE) and Denver Sexual Health Clinic (DSHC) are participating sites. In 2023, Colorado's SURRG partnership investigated a cluster of gonorrhea cases with reduced susceptibility to ceftriaxone.

Methods: The DSHC identified a cluster of five cases in June 2023, with initial encounters all occurring in a one-month period. The cases were all Hispanic males who received ceftriaxone on their initial presentation. Etest revealed that the cases had reduced susceptibility to ceftriaxone (MIC = 0.125 ug/mL). At test-of-cure, a CDPHE Disease Intervention Specialist (DIS) conducted an interview. Agar dilution was used to confirm antimicrobial susceptibilities. Whole genome sequencing (WGS) was also conducted.

Results: The cluster included a total of five cases, with infection sites of urethral (2), rectal (1), and pharyngeal (2). The cases reported meeting their partners at similar local venues and nightclubs. Two of the five cases were linked through the DIS interview. Four of the five cases received a negative test of cure. One pharyngeal case had a positive test of cure, received a repeated, higher dose of ceftriaxone, and subsequently cleared the infection. Follow-up with clients required close coordination between CDPHE DIS and DSHC staff. WGS revealed high relatedness between the samples.

Conclusion: Investigation of this cluster of cases revealed several strengths of the SURRG partnership, including the ability to rapidly identify and respond to clusters of ceftriaxone resistance and conduct a coordinated public health response. Local capacity to perform Etest was vital in rapidly identifying reduced antibiotic susceptibility. The high relatedness identified via WGS suggests that there may be more widespread transmission of ceftriaxone-resistant gonorrhea in Colorado.

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EVALUATION OF A CIPROFLOXACIN GYRA ASSAY FOR RESISTANCE-GUIDED THERAPY FOR NEISSERIA GONORRHEA

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Background: Resistance-guided treatment has the potential to expand treatment options for *N. gonorrhoeae* (NG) and may be useful as an antimicrobial stewardship strategy. In an ongoing clinical study, we are evaluating the utility of the *Speedx ResistancePlus* assay, which detects the *gyrA* S91 (wild type) and *gyrA* S91F (mutant) markers of ciprofloxacin susceptibility and resistance.

Methods: The study offers enrollment to all patients undergoing routine asymptomatic sexually transmitted infection (STI) testing at a sexual health clinic in Seattle, WA, USA. Specimens that test positive for NG are then tested for the *gyrA* mutation. The study offers patients with *gyrA* wild type NG treatment with a single 500mg oral dose of ciprofloxacin and treats participants with the *gyrA* s91 mutation with intramuscular ceftriaxone. All NG positive participants are asked to return to the clinic for a test of cure visit (NAAT and culture) 14 days (+/-2) following treatment.

Results: Enrollment began in March 2022, was paused in June 2022 due to the mpox epidemic, resumed in March 2023, and is currently ongoing. As of January 31st, 2024, a total of 771 participants were enrolled, 41 (5.3%) of whom tested positive for NG. Seventeen (41%) of 41 participants with NG had *gyrA* wild type, 15 (37%) had *gyrA* s91 mutation, and 9 were indeterminant (22%). Fifteen (88%) of the 17 participants with *gyrA* wild type were treated with ciprofloxacin. All participants treated with ciprofloxacin had negative tests of cure. Mean time to reflexed *gyrA* test result was 3.6 working days (SD=1.2 days), including participants with indeterminant *gyrA* results requiring repeat testing.

Conclusion: An assay that detects the *gyrA* mutation conferring quinolone resistance allowed 37% of patients with NG to be successfully treated with ciprofloxacin. The *gyrA* reflex testing added ~1.6 working days to results reporting.

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IN VITRO ANTIMICROBIAL SUSCEPTIBILITY OF TREPONEMA PALLIDUM AND PROPAGATION IN SUB-THERAPEUTIC DOXYCYCLINE TO ASSESS DEVELOPMENT OF RESISTANCE

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Background:

The increasing incidence of syphilis and the limitations of first-line treatment with penicillin, particularly in neurosyphilis, neonatal syphilis, and pregnancy, highlight the need to expand the therapeutic repertoire for effective management of this disease. We assessed the in-vitro efficacy of 18 antibiotics from several classes on *Treponema pallidum* subspecies *pallidum* (T pallidum), the syphilis bacteria, and evaluated whether propagation in sub-therapeutic doxycycline could induce genetic resistance to this antibiotic

Methods: Using the in-vitro culture system for T pallidum, we exposed the pathogen to a concentration range of each tested antibiotic. After a 7-day incubation, the treponemal burden was evaluated by quantitative PCR targeting the T pallidum tp0574 gene. The primary outcome was the minimum inhibitory concentration (MIC) at which the quantitative PCR values were not significantly higher than the inoculum wells. Continual exposure to sub-therapeutic doxycycline was carried out for 10 weeks, while pulsed exposure was carried out for about 6 months.

Results: Amoxicillin, ceftriaxone, several oral cephalosporins, tedizolid, and dalbavancin exhibited anti-treponemal activity at concentrations achievable in human plasma following regular dosing regimens. The experiments revealed a MIC for amoxicillin at 0.02 mg/L, ceftriaxone at 0.0025 mg/L, cephalexin at 0.25 mg/L, cefetamet and cefixime at 0.0313 mg/L, cefuroxime at 0.0156 mg/L, tedizolid at 0.0625 mg/L, spectinomycin at 0.1 mg/L, and dalbavancin at 0.125 mg/L. The MIC for zoliflodacin and balofloxacin was 2 mg/L. Ertapenem, isoniazid, pyrazinamide, and metronidazole had either a poor or no effect. Azithromycin concentrations up to 2 mg/L (64 times the MIC) were ineffective against strains carrying mutations associated to macrolide resistance. Exposure to sub-therapeutic doxycycline did not induce detectable resistance

Conclusion: Cephalosporins and oxazolidinones are potential candidates for expanding the current therapeutic repertoire for syphilis. Our findings warrant testing efficacy in animal models and, if successful, clinical assessment of efficacy.

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HAS STD CLINIC UTILIZATION RETURNED TO PRE-COVID LEVELS? FINDINGS FROM FOUR U.S. JURISDICTIONS

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Background: STI services and staffing were reduced in 2020 due to the COVID-19 pandemic. Reported chlamydia (CT) and gonorrhea (GC) rates increased from 2020-2021. In 2022, gonorrhea rates decreased while chlamydia rates were stable. Case-based surveillance is influenced by testing and prevalence. Whether testing at STD clinics has returned to levels preceding the pandemic is unclear. We evaluated annual visits and CT/GC testing at STD clinics across multiple jurisdictions.

Methods: We evaluated aggregate data from four jurisdictions (Louisiana, Michigan, North Carolina, and Virginia), as available: number of STD clinic visits (North Carolina and Virginia), number of unique people attending STD clinic visits (Michigan, North Carolina, and Virginia), CT/GC tests (Louisiana, Michigan, and Virginia), and unique people tested for CT/GC (Louisiana, Michigan, and Virginia) during 2018-2022. We averaged 2018 and 2019 counts to stabilize the period 'pre-COVID'. We calculated the relative percentage change from 2021 to 2022 and pre-COVID to 2022. All outcomes were evaluated by sex; CT/GC tests were also evaluated by age and race/ethnicity.

Results: From 2021-2022, there were increases in STD clinic visits (+10%, n=+9,696), persons visiting STD clinics (+11%, n=+10,150) and persons tested for CT/GC (+32%, n=+12,477); resulting totals in 2022 (n=108,881, n=100,107, n=51,228, respectively) were each approximately two-thirds their pre-COVID totals. Tests increased more slowly in 2021 for people aged <30 years (+26%, n=+5,246) compared to those ≥30 (+39%, n=+7,207). For people aged <30 years, total tests in 2022 (n=25,426) were half pre-COVID totals, compared to three-quarters the pre-COVID totals for people ≥30 (2022 tests: n=25,740). Findings did not differ by sex or race/ethnicity.

Conclusion: Following pandemic-related reductions in staffing and services at STD clinics, gaps in visits and testing persist and were strongest among young people. Strengthened strategies to engage young people and promote STI services may improve the reach of health department STD programs.

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ACHIEVING INTEGRATED, COORDINATED EFFORTS TO ADDRESS THE STI EPIDEMIC: INSIGHTS FROM A QUALITATIVE ASSESSMENT OF LOCAL, STATE, TRIBAL, NATIONAL, AND OTHER KEY PARTNERS

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Background: With the launch of the STI National Strategic Plan (STI Plan), the CDC Division of STD Prevention (Division) aims to reverse the dramatic rise in STIs across the nation, supporting key partners to develop, enhance, and expand STI prevention and care programs at the local, state, tribal, and national levels. The Division embarked on an assessment to reflect on lessons learned through the National Infertility Prevention Project (IPP).

Methods: The project team conducted key informant interviews with 54 partners across the United States and facilitated group discussions at two national conferences. The team synthesized data from key informant interviews and group discussions and outlined key learnings and considerations in alignment with the 5 goals of the STI Plan.

Results: Key learnings and considerations included: advance sexual health education across the lifespan, deepen clinical capacity across health care professionals and disciplines, promote health equity, respect Tribal sovereignty, leverage lessons and innovative practices learned from COVID-related infrastructure, develop partnerships that advance innovation, and deepen practice around measuring health inequities.

Conclusion: Participants highlighted the importance of building relationships and connecting with key partners across jurisdictions through regular meetings organized by a neutral convener. Considerations for strengthening partnerships included working with Tribes at government-to-government levels to inform public health policy and programs impacting American Indian/Alaska Native people, developing partnerships that advance innovation including collaboration with medical schools, and envisioning a more holistic delivery model to address syndemic issues through expanding service system partnerships to include community and migrant health centers, community-based organizations, behavioral health providers, urgent care, and emergency departments. Participants also highlighted the importance of continuing to strengthen federal and other collaboration across the National Center for HIV, Viral Hepatitis, STD, and TB Prevention and between the Division and other federal partners, as well as considerations for the future Notice of Funding Opportunity.

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MISSED OPPORTUNITIES: THE UNTAPPED POTENTIAL FOR STI TESTING AMONG BIRTH CONTROL SEEKERS

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Background: Rates of STIs have steadily increased in the past decade; more than 2.5 million cases of syphilis, gonorrhea, and chlamydia were reported in the US in 2022. While a lack of access to care partially drives these rates, those who *do* have access to care should also receive adequate STI prevention services.

Methods: We will present results from an analysis assessing missed opportunities for STI testing among sexually active individuals who received birth control services (a medical test or counseling related to birth control, but not STI testing in the past 12 months) and had an increased need for testing (ever had an STI; used or had a sex partner who used drugs; engaged in transactional sex; or had multiple partners or a partner with multiple partners). Using the 2015-19 waves of the National Survey of Family Growth female respondent file to run weighted tabulations and Pearson's Chi-Square tests, we assessed the rate of missed opportunities overall and by specific reasons for increased need, and tested differences in missed opportunities by demographic characteristics.

Results: Results suggest that overall, 27.2% of sexually active individuals with an increased need for STI testing received birth control services but not STI testing in the past year. For example, 31.1% of those who've ever had an STI, and 34.0% of those had a sex partner who uses IV drugs had missed opportunities. Additionally, rates of missed opportunities were higher among those with private insurance (31.5%), 15–19-year-olds (35.6%), and rural residents (32.8%).

Conclusion: Rates of missed opportunities for STI testing are alarmingly high. Results demonstrate gaps in STI testing in the context of birth control services, particularly among rural patients and adolescents. The presenters will invite participants to discuss barriers to STI testing overall, and programmatic and policy-based interventions to better incorporate STI testing in birth control care.

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BARRIERS AND NEEDS TO URBAN INDIAN SEXUAL HEALTH SERVICES PROVISION: A MIXED-METHODS APPROACH

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Background: Over 70% of American Indians and Alaska Native (AI/AN) people live in urban areas. There are 41 Urban Indian Organizations (UIOs), which currently operate 86 healthcare facilities in 38 urban areas across 22 states. This study sought to improve the limited knowledge of current sexual health services offered at UIOs, as well as to enhance understanding of barriers/challenges to sexual health service provision at UIOs.

Methods: UIOs were invited via NCUIH's communication methods to complete an online survey June – September 2023. Each UIO that submitted a complete response received \$250 for their participation. Survey topics included STI/HIV testing, treatment, vaccines, programs offered, and barriers and facilitators to offering STI services. Descriptive statistics were used to analyze data.

Results: Fifteen UIOs (37%) completed the survey. Nine UIOs (60%) reported offering on-site screening/testing for chlamydia, gonorrhea, syphilis, herpes simplex virus, and bacterial vaginosis. Seven UIOs (46.7%) offer on-site prenatal STI screenings. Eight UIOs (53.3%) offer partner services, four UIOs (26.7%) offer on-site expedited partner therapy (EPT). More than half (53.3%) of UIO respondents do not use the 340B Drug Pricing Program. The greatest barrier/challenge to STI service provision was insufficient STI treatment tools/resources (53.3%). The greatest area of interest for developing/enhancing STI services was partner STI services (86.7%).

Conclusion: Increased funding to support screening/treatment, staffing/staff trainings, preventative services, etc., to enhance STI services at UIOs is needed. Increased UIO access to programs like 340B Drug Pricing, interventions like EPT, extragenital screening, and self-collection test kits may help improve Urban Indian sexual healthcare access and quality. UIOs are uniquely positioned to provide culturally tailored care to Urban Indians and serve as a point of healthcare access and intervention. Further research on the needs of UIOs and the communities they serve is needed to improve Urban AI/AN sexual health outcomes and care.

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SEXUAL HISTORY TAKING: PROVIDER-REPORTED PRACTICES, COMFORT, AND BARRIERS

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Background: Evidence suggests that sexual history taking is an important practice that improves patient outcomes and perceived quality of sexual health care; however, many providers do not report sexual history taking as a routine practice. Therefore, the purpose of this study was to explore provider-reported comfort, barriers, and needs related to patient-provider sexual health conversations.

Methods: Remesh, an anonymous and interactive focus group platform, was used to engage healthcare providers. Using a mixed-methods approach, providers were asked about sexual health conversation frequency, barriers, and comfort-level during patient appointments. Providers were asked to share personal, training/education, and system/process barriers to sexual health conversations they encounter. Topics and patient populations where discomfort was heightened were also explored. Data were analyzed using the Remesh platform and included descriptive statistics for closed-ended questions and inductive thematic analysis of open-ended questions.

Results: Participants (n=41) were primarily male (63%), physicians (75%), non-sexual health providers (59%), and specialized in general/family or internal medicine (83%). Less than half reported sexual health history taking as routine practice. Most felt moderately comfortable (60%), but 73% reported they sometimes worry they will offend patients when talking about sexual health. Across all barrier types, time, and competing priorities most heavily influenced discussion likelihood. Over half (60%) identified transgender individuals as patients for which sexual health discussions are uncomfortable. Most reported being uncomfortable discussing sexual assault/abuse (58%) and sexual pleasure (55%).

Conclusion: Overall, providers were not highly comfortable discussing sexual health with patients and reported time and competing priorities as the most pervasive barrier. A variety of sexual health topics and patient populations were identified as uncomfortable, primarily due to fear of offending patients. While keeping barriers in mind, future efforts should develop and evaluate materials that aim to support patient-provider conversations, particularly with populations and across topics where discomfort is elevated.

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CHALLENGES IN PROVIDING TA TO ENHANCE DELIVERY OF STI/HIV SCREENING AND PREVENTION SERVICES AT AN FQHC IN NYC

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Background: In the face of increasing STI rates and low PrEP uptake, primary care settings are well-suited to expand access to these services. CDC-funded New York City STD/HIV Prevention Training Center (PTC) provided technical assistance (TA) to Morrisania Clinic (MC), a federally qualified health center (FQHC) in the Bronx, NYC, to increase delivery of PrEP and implement three-site STI testing.

Methods: After conducting initial assessments with MC via structured discussions with key clinic personnel, PTC developed a tailored plan, which included trainings, monthly strategic planning meetings, and ongoing clinical guidance, and was updated as clinic needs and capacity evolved.

Results: Ongoing assessments with clinic leadership revealed that, while leadership is committed to integrating these services, staff resistance affects implementation. Resistance appears rooted in: 1) discomfort in discussing sexual health with patients; 2) disagreement about workflow responsibilities; 3) perceptions that this work was not their clinic's responsibility. To address these sources of resistance, from fall 2021 through 2023, PTC delivered seven trainings, shared sample protocols and resources, provided feedback on workflows and procedures, worked with MC health system leadership to support implementation and utilization of EMR resources, and conducted a premortem brainstorm activity prior to STI testing workflow implementation. These activities led to 1) more routine offer of PrEP, increasing the number of PrEP prescriptions from 8 in 2021 to 29 in 2023; 2) new workflows for adolescent/young adult three-site STI testing.

Conclusion: PTC's experience partnering with an FQHC to support PrEP services and introduce three-site STI testing highlights the importance of staff buy-in at varying levels and the role of clinic champions. Training and ongoing TA are necessary to successfully increase delivery of PrEP and implement three-site STI testing protocols, though progress may be slow. Given the importance of engaging FQHC's in reducing community burden of STIs and HIV, there is value in persistence.

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P182

PROVIDER KNOWLEDGE, ATTITUDES, AND BARRIERS TO DELIVERING MPOX SERVICES AND CARE

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Background: To help healthcare providers deliver mpox services, knowledge gaps and needs must be understood. Of the two distinct mpox virus clades – Clade IIb and Clade I (Clade IIb is associated with the ongoing global outbreak) – less is known about provider awareness and knowledge of Clade I. Therefore, the purpose of this study was to examine provider mpox knowledge, attitudes, and barriers, including those specific to Clade I.

Methods: Remesh, an anonymous and interactive focus group platform, engaged healthcare providers. Using a mixed-methods approach, providers were asked about mpox care experiences, barriers, and information needs. Awareness of the second mpox subtype (Clade I) was assessed and questions/concerns were solicited. Provider knowledge of Clade I mpox severity, symptoms, screening, testing, treatment, and prevention were examined. Data were analyzed using the Remesh platform and included descriptive statistics for closed-ended questions and inductive thematic analysis of open-ended questions.

Results: Participants (n=41) were primarily male (63%), physicians (75%), non-sexual health providers (59%), and specialized in general/family or internal medicine (83%). Over half (55%) had never managed a mpox case. Half (50%) reported lacking confidence diagnosing/identifying cases and 40% reported a lack of educational opportunities as barriers to mpox care. Mpox screening, testing, and treatment were educational topics most requested. of greatest interest. Nearly two-thirds of providers (65%) had not heard of Clade I mpox and common question related to clade differentiation, diagnostic criteria, and treatment guidelines. Most providers (90%) knew a sexual history should be taken when a patient has a rash; however, a majority (78-83%) did not know answers to questions about symptoms, severity, testing, and treatment of Clade I.

Conclusion: Overall, providers were not highly experienced, confident, or knowledgeable about mpox, including understanding differences between clades. Should Clade I become a public health concern, significant provider support may be required to deliver evidence-based care.

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IMPLEMENTATION OF A STATEWIDE PERINATAL SYPHILIS CLINICAL SUPPORT WARMLINE IN ILLINOIS

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Background: Over the last decade, the U.S. has experienced a precipitous rise in congenital syphilis (CS). In Illinois, between 2013 and 2022, CS rates increased by 315%. Perinatal syphilis management is complex, yet many prenatal and birthing facilities lack specialty provider assistance for diagnosis and treatment. In response, the Illinois Department of Public Health implemented a statewide perinatal syphilis clinical support warmline collaboratively with the Chicago Department of Public Health. We present findings from the first four months of warmline activity.

Methods: Data were obtained from a prospective, statewide initiative with real-time data collection and validation. The warmline offers clinicians medical consultation for syphilis diagnosis and treatment during pregnancy and the newborn period, coordination of syphilis record searches to obtain prior testing and treatment history, and assistance with mandatory reporting. Calls are answered within one business day by physicians with advanced expertise in reproductive and pediatric infectious diseases. Call documentation includes clinical and demographic characteristics and reasons for consultation. Cases were described using CDC surveillance case definitions (adults) and CDC evaluation scenarios (newborns).

Results: The warmline launched with information disseminated through press releases and statewide public health alerts. Between 11/1/23 and 2/29/24, there were 32 calls (15 from Chicago, 17 from outside Chicago). Overall, 41% (13) of calls involved antepartum care, 50% (16) postnatal/infant care, and 9% (3) other concerns. Syphilis diagnosis was established for 24 cases: 2 primary, 1 early latent, 18 late latent, and 3 stage unknown. Among 15 calls regarding newborn evaluations for CS, there were 7 possible, 5 less likely, 2 unlikely, and 1 unknown.

Conclusion: Implementation of a statewide perinatal syphilis clinical support service resulted in rapid utilization by Illinois clinicians, highlighting the clinical complexity of this condition. Our model may be replicated in other public health jurisdictions and could help reduce the incidence of CS locally and nationally.

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P185

IMPROVING THE DISCUSSION OF EPT IN A SEXUAL HEALTH CLINIC

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Background: Expedited partner therapy (EPT) is an important yet underused tool for STI prevention. NYC PTC initiated a QI project with the aim of 1) providing information about EPT to 80% of patients testing positive for gonorrhea (GC) and/or chlamydia (CT); 2) standardize the sharing of EPT information; 3) improve process documentation.

Methods: We initiated this QI project at a large (~2900 patients annually) urban, academic sexual health clinic in NYC. The clinic utilized QI tools, such as Plan-Do-Study-Act cycles, to implement and assess changes. The clinic chose to standardize the delivery of EPT information via a provider template in the electronic medical record. One provider, clinic champion, developed and pilot tested the note content and process; the content was then refined through discussions with multidisciplinary clinic personnel. The note and process were shared with clinic providers via one-on-one discussions. A retrospective chart review was performed to assess documented EPT discussions among patients testing positive for GC/CT in the 2 months pre-intervention and for the month of intervention.

Results: In the pre-intervention cohort, N=476 patients were seen at the clinic; 21.4% of patients tested were diagnosed with GC/CT and 33% had a documented EPT discussion. N=313 patients were seen in clinic in the post-intervention cohort; 16.5% of patients tested were diagnosed with GC/CT and 48% had a documented EPT discussion. Data will continue to be evaluated as more providers are trained.

Conclusion: Implementation of a standardized provider template resulted in an increase in EPT documentation, though more work is needed. Providing information on EPT is a straightforward way to address community burden of STIs. While the clinic chose one option to improve discussion of EPT, others exist, such as documenting EPT offer while providing empiric treatment. This replicable process should be used in other clinics to ensure EPT information is consistently disseminated to patients.

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P186

OKLAHOMA STI ACADEMY: A TWO-DAY BOOTCAMP FOR NURSES

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Background: The Sexual Health and Harm Reduction Service (SHHRS) within the Oklahoma State Department of Health learned of the need for a more intensive STI training for nurses working in the county health department clinics. A two-day comprehensive academy providing current evidenced-based information and skills to identify, treat, and prevent sexually transmitted infections was developed to meet this need. In addition, the curriculum includes epidemiology of HIV/STIs, sexual history taking, stigma and bias training, nursing protocols, and a physical exam skills check. The material is constantly growing and evolving based on feedback and identified gaps. SHHRS is continually evaluating the effectiveness of STI Academy to educate and inform nursing staff.

Methods: An anonymous survey was created to assess whether or not the program was helpful to nurses, both new and experienced, who attended STI Academy. Survey responses from 163 attendees were collected over a two-year period using Qualtrics. Quantitative and qualitative results were analyzed using SAS.

Results: Of 163 nurses surveyed, 160 were county health department nurses and 3 were from Indian Health Services. Most nurses surveyed agreed or strongly agreed that attending the academy will improve their job performance (98.8%). The majority also said they would recommend the training to a colleague (96.3%). When asked about the most beneficial part of the course, the topics most frequently mentioned in the free response answers were the hands-on physical skills check (31.9%; 52/163) and syphilis education (16.0%; 26/163).

Conclusion: Based on the nurses surveyed, the STI Academy was found to be successful in providing additional knowledge and skills to nurses, with 98.8% stating what they learned will improve their job performance. Continuing education on identification and treatment of STIs is crucial to the health of Oklahomans. SHHRS is looking to expand and tailor this training to include additional providers outside of county health department nurses.

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A NATIONAL APPROACH TO TRAINING THE DISEASE INTERVENTION WORKFORCE: THE NATIONAL NETWORK OF DISEASE INTERVENTION TRAINING CENTERS (NNDITC)

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Background: The NNDITC is a network of adult education and sexual health experts comprised of one eLearning curricula development and training coordination center, one instructor-led curricula development center, and four regional instructor-led training centers. The NNDITC is tasked with the implementation of standardized national training to strengthen competency-based skills for disease intervention (DI) professionals.

Methods: The NNDITC collected and reviewed information from state, tribal, local, or territorial (STLT) stakeholders on DI skills, knowledge, and tasks to inform the development of eLearning and instructor-led curricula. NNDITC created a learning management system (LMS) to track course registration and completion data, and course evaluation responses to assess training impact.

Results: Stakeholder interviews represented training needs of 4,029 disease intervention staff across the nation and achieved a 97% (56/58) response rate. Interviews highlighted training needs such as motivating clients, interview techniques, cultural competency, and preparation for case and field work.

Since 2021, NNDITC has developed 11 unique courses, facilitated 634 virtual skill-building sessions, supported 3,272 new learner profiles, and registered 13,389 learners, with 6,223 learners completing training. NNDITC courses include diverse topics such as STI/HIV interviewing, motivational interviewing, cultural humility when working with men who have sex with men and maintaining personal safety in the field.

Post-course evaluations indicated that 93% (4331/4642) of learners agree or strongly agree that they feel confident they will be able to transfer the knowledge and skills acquired from these courses to their work in case investigation. Results were further analyzed by learner demographics, geographic distribution, and course uptake.

Conclusion: Through collaborative efforts, the NNDITC has successfully filled a gap in national training and development for DI professionals by implementing interactive courses that respond to the needs identified by STLT stakeholders.

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SYPHILIS 101 FOR COMMUNITY HEALTH WORKERS: A TRAINING PROGRAM FROM OKLAHOMA STATE DEPARTMENT OF HEALTH

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Background: Syphilis cases have been increasing in the United States, with Oklahoma ranking 4th in the nation for rates of primary and secondary syphilis and 5th for rates of congenital syphilis. From 2017 to 2022, there was a 234.7% increase in the rate of primary and secondary syphilis in Oklahoma, with minority groups being disproportionately affected.

Methods: Oklahoma conducted a series of five syphilis trainings tailored to Community Health Workers (CHWs) employed by the Oklahoma State Department of Health, with a goal to increase overall knowledge and awareness and to encourage CHWs to play an active role in prevention. The trainings covered syphilis staging, signs, symptoms, treatment, and ways to have open conversations about syphilis. Thirty-four individuals were educated across the state, the majority holding CHW roles.

Results: An initial pilot evaluation was conducted, asking participants: “Will you use what you learned in this training in your work?” Half of the attendees (5/10) reported that they definitely would utilize information presented in their work. However, when asked what would keep them from using the information in their work, 20% (2/10) reported that their colleagues would not support them doing this kind of work. Training was modified to reduce emphasis on clinical information and further expand Disease Intervention Specialists portion to emphasize availability to CHWs as a resource. Attendees at subsequent trainings were also given a standard evaluation that showed 58.3% (7/12) “Strongly Agreed” that the training increased their knowledge of syphilis and 66.7% (8/12) reported that their knowledge of resources and tools available increased “Very Much” because of the training.

Conclusion: Community Health Workers can play a pivotal role in closing the gap to care, including care for Sexually Transmitted Infections. Providing this group with the knowledge and resources needed will empower them to make positive changes in the communities they serve.

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P189

DECREASES IN STATE STD PROGRAM CAPACITY DURING COVID-19

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Background: Health departments (HDs) provide essential STD services to combat rising syphilis. During the COVID-19 pandemic, many HDs struggled to maintain services and had to reallocate funds and personnel. The scope of these disruptions in the context of rising syphilis cases has not been systematically studied.

Methods: We analyzed data from the U.S. STD Infrastructure Survey, a survey conducted periodically (2018, 2021), to assess the level and capacity of publicly funded STD programs pre/post COVID-19. Topics included services, budget, staffing, and changes due to COVID-19. We stratified by low versus high primary and secondary (P&S) syphilis rates using the STI National Strategic Plan's 10-year goal (12.2 per 100,000 by 2030) as the threshold.

Results: Of the 50 HDs, 35 state STD program directors responded in both 2018 and 2021 (response rate=70.0%). From 2018 to 2021, most states (94.3%) reported increased syphilis rates. States considered high syphilis morbidity increased from 27.7% in 2018 to 54.3% in 2021 ($p<0.001$). 91.4% of respondents reported some of their STD workforce was detailed to COVID-19. In 2021, 57.9% of high morbidity states reported a decrease in staffing compared to 25.0% in low morbidity states ($p=0.05$). The percentage reporting that state (not local) HDs conduct the majority of partner services increased for low morbidity (54.0% to 62.5%, $p=0.84$) and high morbidity areas (44.4% to 47.4%, $p=0.91$). STD clinic closures increased from 5.7% in 2018 to 20.0% in 2021.

Conclusion: During the COVID-19 pandemic, state STD program staffing decreased while state syphilis rates increased. State STD programs reporting high syphilis morbidity experienced greater disruptions to staffing and programs yet were still responsible for a disproportionately large percentage of partner services. The increased burden experienced by state HDs due to COVID-19 may have impacted their ability to meet the need for safety net STD services and partner services within their jurisdictions.

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P190

**STAFFING AND BUDGET LEVELS FOR LOCAL STD PROGRAMS BY COUNTY-LEVEL
SOCIODEMOGRAPHIC CHARACTERISTICS**

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Background: While resource changes in sexually transmitted disease (STD) programs have occurred across the United States, it is unclear whether the changes differ in areas that serve populations facing socioeconomic disadvantage. Identifying whether certain population-level sociodemographic characteristics are correlated with changes in STD program resources may help inform STD program and policy decisions. We examined the relationship between STD program staffing and budget levels at local health departments and their county-level sociodemographic composition in 2020.

Methods: Data from the 2021 STD Local Health Department (LHD) Infrastructure Survey and the 2020 CDC/ATSDR Social Vulnerability Index were used. The primary outcomes were whether a LHD had: 1) any staffing cuts to its STD program, and 2) any budget cuts to its STD program in 2020. County-level sociodemographic independent variables included two indicators for racial/ethnic minority status (non-Hispanic Black/African American, Hispanic/Latino), five indicators for socioeconomic status (poverty, unemployment, uninsurance, education, housing cost burden), and one indicator for household characteristics (single-parent household status). Covariates included region, jurisdiction size, and whether staff were diverted for the COVID-19 response. An adjusted logistic regression model assessed associations between STD program resource cuts and sociodemographic variables and covariates.

Results: Higher percentage of Hispanic/Latino population (OR=1.1; 95% CI: 1.0, 1.2) and lower percentage of the population with no high school diploma (OR=0.68; 95% CI: 0.48, 0.97) within a jurisdiction were associated with STD program budget cuts at LHDs. No county-level sociodemographic characteristics were associated with STD program staffing cuts at LHDs.

Conclusion: Understanding how STD program resources align with sociodemographic disparities can help identify factors to focus on when managing limited resources, particularly during public health emergencies such as the COVID-19 pandemic. This analysis provides a framework that LHDs may wish to consider on how resource allocation and emergency responses may impact community-level STD disparities.

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TRENDS IN SCHOOL-BASED SEXUAL HEALTH SERVICES: NATIONWIDE ESTIMATES, 2020-2022

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Background: Schools play a critical role in providing school-based sexual health services (SHS) to adolescents, a population at disproportionate risk for STI and HIV infection. Little is known, however, about current availability of SHS in schools or how that availability changes over time in the United States.

Methods: We used data from the 2020 and 2022 cycles of School Health Profiles, which assessed school health policies and practices in representative samples of secondary schools in 44 states for 2020 and 45 states for 2022. Nationwide prevalence and 95% confidence intervals (CI) were estimated for 18 SHS outcomes. Eight outcomes measure the direct provision of SHS in schools, including HIV and STI testing and treatment, HPV vaccination, and provision of condoms and contraceptives. The remaining 10 outcomes assess referrals for SHS, including referrals for STI and HIV testing and treatment, HPV vaccination, HIV post-exposure prophylaxis (PEP), and pre-exposure prophylaxis (PrEP). We compared 2022 with 2020 estimates using non-overlapping CI.

Results: The prevalence of HIV testing, STI testing, and HPV vaccination did not change between 2020 and 2022; however, provision of condoms significantly increased from 5.2% to 7.5%. Trends for SHS referrals from 2020 to 2022 were inconsistent. Although there were significant increases in referrals for HIV testing (29.0% to 31.6%), STI testing (30.6% to 33.3%), and STI treatment (30.1% to 32.5%), there were significant declines in referrals for HIV treatment (34.2% to 30.5%), PEP (31.7% to 28.6%), PrEP (31.8% to 28.4%), and HPV vaccination (35.1% to 32.2%).

Conclusion: The increase in referrals for STI testing and treatment in schools aligns with the uptick in STI incidence among adolescents. The decreases in referrals for HIV prevention and treatment, however, warrant further investigation. The findings underscore a critical need to enhance school-based SHS and ensure continued monitoring.

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A HEALTH DEPARTMENT RESPONSE TO MPOX UTILIZING LESSONS LEARNED DURING A HEALTH DEPARTMENT WIDE COLLABORATIVE RESPONSE FOR COVID-19

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Background: Mpox is a rare infection caused by the mpox virus. Prior to 2022, person-to-person transmission of mpox during sexual activity was rare. This multinational outbreak highlighted that sexual transmission could play a significant role. The Pennsylvania Department of Health had 315 reported cases of mpox from June 2022 to August 2023. The response and intervention required resources departmentwide.

Methods: Across the health department subject matter experts coordinated a multifaceted response. The Bureaus of Epidemiology, Immunizations, Communicable Diseases, Emergency Preparedness and Response, Community Health Systems and Laboratories met routinely. The team assured that individuals could be tested and treated, interviewed by HIV/STD field staff with referrals for partners for vaccination, and vaccine made readily available to at-risk populations in locations seldom providing vaccines.

Results: Investigations were assigned based on regional jurisdiction. Staff would see cases in their inbox first thing every morning in the Pennsylvania National Electronic Data Surveillance System. Field staff were made aware that mpox cases were priority and interviews were very similar to syphilis and HIV interviews. The Bureau of Epidemiology provided consultation and support. Swift response from the Bureaus of Immunizations, Emergency Preparedness and Response, and Community Health Systems ensured mpox vaccine was readily available for partners of infected individuals and easily accessible to those most at-risk through a "hub-and-spoke" distribution model focusing on communities most affected by mpox transmission.

Conclusion: Utilizing the "all-hands-on-deck", collaborative approach implemented during the COVID-19 response contributed to a seamless Pennsylvania Department of Health response to mpox. Utilizing the HIV/STD Disease Intervention Specialists provided a seamless response that can be applied to new viruses or outbreaks as they occur. Consistent communication and utilization of subject matter experts fueled the planning and responsiveness that garnered the staff the support they needed to provide patients and their contacts with testing, treatment, and vaccination.

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ACHIEVING TOP NATIONAL MPOX VACCINATION RATES IN RHODE ISLAND: THE CRITICAL ROLE OF COMMUNITY ENGAGEMENT, COMMUNICATIONS, AND COLLABORATION

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Background: In January 2024, the Centers for Disease Control and Prevention (CDC) reported that Rhode Island ranked *first* among the 50 U.S. states for rates of full vaccination coverage (two doses) against mpox among GBMSM, and *second* among the 50 states for single dose vaccination. The Rhode Island Department of Health (RIDOH) succeeded in its MPOX rapid outbreak response by focusing on community engagement, health equity, and reaching GBMSM subpopulations, including BIPOC community members, people who use drugs, people on the "down low," commercial sex workers, and those experiencing homelessness.

Methods: Using technology developed during Rhode Island's COVID-19 response, RIDOH created a mpox Vaccine Interest Notification List, prompting interested individuals to receive text-based notifications when the vaccine was available. A mpox communications and vaccination plan was implemented with input from a GBMSM mpox advisory committee. Communication activities focused on reaching MSM through online dating sites, advertising in cinemas, and a RIDOH mpox website landing page. A variety of community settings were selected for public vaccination clinics to reach GBMSM, including bathhouses, churches, bars, SSPs, community colleges, and sports leagues.

Results: As of January 2024, the Centers for Disease Control and Prevention (CDC) reported that 62% of Rhode Island's target population received one dose, and 46% received two doses (fully vaccinated) of JYNNEOS. During the initial campaign period, the RIDOH mpox landing webpage received 35,000 page views. According to the CDC, among the fifty States, Rhode Island ranked #1 for full vaccination coverage (two doses) and #2 for partial vaccination (one dose).

Conclusion: Many aspects of Rhode Island's nation-leading mpox outbreak response are transferrable to future infectious outbreaks: (1) a non-stigmatizing education campaign informed by community engagement and health equity; (2) a nimble infrastructure for rapid establishment of public vaccination clinics; (3) existing collaboration with community groups, and (4) strong support from local healthcare professionals.

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NATIONAL HIV PREP CURRICULUM - EVALUATION OF REACH AND ENGAGEMENT

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Background: HIV pre-exposure prophylaxis (PrEP) is >90% effective for preventing sexual acquisition of HIV, yet only one in three persons who would benefit receive it. The new National HIV PrEP Curriculum (NHPC) and its multimedia features—HIV PrEP Tools for Clinicians app, Clinical Guides, Panel Discussions, and Mini-Lectures—offer novel methods to reach, engage, and train health professionals on how to assess, initiate, and monitor HIV PrEP.

Methods: We evaluated demographic and completion data for registered learners, and multimedia data from Google Analytics, YouTube, Apple App, and Google Play for 2/6/2024-3/26/2024.

Results: The majority of the 542 registered learners were based in the U.S. (94.3%, n=511) and located in 43 states, the District of Columbia, Puerto Rico, and U.S. Virgin Islands. Among U.S.-based learners, 21.7% were nurse practitioners (n=111), 14.3% registered nurses (n=73), 11.9% physicians (n=61), 7.4% Disease Intervention Specialists (n=38), and 6.7% pharmacists (n=34). More than half were care providers/clinicians (54.2%, n=277) with 27.8% in family practice (n=77), 19.9% infectious diseases (n=55) and 19.9% public health (n=55). The majority reported direct interaction with clients/patients (82.8%, n=423), and, of those, 60.1% provided HIV care and treatment (n=254). Twenty-nine percent worked at a Federally Qualified Health Center (n=147).

A total of 239 registered learners completed ≥ 1 self-study lesson. Half of those learners completed the five lessons in the HIV PrEP Fundamentals Module (n=118), 37 completed the six lessons in the In-Depth Topics Module, and 32 completed all 11 lessons.

A total of 3,807 users (registered and unregistered) viewed the NHPC website pages 34,467 times. The HIV PrEP Tools for Clinicians app was downloaded 226 times. The Clinical Guides were viewed 461 times, Panel Discussions 199 times, and Mini-Lectures 102 times.

Conclusion: In the first seven weeks, NHPC is reaching, engaging, and training health professionals across the U.S. on how to assess, initiate, and monitor HIV PrEP.

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IMPLEMENTING A COMMUNITY-BASED STI CLINIC IN PROVIDENCE, RHODE ISLAND

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Background: Lesbian, gay, bisexual, transgender, and queer (LGBTQ+) communities experience significant health disparities related to sexual health including sexually transmitted infections (STIs). Improved access to culturally congruent HIV/STI prevention and care are needed. We describe how we developed a new community-based LGBTQ+ primary care clinic and implemented safety-net STI services in Providence, Rhode Island.

Methods: Open Door Health in Providence, Rhode Island was started in 2020 to improve access to HIV/STI care and prevention services, primary care, and gender affirming care for the LGBTQ+ community. We reviewed demographics and behaviors of patients presenting for STI testing services from February 2021 to October 2023 at the clinic. Bivariate and multivariate analyses were used to evaluate demographics and behaviors among patients testing positive for HIV and other STIs.

Results: A total of N=1,633 people presented for STI screening. Of these, 56% were 30 years or younger, 65% identified as male, 24% as female, and 9% as non-binary or gender diverse. Forty-three percent were MSM, 19% were Black/African American (B/AA), and 22% were Hispanic/Latino (H/L). Seventy-one percent reported two or more partners in the last three months. The prevalence of STIs was 22.3% (4.4% Syphilis, 7.5% Gonorrhea, and 9.7% Chlamydia). Those who tested positive for an STI were more likely to be B/AA (23.3% of B/AA individuals versus 15.9% of White, $p<0.05$), H/L (23.1% versus 17.4%, $p<0.05$), and MSM (25% versus 16.9%, $p<0.05$).

Conclusion: Open Door Health provides important safety-net STI services for the LGBTQ+ community. Individuals presenting for services had a high prevalence of HIV/STIs. Improved approaches are needed for HIV/STI care and prevention in this group including among B/AA and H/L communities.

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SYPHILIS IN THE SOUTH SUMMIT: CAN A SUMMIT IMPACT PRACTICE CHANGE AND JURISDICTIONAL PRIORITIES?

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Background: With syphilis on the rise in the southern region of the U.S., the Denver and Southeast Prevention Training Centers (PTCs) hosted a Syphilis in the South Summit (SiSS) in May 2023. This one-day summit addressed program implementation of key syphilis priorities, including successes and barriers. Each jurisdiction developed comprehensive action plans to identify ongoing priorities. We examined the effectiveness of a one-day summit in influencing individual intent to change and practice change.

Methods: An online post-course evaluation was sent to attendees immediately after the event, and a long-term evaluation was sent eight months after the event, measuring progress attendees made toward their identified practice changes for their states. The long-term evaluation questions captured the demographics of attendees, implementation of practice changes, barriers, and future planning. The long-term survey was distributed via email by the SiSS planning committee.

Results: The summit was attended by 58 individuals representing leadership from 11 STI clinics, 10 state health departments, and eight other healthcare organizations. The post-course evaluation had a completion rate of 59% (n=58), with 86% (n=38) indicating an intent to make a practice change. The long-term evaluation had a completion rate of 50% (n=44), and 91% (n=22) indicating they identified new approaches to address syphilis within their program. The actual practice changes reported in the long-term evaluation included 95% of attendees sharing information presented with colleagues after the event, 55% revising existing clinical protocol or processes, and 45% enhancing a clinical service. Seventy-two percent indicated competing priorities as the most significant barrier to implementing action items, while 32% indicated a need for more time. Ninety-five percent of attendees indicated that technical assistance is needed to sustain practice change.

Conclusion: A one-day summit with key leadership can successfully impact practice change and assist in identifying new approaches to syphilis with their organizations and clinics.

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P197

PLAYING THE FIELD: MEETING PEOPLE WHERE THEY ARE!

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Background: Considering the increasing numbers of marginally housed persons, increased encampments, and the staggering rise of syphilis and congenital syphilis, reaching people where they are is more important than ever. Since COVID, many programs changed the way partner services are conducted. There has been high staff turnover to folks who have little to no field experience or those needing refreshers on new challenges in the field. To support STI/HIV programs, the CAPTC developed a series of virtual field trainings to support disease intervention staff working in the field.

Methods: These field safety courses were delivered between June 2022 - February 2024 and provided basic skills to those new to fieldwork and more advanced skills for those who needed beyond the basics. Utilizing top virtual learning technology and adult learning approaches, course content included basic safety precautions and guidance, assessing different dwellings, recognizing/responding to overdose, de-escalating conflict, and navigating encampments. Qualitative and quantitative data were collected via a retrospective-post-course assessment.

Results: Over 400 learners participated in 13 Field Safety trainings. Evaluation data attained 64% response rate from learners (n=282). Paired t-test analysis indicated a 30% increase in knowledge and skills attained from the courses across indicators measuring *managing challenging field notification situations; describing safety guidelines to conduct field activities; de-escalating conflicts in the field; and identifying safety issues while navigating encampments*. Most respondents (93%) indicated the course met their needs; 93% expressed a high/very high confidence level to transfer knowledge/skills attained to work; and 87% reported the course to be very/extremely useful.

Conclusion: Training staff in field safety procedures is crucial to ensure consistent partner notifications and support getting people the necessary testing and/or treatment they need and deserve. Adhering to safety guidelines helps keep staff safe while helping to ensure access to health care and better health outcomes for those most impacted by STIs.

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P198

COMBATING INSTITUTIONAL AND LOGISTICAL CHALLENGES TO CLINICIAN RECRUITMENT FOR SEXUAL HEALTH RESEARCH

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Background: Understanding clinician's unique processes and approaches to sexual health (i.e., discussion, education, clinical management) is important when developing interventions to improve sexual health uptake in primary care settings. However, there are increasing competing priorities in healthcare workplaces that are making it a challenge to recruit clinicians for research.

Methods: We intended to conduct one-time brief focus groups with primary care physicians and advanced practice providers to gain insight into: (1) factors impacting sexual health discussions and (2) clinician STI management and education practices. Institutional barriers to effective recruitment (e.g., internal approval processes, communication limitations, lack of clinician access) limited successful recruitment of the proposed sample size (N= 16).

Results: The insufficient recruitment of participants highlighted important barriers to accessing clinicians as research participants. Clinician access is an important first step to successful recruitment and was limited in this research specifically related to: (1) complex internal research approval protocols, (2) limited email communication related to clinician email overload, and (3) important clinician privacy concerns. To mitigate these issues, we devised a scaffolded strategy to improve future clinician recruitment including: (1) build relationships early, (2) validate the relationships often, (3) effectively communicate with institutions the importance of their participation in the proposed research and (4) obtain clinician contact preferences.

Conclusion: Utilizing clinicians as research participants is essential to understanding the clinical processes surrounding the discussion of, education about, and clinical management of sexual health concerns in the primary care setting. Primary care clinicians experience burnout at rates much higher than other colleagues which may contribute to reduced participation in clinician-based research. It is imperative that we identify and reduce institutional barriers to clinicians' participation in research as their perspective, experience, and knowledge are necessary when addressing ongoing clinical-based concerns. Access to clinicians requires a multi-pronged approach addressing institutional and individual preferences.

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RN PROTOCOLS TO ASSIST NURSE-LED RHFP CLINICS

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Background: This posterboard presents the ongoing work of Wisconsin Department of Health Services' Reproductive Health Family Planning (RHFP) unit's clinical nurse protocols for our statewide subrecipients. Due to the lack of mid-level providers, especially in our rural areas, many of our RHFP clinics are nurse run clinics. To allow our nurses to work at the top of their scope of practice, delegated orders are required. With delegated orders in place, nurses are able to provide a broad range of services that many of our clients would not have access to. But due to the many hats that local health departments wear, many times there is not enough time nor resources for medical directors to create nurse protocols for each specialty. One of the biggest needs identified, especially in our rural areas, was the growing rates of sexually transmitted infections and the need for STI testing and treatment.

Methods: The state team took this lift off of the local level and created a set of the most needed nurse protocols for the RHFP clinics. These protocols are based upon the most recent evidence-based practice, CDC recommendations, and nationally recognized guidelines. These protocols are then reviewed annually at the state level for any new protocol needs and updates. These protocols were distributed via email and then presented to subrecipients over multiple different platforms.

Results: These protocols have aided in expanding the care the nurses are able to provide clients at the local level and in return allow for increased access to our clients for RHFP services across the state of Wisconsin.

Conclusion: This posterboard presentation illustrates how a statewide team can help support their local health department clinics expand their scope of practice so that they can provide many services that may not otherwise be available in their service area.

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P200

THE RELATIONSHIP BETWEEN NEW AWARENESS OF A SEXUALLY TRANSMITTED INFECTION AND DEPRESSIVE SYMPTOMS AMONG WOMEN WITH HIV IN THE UNITED STATES

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Background: Women with HIV (WWH) experience depressive symptoms at four times the rate of women without HIV. Co-infection with a sexually transmitted infection (STI) is common among WWH and may worsen depressive symptoms. We examined the relationship between a new awareness of an STI and depressive symptoms among WWH in the United States (US).

Methods: The Women's Interagency HIV Study (WIHS) is the longest standing cohort of WWH and women at risk for HIV in the US. The WIHS conducts psychosocial surveys and gynecological exams twice per year. This analysis used data from 2013-2019 on STIs (measured by self-report or study clinicians' clinical impressions: chlamydia, gonorrhea, syphilis, herpes simplex 2, genital warts, or trichomoniasis) and depressive symptoms [measured via CES-D 20 scores (range 0 – 60)]. Generalized linear models with generalized estimating equations estimated the longitudinal, unadjusted association between new awareness of an STI (yes/no) and depressive symptoms.

Results: Overall, 1,770 WWH contributed 17,258 visits to the analysis. At first visit, median age was 38 (IQR: 31,45) and 33% were never married; 72% of participants were non-Hispanic Black. Thirty percent of WWH had a new STI during the 6-year follow-up, including 15% who had a new STI at ≥2 visits. At visits with a new STI, WWH had higher mean depressive symptoms than at visits without a new STI (12.58 vs. 12.12) a mean increase of 0.47 (95% CI: -0.07, 1.00) in CES-D score.

Conclusion: At visits with a new STI, WWH had increased depressive symptoms compared to visits without a new STI. It is possible that a new STI may remind women of their HIV diagnosis and lead to retraumatization (a process that reshapes a reaction to a trauma based on previous trauma). Providing increased mental health support at the time of a new STI may reduce depressive symptom burden.

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P201

IMPROVING QUALITY OF CARE FOR PATIENTS WITH LYMPHOGRANULOMA VENEREUM

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Background: *Lymphogranuloma venereum* (LGV) is caused by *Chlamydia trachomatis* (CT) serovars L1, L2, or L3, that can cause significant genital ulcer disease, inguinal lymphadenopathy, or proctocolitis. Untreated or chronic LGV proctitis infection may also increase HIV transmission risk. We described factors associated with LGV at the Denver Sexual Health Clinic (DSHC).

Methods: A retrospective descriptive analysis was performed between 2019-2023 on patients who were assigned male at birth that were tested for LGV due to findings of proctitis with confirmed rectal CT or symptomatic rectal CT. We examined the prevalence and predictive factors of LGV in patients with symptomatic rectal CT and analyzed LGV test turnaround time. Bivariate descriptive analysis and multiple logistic regression analysis were used to evaluate the relationships between presence of LGV and demographics, rectal symptoms, and coinfection.

Results: LGV was found in 37 (36%) of 104 unduplicated patients. The median age for positive LGV was 33 years (IQR [28-37]) compared to 29 years (IQR [24-35]) with negative LGV. LGV was significantly associated with bleeding ($p < .0001$) and discharge ($p = 0.013$). In the full logistic regression model, factors that were found to be associated with LGV included bleeding (OR = 5.4, 95% CI: 2.0-14.8, $p = 0.001$), discharge (OR = 3.1, 95% CI: 1.1-8.8, $p = 0.030$), and positive HIV status (OR = 3.5, 95% CI: 1.2-10.7, $p = 0.027$). The LGV test turnaround time was median of 7 days (IQR [6-9]).

Conclusion: At the DSHC, LGV is sporadically observed among those with rectal CT with proctitis or other rectal symptoms. LGV is significantly associated with rectal bleeding or discharge and is more frequent among people living with HIV. Patients with these characteristics should be tested for LGV and can be considered for presumptive LGV treatment. If LGV testing is available, LGV test turnaround time allows for more targeted use of extended doxycycline therapy.

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P203

ASSOCIATIONS BETWEEN STATE-LEVEL SEXUAL EDUCATION POLICIES AND SAFER SEX BEHAVIORS AMONG YOUNG ADULT BLACK WOMEN IN THE UNITED STATES

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Background: HIV/STI and comprehensive sexual education curricula intend to promote safer sex behaviors. We examined direct and indirect effects of state-level sexual education policies on young adult Black women's safer sex behaviors.

Methods: An online U.S. sample of young adult Black cisgender women ($N = 363$; 18–22 years) participated in a sexual health survey in 2023. State-level sexual education policies were sourced from the Sexuality Information and Education Council of the United States. Four latent variable models estimated for condom use and STI testing assessed direct and indirect effects of state-level HIV/STI and comprehensive curriculum requirements. Mediators included self-reported sexual education experience (latent variable of topics discussed in and perceived quality of their sexual education), sexual self-efficacy, and sexual subjectivity. Participant age was included as a covariate.

Results: Most participants (71%) lived in states with HIV/STI curriculum requirements, and 18% lived in states with comprehensive curriculum requirements. Half (46%) used condoms at last vaginal sex event, and 70% received an STI test in the last year. Age was positively associated with STI testing in both models ($\beta = .28$, $B = .10$, $p < .001$). Condom use was not significantly associated with age. There were no direct or mediated effects of either policy on condom use or STI testing. Sexual education experience had a direct effect on condom use in both models ($\beta = .18$, $B = .25$, $p = .01$). Sexual education experience had a direct effect on STI testing in the HIV/STI curriculum model ($\beta = .13$, $B = .17$, $p = .05$), but not in the comprehensive curriculum model.

Conclusion: State-level sexual education curriculum policies were not associated with recommended condom use and STI testing behaviors among young adult Black women; most likely due to varied implementation of state-level sexual education policies. Curriculum standards are needed.

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P204

THE “IMPACT” OF MEASURING HEALTH EQUITY IN SEXUAL HEALTH LEGISLATION: FINDING TOOLS THAT WORK

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Background: Public health professionals continue to demand policy initiatives at local, state, and territorial levels that meaningfully integrate health equity. The National Coalition of STD Directors (NCSDD) regularly tracks sexual health-related policies at the state legislative level and recognized an opportunity to answer this call by cultivating a health equity assessment tool unique to STI-related policy.

Methods: A point-based tool was developed and piloted during 2023 state legislative sessions (January – June). The tool was named IMPACT, or Inclusive Metrics for Policy Analysis and Cultural Transformation and included a “3P category” system by which policies were ranked: 1) People; 2) Patients; and 3) Providers. The 3P system was created to ensure identity-based communities disproportionately impacted by STIs were prioritized, as well as medically accurate STI treatments and interventions. Each P category asked questions in a yes-or-no format that corresponded to a point system and the average score calculated its ranking: under 2.0 = harmful policy; 2.0 – 2.4 = passively harmful by sustaining status quo; 2.4 – 2.7 = potential to be equitable; 2.7 – 3.0 = equitable policy.

Results: NCSDD tracked over 100 bills directly or indirectly pertaining to STIs across six categories. Bills that included broad coalitions and expanded access to STI treatment through insurance policies ranked highest but lost points for limiting which plans qualify for zero cost-sharing. Bills that intended to expand harm reduction policies demonstrated a flaw in the tool by not naming sexual health services in bill language. Several bills that curbed LGBTQ youth rights in healthcare settings received low scores.

Conclusion: NCSDD’s pilot found that the IMPACT tool offered valuable information for assessing health equity but requires more legislative analysis to guide refinement. NCSDD is currently applying the tool in 2024 state legislative sessions and will apply a second year of data to modify its point system.

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P205

IMPACT OF COVID-19 SCHOOL LEARNING MODALITY POLICIES ON ADOLESCENT SEXUAL BEHAVIORS, HIV/STI TESTING, AND STI DIAGNOSIS RATES

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Background: The COVID-19 pandemic and associated changes in school learning modality reshaped students' lives and may have impacted sexual behaviors and healthcare access.

Methods: We used a difference-in-differences (DID) approach to compare changes in sexual behaviors, HIV/STI testing, and STI diagnosis rates from 2019 (pre-intervention) to 2021 (post-intervention) between jurisdictions where high school students attended school primarily virtually (intervention) vs. in-person (control) for the 2020-2021 academic year. We used sexual behavior and HIV/STI testing data from local jurisdictions administering the Youth Risk Behavior Survey (YRBS) and reported chlamydia and gonorrhea diagnosis rates for 15-19-year-olds in corresponding counties from AtlasPlus. Intervention and control groups were defined using data from the COVID-19 School Data Hub and school/governmental policies, news, or other documentation. We used survey-weighted logistic regression for behavioral data and Poisson regression for diagnosis rates. DID estimates were parameterized as the interaction between year and learning modality.

Results: Twenty-four local jurisdictions (16 virtual, 8 in-person) with a total 88,308 YRBS respondents across both years were included. Compared to in-person learning, virtual learning was associated with a significant relative increase in condom use from 2019 to 2021 [DID odds ratio (DID-OR)=1.42, 95%CI=1.12-1.79] and significant relative decreases in STI testing [DID-OR=0.75, 95%CI=0.59-0.96], chlamydia diagnoses [DID incidence rate ratio (DID-IRR)=0.86, 95%CI=0.84-0.88], and gonorrhea diagnoses [DID-IRR=0.83, 95%CI=0.79-0.87]. Learning model was not significantly associated with changes in sexual intercourse ever or in the past 3 months, multiple sex partners in the past 3 months, alcohol/drug use before last sex, or ever HIV testing ($p>0.05$).

Conclusion: Virtual learning was associated with significant relative decreases in reported STI diagnoses, potentially in part due to documented reductions in STI testing. Efforts are needed to maintain access to sexual health services during public health emergencies involving schools and to increase STI testing access for students, especially those attending school virtually.

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P206

STATE AND TERRITORIAL HEALTH AGENCIES USING POLICY TO ADDRESS STI DRUG SHORTAGES

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Background: The complexity of the sexually transmitted infection (STI) drug shortage policy landscape poses significant challenges for health agencies, the nation, and patients as they access critical medications. Recent and historic shortages have underscored the importance of identifying policy solutions to better support state and territorial health agencies and their partners as they prepare for and mitigate STI drug shortages.

Methods: In early 2024, ASTHO conducted a literature review and informational interviews with public health partners and staff from more than 5 state and territorial health agencies to better understand policy levers that health agency staff can use to address STI drug shortages. Qualitative coding included tracking policy options that health agencies can leverage to address STI drug shortages, as well as practical considerations for implementation.

Results: ASTHO identified specific policy options and strategies that may be used by state and territorial health agencies to address drug shortages. The results fit thematically into broader strategies such as prioritizing patients for treatment, prescribing alternative treatments, developing and sustaining partnerships to increase drug access, approaches to monitoring available stock, and more. Challenges identified include longer timelines and more severe side effects of alternative treatments regimens, and lack of funding for staff time and expertise to implement strategies.

Conclusion: Despite significant challenges, state and territorial health agencies have found innovative and effective approaches to addressing drug shortages in their jurisdiction, which may be replicable in other contexts.

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P207

PARENTAL SEXUAL COMMUNICATION & PARENTAL MONITORING AS CORRELATES OF CONDOM USE AMONG BLACK ADOLESCENTS: A META-ANALYSIS

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Background: Black adolescents are disproportionately affected by STIs, including HIV, compared to their same-age peers. Although condoms are the most accessible form of STI prevention for adolescents, Black adolescents report lower rates of condom use than their peers. Ecological theories have proposed that environmental factors, including parent-child relationships, influence adolescents' health behaviors. For Black youth, parental sexual communication and parental monitoring are associated with increased condom and contraceptive use. However, evidence for the strength of these associations varies. Thus, the purpose of this study was to meta-analyze and systematically review the literature surrounding parental communication and parental monitoring as predictors of condom use behavior among Black adolescents.

Methods: A comprehensive search was conducted using PsycINFO, Medline, CINAHL and Communication Source databases. Studies were included if they: 1) sampled U.S. adolescents ages 13–24 ($M_{age} < 19$); 2) included predominately Black adolescents; 3) assessed self-reported condom use; 4) assessed parental communication or monitoring; 5) were conducted between 2000 and 2023.

Results: Eleven studies with 3108 adolescents ($M_{age} = 16.14$) met our inclusion criteria. Most samples were exclusively urban ($k = 10$). Parental sexual communication had a small positive correlation with condom use (weighted $r = .15$, $p = .002$), while the association for parental monitoring was not significant (weighted $r = .07$, $p = .108$). Effects for parental sexual communication were heterogeneous.

Conclusion: Results suggest that these aspects of parent-child relationships have small to no effect on condom use behavior. Thus, other environmental factors, such as partner communication, as well as more proximal factors (e.g., condom intentions), may be more influential to condom use among this population. Additionally, as parental sexual communication varies (e.g., in quality, frequency), future work is needed to understand what aspects of communication may be most influential to condom use.

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P208

ADVOCACY WORKS! HERPES CURE ADVOCACY CHANGES FEDERAL RESPONSE

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Background: Herpes simplex viruses 1 and 2 impact over 200 million and 18 million Americans, respectively. Genital herpes increases the spread and acquisition of HIV and causes health complications and death in newborns. Yet, national epidemic control strategies for herpes are lacking.

Methods: In 2021, activists addressed gaps in herpes programs and contacted federal sexually transmitted infection prevention and research leaders across the Department of Health and Human Services (DHHS). They also engaged elected federal officials on the appropriations and health committees. Using meetings, education, and persistence, activists identified critical areas where officials could make policy changes. By 2022, a non-profit 501(3)c organization called Herpes Cure Advocacy (HCA) was formed, as well as a medical advisory group that informs the board and members of strategies and updates in research.

Results: As a direct result of HCA's influence, the government's 1) FY21 and 2) FY22 budgets included guidance requiring the DHHS agencies to assess current herpes activities and develop a national strategy for herpes and \$250,000 in funding for strategy development, 3) in November 2022, the National Institutes of Health (NIH) convened a 2-day workshop on cure, vaccine, and treatment research, 4) In 2023, the NIH subsequently released a 5-year research strategy, 5) In December 2023, based upon clinical and laboratory data provided by HCA,) the Food and Drug Administration issued a safety communication about the poor performance of herpes simplex virus antibody tests, 6) the Office of the Assistant Secretary of Health released a draft addendum to the National STI Strategy in February 2024 addressing herpes and 7) HCA prompted the CDC to undertake efforts to evaluate the burden of neonatal herpes and consider making it a nationally notifiable condition.

Conclusion: Advocacy works and requires experienced leadership, persistence, and highly dedicated activists. Silent no more.

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P209

TRENDS IN INTERNET SEARCHES FOR STI SERVICES USING NATIONAL PREVENTION INFORMATION NETWORK

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Background: The National Prevention Information Network (NPIN) is a website (npin.cdc.gov) where users can find information and resources about STIs and search for nearby STI services. NPIN powers the searches for STI testing for other websites, such as the CDC "GetTested" website, using the NPIN application programming interface (API). Understanding how people search for STI testing services online is an understudied gap in literature. In this paper, we aim to understand which populations are online seeking STI services and how external events impact search behavior.

Methods: Search queries from 2021-2024 from the NPIN API were analyzed. The search queries contain zip code, collated date of search, and website of origin. Zip codes were mapped to geographic location (50 states plus DC and Puerto Rico) and linked to 2020 Census population data. Searches per one hundred thousand population were compared across states. We compared monthly (monthly smooths collation clusters) search volume before, during, and after STI Awareness Week (April 9-15, 2023).

Results: From June 2021 to March 2024, 2,184,065 searches were performed through the NPIN API. The 5 geographies with the lowest searches per one hundred thousand population were Puerto Rico (221.7), Idaho (414.2), Wisconsin (445.1), Hawaii (494.7), and Oregon (499.9), and the 5 geographies with the highest were DC (4013.6), Maine (936.1), Kansas (902.0), Delaware (889.5), and Vermont (835.4). In 2023, searches peaked in April at 87,784 searches, which was 36.5% and 24.2% greater than searches in March and May, respectively. 28.3% of the search increase from March to April originates from a District of Columbia zip code.

Conclusion: Differences in NPIN usage per state reflect potential disparities in access to or knowledge of online health resources. Strategies for engaging states with lower usage should be studied. These results may highlight the impact of local campaigns during STI Awareness Week.

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P210

TRENDS IN USERS CONCERNS ABOUT STIS AND SYPHILIS DISCUSSION THEMES ON SEXUALLY TRANSMITTED DISEASE SUBCOMMUNITY ON REDDIT, 2010-2022

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Background: The online sexually transmitted disease (STD) Reddit subcommunity ('subreddit') allows users to anonymously post STD related questions and experiences and receive comments from other users. Our study aims to identify trends in users' concerns about STIs and most prevalent syphilis-related discussion topics.

Methods: Among all posts from the subreddit, we measured post demographics, post frequency over time, and frequency of specific STD mentions overall (from 2010-2022). Topic modeling was applied to all posts with syphilis mentions to identify common themes by symptoms, self-reported sexual behaviors and syphilis tests. We manually validated a random sample of 100 posts mentioning syphilis on these themes and classified posts as being focused on syphilis, general STIs, and/or other non-syphilis STIs.

Results: Post frequency increased from 42 posts in 2010 to 4,868 posts in 2018 and increased quickly to 15,489 posts in 2022. Among posters who shared demographic information (1.8), 35.3% and 64.7% self-identified as female and male, respectively, and the average age was 23 years old. The most mentioned STDs in posts as a proportion of all STD mentions were HIV/AIDS (31.4%), herpes (16.5%), and chlamydia (16.1%). Syphilis was 7.4% of all STD mentions from 2011-2022, and this proportion increased from 4.1% in 2011 to 10.3% in 2022. Of 100 posts reviewed, 41.0% and 36.0% were focused on syphilis and general STI, respectively; of those focused on syphilis or general STI, 47.4%, 24.2%, and 54.7% mentioned any symptoms, sexual behaviors, and syphilis tests, respectively.

Conclusion: Our study has shown a rapid increase in the number of posts in the STD subreddit from 2010-2022 along with increasing syphilis concerns related to their symptoms and syphilis testing. There are opportunities to promote and guide people to online scientific messaging tailored to address common concerns for STIs.

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P211

ELUCIDATING HEALTH INEQUITIES AND RESEARCH GAPS IN HIV AND OTHER SEXUALLY TRANSMITTED INFECTIONS USING DATA MINING AND A LARGE LANGUAGE MODEL: A COMPUTATIONAL SCOPING REVIEW

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Background: Historical injustices such as the Tuskegee Syphilis Study and slow response to the AIDS crisis highlight a longstanding legacy of inequity in the US. Despite many advances over the last 50 years, HIV and other sexually transmitted infections (STIs) continue to pose a substantial public health challenge. We conducted a large-scale scoping review to characterize major trends and elucidate potential gaps in STI literature concerning health equity.

Methods: Using a pre-validated search strategy, we extracted PubMed/MEDLINE articles (n=22,017 in English; published 1969-2023). We employed a three-pronged approach to characterize the literature and identified: (1) studied populations and study designs using MeSH terms, (2) condition mentions using named-entity recognition of abstracts and titles, and (3) emerging themes using a combination of BERTopic modeling and ChatGPT via prompt engineering to produce thematic labels and summaries. We also compared temporal trends in themes and studied conditions to national public health reporting of STI incidence and prevalence across population groups.

Results: Despite a steady increase until 2013 and plateau through 2019, annual publication counts dropped precipitously over the last five years amidst a rise in STI incidence. Topic modeling identified 46 themes, 27 of which concerned HIV (e.g., voluntary testing/counseling, internet-based interventions for prevention among men who have sex with men, mobile phone-based interventions for treatment adherence, willingness to participate in vaccine trials, prevention of mother-to-child transmission, and the impact of COVID-19 on people with HIV). Rectal microbicide adherence, human papillomavirus vaccine uptake, and screening for chlamydia, syphilis, and gonorrhea were among other themes identified.

Conclusion: STI literature concerning health equity has dramatically decreased since the COVID-19 pandemic and is dominated by HIV-related research. Coverage of different STIs and themes in the literature are highly variable over time and among minoritized populations, and do not necessarily reflect changes in incidence or prevalence.

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PL1

DOXYCYCLINE POSTEXPOSURE PROPHYLAXIS FOR BACTERIAL SEXUALLY TRANSMITTED INFECTION PREVENTION: THE SAN DIEGO COUNTY DOXY-PEP PILOT PROGRAM

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Background: To address high bacterial sexually transmitted infection (STI) rates among men who have sex with men (MSM) and transgender women (TGW), the San Diego County Sexual Health Clinics (SHCs) initiated a doxycycline postexposure prophylaxis (doxy-PEP) pilot program and assessed client acceptance and tolerance of doxy-PEP.

Methods: Between August 2, 2023 and May 31, 2024, doxy-PEP was offered according to California Department of Public Health recommendations. Clients were provided a 7-dose doxy-PEP starter pack and a 3-month prescription. Client data was obtained at intake and follow-up clinic visit with laboratory testing at 3 months. STI incidence after doxy-PEP initiation was verified using the state surveillance system.

Results: As of May 31, 2024, 237 clients were enrolled in the doxy-PEP program. Just 229 (96.6%) were cisgender men, five (2.1%) TGW, and three (1.3%) cisgender women. One-hundred (42.2%) clients were taking HIV pre-exposure prophylaxis (PrEP), 32 (13.5%) were living with HIV, and 105 (44.3%) were neither living with HIV nor taking PrEP. Among 132 clients with follow-up data available, 99 (75%) utilized their starter pack, 58 (44.3%) filled their 3-month prescription, 16 (12.5%) reported side effects, and 11 (8.5%) discontinued doxycycline. Of 35 clients who had follow-up laboratory testing, 13 (37.1%) had minor abnormalities not requiring doxy-PEP discontinuation. Surveillance data was available for 222 patients of whom 37 (16.7%) presented with an incident STI within the study period. Nine (4.1%) patients presented with multiple incident STI contemporaneously, 15 (6.8%) were diagnosed with chlamydia, 27 (12.1%) with gonorrhea and four (1.8%) with syphilis. Median time to incident STI was 108 days (IQR 16-174).

Conclusion: Doxy-PEP was acceptable and well tolerated by SHC clients. Around half of HIV-negative clients, who initiated doxy-PEP, were not on HIV PrEP for unknown reasons. No serious adverse effects or laboratory test abnormalities requiring doxy-PEP discontinuation were observed.

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PL2

WHERE CAN I GET DOXY PEP? AVAILABILITY OF DOXY PEP VIA WEB-BASED TELEHEALTH PLATFORMS

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Background: The CDC released final guidance for the use of doxycycline as postexposure prophylaxis (doxy PEP) on June 4, 2024. Telehealth platforms have the potential to improve access to doxy PEP, but information on its availability is limited. Equitable access to doxy PEP is crucial for success. We aimed to describe the availability of doxy PEP via online telehealth platforms.

Methods: In May 2024, we conducted a web-based scan of doxy PEP telehealth providers before the official release of CDC's guidelines. We used common search terms such as "doxy PEP online," "doxy PEP telehealth," "STI treatment online," and "how to get doxy PEP online" and reviewed the first page of web results (n=40). We also cross-referenced an HIV PrEP telehealth directory and KFF's sexual health telemedicine environmental scan (n=22 sites) for doxy PEP prescribing. Of 46 sites (16 duplicates excluded), five specifically advertised doxy PEP for STIs, while four offered general sexual health services with educational information about doxy PEP.

Results: Most (n=7/9) sites require a virtual consultation to determine patient eligibility. Four platforms include the prescription cost in the consult fee, while five charge separate costs based on the individual's pharmacy and insurance. Six platforms accept insurance, with an average prescription cost of \$30 with insurance and \$83 without. Two platforms offer their services for free, and two provide subscriptions with automatic prescription renewals every three months. Options include local pharmacy pick-up (n=4), delivery (n=3), or both (n=2). Seven platforms state that prescriptions are at the practitioner's discretion, and two only prescribe doxy PEP to established HIV PrEP patients.

Conclusion: Prior to CDC's final guidance release, some telehealth platforms were prescribing doxy PEP with unclear eligibility criteria and varying prices. Post-guidance release, further investigation is needed to monitor prescribing trends, costs, and assess variability in care models across platforms to ensure equitable access.

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PL3

DOXY-PEP AND HIV PREP SYNERGIES IN A NATIONAL TELEPREP PROGRAM

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Background: In the U.S., the HIV and STI epidemics disproportionately impact communities of color (Sullivan, et al., 2014). African American cisgender men who have sex with men (MSM) and/or women have lower uptake of PrEP and lower PrEP retention (Abeagbo, et al., 2021). A novel intervention to improve PrEP uptake and persistence is STI-PEP. Q Care Plus, a nationally scaled digital health (telePrEP) practice, offers STI-PEP in conjunction with PrEP. Research on the synergies of STI-PEP on PrEP programs is lacking, especially regarding EHE priority groups. Preliminary data show STI-PEP has reduced STI incidence in the PrEP cohort at Q Care Plus. A less expected outcome was the effect of STI-PEP on PrEP uptake and PrEP persistence for cisgender MSM identifying as African American or Black.

Methods: Data were collected via electronic medical records of PrEP encounters from October 1, 2023, to October 31, 2023, in 10 states where STI-PEP was offered for all patients identifying as African American or Black (n=258). A chart review was conducted to determine PrEP retention at three and six months. Data were de-identified and aggregated. Data analysis was completed using standard statistical methods.

Results: More patients started STI-PEP at initial PrEP visits than at quarterly PrEP renewal visits (48% vs. 33%), suggesting that patients new to Q Care Plus PrEP were seeking access to STI-PEP. Of 258 PrEP encounters, those prescribed STI-PEP had higher rates of PrEP retention at three months (77%, 95% CI 0.85-0.68; vs. 71%, 95% CI 0.78-0.64) and six months (70%, 95% CI 0.79-0.61; vs. 61%, 95% CI 0.69-0.53).

Conclusion: STI-PEP, which decreased STI incidence in Q Care Plus PrEP users, was shown to correlate with higher PrEP retention rates at three and six months in African American cisgender MSM. This review also suggests STI-PEP increased PrEP uptake in this population.

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PL4

ARE WE SAYING THE RIGHT THINGS YET? TESTING KEY DOXY PEP MESSAGES WITH POTENTIAL CONSUMERS

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Background: Clinics providing doxy PEP have created or repeated messages to describe doxy PEP to consumers. Current consumer messages have not been tested to understand whether potential patients understand common messages and what message gaps still exist. NCSD used AI-moderated online focus groups to gather feedback on common messages and identify additional information consumers need.

Methods: On February 22-23, 2024, NCSD used the online AI-mediated focus group tool Remesh to test common doxy PEP messages with 50 GBMSM from across the U.S., oversampling Black (56%) and Latino (30%) participants. 40% of participants were from the South. Participants identified as gay (46%), bisexual (46%), and straight (6%). All had multiple sex partners in the past 12 months, with at least one being male. Participants reviewed a series of passages containing publicly available common messages from clinic and health department websites. Participants also answered questions about cost and healthcare access.

Results: NCSD identified which common messages are clear, which need refinement, and what new messages need to be developed. Participants understood many existing messages describing doxy PEP and how to use it, its effectiveness, which infections doxy PEP can prevent and which it cannot, and eligibility information. Participants wanted more information on contraindications, cost and access, and long-term effects. Participants did not clearly understand when to take doxy PEP in relation to sex, whether to acquire doxy PEP before or after sex, and taking only one dose in a day.

Conclusion: As doxy PEP is implemented more broadly, consumers will need a blend of existing, new, and refined messages to understand doxy PEP and determine whether they want or need it. Health communicators and providers can use this information to develop new and refined messages and to prioritize key information in their communications. A second Remesh session in July will provide additional insights.

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PL5

PUBLIC HEALTH DETAILING TO PROMOTE DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXY-PEP) FOR SEXUALLY TRANSMITTED INFECTION PREVENTION AMONG PROVIDERS IN LOS ANGELES COUNTY

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Background: In 2024 national and state guidelines were released for the use of Doxycycline Post-Exposure Prophylaxis (Doxy-PEP) as a biomedical prevention option for bacterial STIs, but awareness and use of Doxy-PEP are low. The Los Angeles County (LAC) Department of Public Health (DPH) deployed public health detailing to expedite Doxy-PEP use among LAC providers.

Methods: Six public health detailers were trained to deliver guidance and evidence of Doxy-PEP efficacy and deployed to visit 920 facilities with a history of reporting syphilis and HIV cases. Between April and July 2024, detailers conducted initial and follow-up provider visits, separated by four weeks. A pre-and post-test design was used to compare change in provider knowledge, willingness to prescribe, and Doxy-PEP prescription from initial to follow-up visit. We describe results from the initial detailing visits to date.

Results: From April 29 through May 31, 2024, detailers completed initial visits with 677 providers at 404 facilities (44% of identified facilities). The majority were primary care providers (79%), 9% women's health, and 6% adolescent medicine. The majority of providers (63%) have been in practice for over 10 years. At the initial visit, most providers (44%) were not familiar with Doxy-PEP. Of providers reporting any prior knowledge of Doxy-PEP (n=381), 49% reported they were likely to prescribe it and, 9% of providers were already prescribing Doxy-PEP. One third of providers (33%) reported barriers to prescribing Doxy-PEP. Among those, the top three barriers were cost to the patient (41%), efficacy (31%), and side effects (30%); only 13% reported concerns around antimicrobial resistance.

Conclusion: Public health detailing was a successful strategy to promote knowledge of Doxy-PEP to medical providers in LAC. Baseline data indicate low provider familiarity with Doxy-PEP; follow-up visit data available in four weeks will describe the impact of detailing on knowledge and prescribing patterns. -

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PL6

SCENARIO PROJECTIONS OF CONGENITAL SYPHILIS CASES IN CALIFORNIA, 2023–2030

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Background: The yearly rate of congenital syphilis (CS) in California is at its highest point since 1950. We explored how efforts in California to 1) reduce syphilis cases; and 2) increase adequate syphilis treatment among infected pregnant persons could impact CS case projections through 2030.

Methods: We developed a scenario modeling framework to project CS incidence between 2023–2030 using California 2015–2022 surveillance data (finalized in 2023) on CS cases and female syphilis cases of childbearing age (15–44 years). We compared a baseline scenario where existing trends continued without additional interventions to scenarios that considered 1) the impact of an absolute reduction of 2–10% in the rate of female syphilis cases per year; and 2) a 2–10% increase in the proportion of pregnant persons adequately treated for syphilis.

Results: A reduction in the absolute rate of female syphilis cases by 2–10% led to an 8–31% decrease in cumulative CS cases between 2023–2030. Increasing the proportion of pregnant persons adequately treated for syphilis by 2–10% over baseline led to a 1–8% decrease in cumulative CS cases. Combining both scenarios resulted in an 8–37% reduction in cumulative cases.

Conclusion: This model shows that to reduce CS case incidence in California, the most important upstream intervention is to reduce the rate of syphilis among females. To this end, syphilis screening and treatment among people who infect females must be improved. Additionally, even assuming no changes in syphilis incidence in females, CS cases could be reduced to a lesser extent by increasing the proportion of pregnant persons with syphilis who are adequately treated above current rates. The results of this study can inform syphilis screening and treatment recommendations, and the magnitude of future CS case reduction will depend on intervention scope and implementation.

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PL7

THE ASSOCIATION BETWEEN SEXUALLY TRANSMITTED INFECTIONS AND DEPRESSION IN PREGNANCY

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Background: Depression involves intertwining socio-economic, behavioral, and health factors, creating a complex landscape for providers to address during pregnancy. Its association with limited healthcare access, risky sexual behaviors, and immunologic inflammation also complicates its relationship with sexually transmitted infections (STIs). This study aimed to assess the risks of STIs and preterm birth with self-reported depression among underserved pregnant patients.

Methods: A retrospective cohort study was conducted of pregnant patients from 2/2019 to 5/2023 among singleton pregnant patients within a public health system in Southeastern Texas. Medical records for patients undergoing routine pregnancy screening during the study period were reviewed. Demographic data, self-reported depressive symptoms during pregnancy, STI data, and obstetric outcomes were recorded. Patients with depression were identified through self-reports to providers or Edinburgh Postnatal Depression Scale scores >10 . A multivariable Poisson regression model with robust error variance was used to examine the association between depression and outcomes. Adjusted relative risks (aRR) with 95% confidence intervals (CI) were calculated.

Results: Among the 20,111 singleton pregnant patients studied, 1,054 (5.24%) reported experiencing depression during pregnancy, and 3.2% were diagnosed with any STI (including gonorrhea, chlamydia, HIV, syphilis, or viral hepatitis). After multivariable adjustment, compared to patients without depression, those with depression had an increased risk of having any STI (aRR 1.48 95% CI 1.18-1.85). Notably, patients with depression were 1.78 (95% CI 1.16-2.75) times more likely to have syphilis compared to those without. Moreover, depression during pregnancy was associated with an increased risk of preterm birth (<37 weeks) (aRR 1.56 95% CI 1.38-1.76).

Conclusion: Our findings exemplify an elevated risk of STI, particularly syphilis, among pregnant patients with depression. Additionally, depression is associated with an increased risk of preterm birth among underserved patients.

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PL8

PRENATAL SYPHILIS SCREENING POLICY IMPLEMENTATION IN TEXAS: THE ROLE OF THE INNER SETTING

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Background: Congenital syphilis (CS) can lead to adverse outcomes including birth defects and stillbirth. CS rates in Texas have increased 148% since 2018, but diagnosis through screening at prenatal care visits can reduce neonatal morbidity. In 2019, Texas modified the state-level screening policy to address the CS increases, requiring screening at an additional timepoint. However, gaps remain in the translation of policy into practice. This study examines the inner setting implementation determinants of modified prenatal syphilis screening policies into clinical care in Texas.

Methods: We conducted in-depth interviews with prenatal providers (CNMs, PAs, NPs, and physicians; n=18) guided by the Consolidated Framework for Implementation Research (CFIR). Interviews were conducted via Zoom, recorded, and transcribed. Thematic analysis was conducted in MAXQDA utilizing a priori CFIR constructs and emergent codes.

Results: Inner setting facilitators included the learning climate, particularly in clinics with residency or training programs, and strong networks and communication within smaller clinics where providers are active in the implementation process. Barriers included perceptions of the policy change as incompatible given low syphilis prevalence among clinic patients, top-down approaches, and disconnects in communication within the practice, and lack of clinical training among leadership to support implementation.

Conclusion: By identifying the inner setting determinants associated with translation into care, these findings can guide the development of context-specific policy implementation strategies and modify practice behavior. Syphilis screening policies may continue to be amended in response to public health needs and future work should examine rapid dissemination and implementation approaches to improve translation into practice.

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PL9

EARLY SUCCESSES FROM AN OPT-OUT SYPHILIS SCREENING PROGRAM IN PERSONS OF REPRODUCTIVE POTENTIAL PRESENTING TO LOS ANGELES COUNTY EMERGENCY DEPARTMENTS, 2024

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Background: Since 2012, the syphilis epidemic among people of reproductive potential (PRP) in those assigned female sex at birth, aged 15-44 and congenital syphilis has continued to rise in Los Angeles County (LAC). Many of the syphilis cases among PRP experience housing instability, have concurrent substance use, and are not engaged in regular health care services. To increase early identification of syphilis among PRP, LAC Department of Health Services (DHS) collaborated with LAC Department of Public Health (DPH) to establish an opt-out testing program for PRP seen in the emergency departments (EDs) of three large DHS safety-net hospitals.

Methods: PRP seen in the EDs who had a blood draw were automatically ordered to have syphilis serologic testing. Frequency of ED visits and frequency with which patients did not opt out of syphilis testing was assessed. A descriptive analysis using PRP patient data, testing data, and public health surveillance data was conducted to report prevalence of new syphilis cases based on syphilis seropositivity.

Results: Between January 9 and May 24, 2024, 7,948 unique PRP seen were included in the analysis. 6,143 (77%) were tested for syphilis of which 240 (4%) were seropositive. Of these, 136 (57%) were either a new syphilis case (N=119) or were an inadequately treated, previously identified case (N=17). Among the 119 new cases, 95 (80%) were first identified by the ED screening, while the remaining 24 cases had been identified by another facility in the 90 days prior to their ED visit. We estimate a 2.2 % prevalence of new or previously untreated syphilis among those tested, which is notably higher than the overall syphilis prevalence of 0.1% among PRP in LAC in 2023.

Conclusion: Syphilis screening in EDs is an effective strategy to identify syphilis cases among PRP who may not be tested in other settings.

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PL10

MISSED OPPORTUNITIES FOR DIAGNOSIS OF SYPHILIS IN THE EMERGENCY DEPARTMENT

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Background: Syphilis causes serious health problems if left untreated, requiring improved access to screening and treatment. Emergency departments (EDs) are an ideal screening site as they serve high-risk, underserved populations. This study identified missed opportunities (MOs) in the detection of syphilis and characteristics associated with experiencing a MO.

Methods: IRB-approved retrospective study assessed patients (13+) screened for sexually transmitted infections (STIs), including chlamydia, trichomoniasis, or gonorrhea in six EDs between January 1st 2018 and March 31st 2024. Syphilis diagnosis occurred with a reactive *T. pallidum* antibody screen and a reactive rapid plasma regain test. Positive syphilis test with no previous history of syphilis was designated newly diagnosed syphilis. MO occurred if a newly diagnosed syphilis received STI testing at another ED incident without being tested for syphilis. Unadjusted logistic regression assessed the association between sociodemographic characteristics and MO. Complete dataset was obtained and analyzed June 2024.

Results: Of 38,398 patients screened for STIs during the study period, 3,949 (10.3%) were screened for syphilis. Of those, 121 (3.1%) had a history of syphilis, 200 (5.1%) were positive for syphilis, and 148 (3.8%) were new syphilis positives. Strikingly, 30 (20.4%) of new positive syphilis cases experienced a MO; 19 (63.3%) had one and 11 (36.7%) had $\geq$ two. Individuals with a MO were significantly younger than those without (30.1 vs. 36.1, $p=0.0023$). Females were nearly twice as likely to experience an MO (OR=1.95 95%CI=0.51-4.45, $p=0.1144$) and those tested in a rural ED had double the odds of experiencing an MO (OR=2.07, 95%CI=0.58-5.653, $p=0.1560$), however neither met statistical significance.

Conclusion: One of every 5 newly diagnosed syphilis patients had a MO for syphilis diagnosis within the ED. Future research is needed to determine the demographic, operational, and clinical characteristics which predict a MO to better inform initiatives to increase testing.

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PL11

A MULTIFACTOR APPROACH TO CONGENITAL SYPHILIS COMMUNICATION CAN AID IN PREVENTION

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Background: Congenital syphilis rates have reached unprecedented numbers. The rate of congenital syphilis increased 193% in the US comparing 2018 to 2022 and 342% in the Midwest. Combatting congenital syphilis cannot be accomplished by STI programs alone and require diverse partnerships. In Michigan, a strategic communications plan has aided in engagement of diverse partners across health care, policy, and payors.

Methods: The Michigan Department of Health and Human Services (MDHHS) has dedicated HIV/STI communications staff who work with Departmental communications staff to develop high-quality, customer orientated communications products for diverse audiences. Audiences have included materials for clients, programs, providers, and policy makers. Products have included brochures, grand rounds slides, social media, TV, and print media, academic detailing materials, clinical journal and newsletter messaging, and infographics. Programmatic staff who aid in communications review and development include surveillance, program, disease intervention, and clinical staff. Materials have focused on increasing screening for birthing persons and recognizing signs and symptoms for women of child-bearing age.

Results: Communications have been distributed to patients in social media settings, STI clinics, syringe service programs, and WIC. Provider newsletters such as primary care, emergency room, and OGBYNs have included congenital syphilis information. Infographics have been created for Medicaid and Medicaid Health Plans. The percent increase in syphilis rate for total syphilis in the Midwest is 109% (2022 compared to 2018) is comparable to the percent increase in Michigan (66.3%). In Michigan, the percent increase in congenital syphilis cases between 2022 and 2018 is significantly below the Midwest average (342% vs. 170%).

Conclusion: State STI programs need to develop a diverse communications strategy to combat the congenital syphilis epidemic nationally. Michigan believes that a diverse communications strategy contributes to the limit of congenital syphilis case increases compared to other parts of the United States.

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PL12

DATA VISUALIZATION OF PLACE: CARE ACCESS FOR PREGNANT PEOPLE IN INDIAN COUNTRY

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Background: Pregnant people diagnosed with syphilis face serious neonatal consequences if not treated before delivery. Primary and secondary syphilis diagnoses among women and subsequent congenital syphilis (CS) cases have drastically increased among American Indian and Alaska Native (AI/AN) people, surpassing all other race/ethnicities in 2021. These inequities stem from historical trauma, medical mistrust, limited care access, structural racism, and the disenfranchisement of Indigenous communities. The intersection of substance use, barriers to accessing care, and other social determinants of health must be considered when understanding the rise in syphilis and CS rates among AI/AN people and neonates. Data visualizations can transform data into compelling narratives, uplifting Indigenous perspectives and contextualizing health outcomes.

Methods: This session demonstrates the value of mapping technologies in highlighting opportunities to address historical, systemic, structural, and institutional issues impacting the health and well-being of pregnant people in Indian Country. By leveraging existing public-facing data sources within a geospatial context, we explore how socio-economic factors and geography impact AI/AN reproductive health outcomes.

Results: We highlight data from nationwide datasets where AI/AN population data is often suppressed due to small sample sizes. By examining state-level data in instances where county-level AI/AN populations are too small for reporting, we ensure data are not omitted. We map over 10 Pregnancy Risk Assessment Monitoring Survey (PRAMS) indicators, 5 policy indicators, syphilis rates, provider locations, harm reduction locations, and other social determinants of health indicators.

Conclusion: Our mapping tool demonstrates the need for and impact of policy changes by visually representing the complexities surrounding access to care for pregnant people. It highlights challenges faced by those affected by substance use disorder and syphilis, depicting where interventions are most needed. By presenting data accessibly and compellingly, the mapping tool helps policymakers, healthcare providers, and community advocates understand geographical and socio-economic barriers to care.

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PL13

LEVERAGING PUBLIC HEALTH SURVEILLANCE DATA TO COMPARE EFFECTIVENESS OF DOXYCYCLINE TO BENZATHINE PENICILLIN TO TREAT EARLY SYPHILIS IN LOS ANGELES COUNTY, 2019-2024

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Background: CDC recommends a single dose of benzathine penicillin (BIC) to treat early syphilis in adults. A course of doxycycline (doxy) may alternatively be used in non-pregnant persons during a BIC shortage, as is occurring presently. However, doxy potentially presents medication adherence challenges and, thereby, the possibility of treatment resistance and incomplete treatment outcomes. We used a large public health surveillance dataset to compare treatment outcomes among people with early syphilis who received doxy to those who received BIC.

Methods: We included confirmed cases of early syphilis reported in Los Angeles County from January 2019-May 2024, where the patient was treated with either BIC or doxy and had at least two quantitative RPR results, the most recent of which was collected >90 days following treatment completion. We defined treatment success as either a ≥ 2 -fold decrease in titers or a non-reactive RPR following treatment. Other cases were considered having failed treatment. We used logistic regression to estimate a crude and adjusted odds ratios (OR) for treatment failure with doxy compared to BIC in the total sample and with sub-samples stratified by available Social Determinants of Health (SDOH) variables.

Results: We included 12,643 cases of early syphilis. In the total sample, the bivariate OR for treatment failure with doxy was 1.80 (95% CI: 1.41-2.29). The adjusted OR was 1.84 (1.62-2.08). In stratified analyses, the OR for treatment failure with doxy among patients 12-24 years old was 2.56 (1.21-5.43); among Latinx patients was 1.73 (1.22-2.45); and among patients assigned male sex at birth was 1.81 (1.39-2.34).

Conclusion: Receipt of doxy was associated with increased odds of syphilis treatment failure, likely due to treatment non-adherence. Our findings suggest that one-time, injectable treatments such as BIC should be prioritized to control the spread of syphilis, particularly among younger patients.

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PL14

RAPID SYPHILIS TESTING IN INCARCERATED SETTINGS IN LOS ANGELES COUNTY (LAC): IDENTIFYING AND TREATING NEW AND PREVIOUS INFECTIONS

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Background: Rates of early syphilis in females in LAC has increased nearly 7-fold from 2013 to 2022, and in 2017 approximately 46% of congenital syphilis cases were born to mothers with a history of arrest or incarceration in the LAC jail system. We describe the experience of conducting rapid syphilis testing (RST) for incarcerated women of reproductive age on identifying new early syphilis cases and treating previous syphilis cases from 2022-2023.

Methods: The LAC Department of Public Health, Division of HIV and STD Programs (DHSP) staff provided voluntary RST to women of reproductive age at Century Regional Detention Facility (CRDF). Those with a reactive test were either offered a confirmatory blood test on-site or referred to DHSP or another agency for confirmatory testing. Data was matched with DHSP syphilis surveillance data to determine patient syphilis history.

Results: From 2022-2023, 1,159 women were screened using RST, with 149 (12.9%) testing reactive. Of those, 79 (44.1%) completed a confirmatory test resulting in eight (10.1%) new syphilis infections (seven completed treatment) and 67 (84.8%) late syphilis/unknown duration infections, of which 43 (64.2%) completed treatment. Over 70% of late syphilis/unknown duration infections identified had no prior treatment history reported. The remaining 70 testing reactive after RST either refused a confirmatory test or were released prior to confirmatory testing. Surveillance confirmed that 30 (42.9%) of those had reactive a confirmatory test reported to DHSP within 30 days, and 24 (80.0%) were sufficiently treated.

Conclusion: Providing RST to women of reproductive age in custody is a low-resource, high-yield process that can identify those needing additional support to address syphilis infections. This screening pinpoints those who need prenatal or reproductive healthcare referrals, prompts confirmatory testing, and allows for treatment of infections which have not been previously treated, which can help address congenital syphilis outcomes.

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PL15

CHARACTERIZATION OF THE JARISCH-HERXHEIMER REACTION AFTER BENZATHINE PENICILLIN G TREATMENT IN EARLY SYPHILIS

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Background: The Jarisch-Herxheimer reaction (JHR) describes a set of signs and symptoms that can occur shortly after antibiotic treatment of active disseminated *Treponema pallidum* (syphilis). The reported prevalence of JHR following penicillin treatment in patients with early syphilis ranges from 8-56%.

Methods: We designed this study to characterize the prevalence, duration, and severity of JHR signs and symptoms among well-characterized adults enrolled in a multicenter randomized clinical trial (RCT) with active early syphilis after treatment with benzathine penicillin G (BPG). We also sought to confirm an association between JHR and treatment response to BPG at six months. Finally, we created unadjusted and adjusted models to assess whether participant-level factors were associated with JHR.

Results: Among study participants (n=249) with untreated early syphilis enrolled from ten US sites, 97.2% (242/249) were assigned male sex at birth and 61% (153/249) were living with HIV. A total of 23.7% (59/249) experienced at least one symptom consistent with JHR after treatment with BPG. When stratified by HIV status, people living with HIV (PWLH) had lower rates of symptomatic JHR (19.6% vs 31.9% in people without HIV). The most frequently reported symptoms included: myalgias (59%), chills (48%), weakness (39%), feverishness (36%), and headache (29%). Median time to onset of symptoms was 4.9 hours and BPG treatment response rate at six months was 73%. Treatment response rates were higher in the group with JHR (85% vs 69% in the group without JHR) and secondary syphilis stage was associated with JHR.

Conclusion: In this prospective observational study, JHR was documented in one in four people following treatment with BPG. People living with HIV had lower JHR rates after treatment. Commonly reported symptoms included myalgias and chills and median duration was <24 hours. BPG treatment response at six months was higher in the group with JHR.

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PL16

A NOVEL APPROACH TO ADDRESSING THE SYPHILIS OUTBREAK IN LOS ANGELES COUNTY, CA: INTERVENTIONS IMPLEMENTED BY THE DEPARTMENT OF PUBLIC HEALTH'S CLINICAL FIELD TEAM

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Background: Since 2012, the syphilis and congenital syphilis epidemic among people of reproductive potential (PRP) in those assigned female sex at birth, aged 15-44 has continued to rise dramatically in Los Angeles County (LAC). Many of the syphilis cases among PRP experience housing instability, concurrent substance use, and mental health challenges, and are unable to access regular health care services. In 2023, LAC Public Health (DPH) received a syphilis outbreak strategy grant to fund activities for syphilis control including the implementation of a novel clinical field team (CFT) consisting of two providers, a nurse, a community health worker and two management staff trained in the keen recognition and treatment of syphilis.

Methods: The CFT began its work in December 2023 with regular test-and-treat events at various venues which serve the target population across LAC. Strategic advantages to this model include the capacity to incorporate real time syphilis record searches from DPH databases to inform our approach to rapid and lab-based testing and field treatment.

Results: A preliminary analysis of 18 events conducted from December 6th through April 30th, 2024, shows that 254 participants were seen of whom 177 were screened for syphilis; 50% were female, 25% between the ages of 30 and 39 years, 39% identified as Latinx and 34% as Black. 123 had both rapid and lab-based syphilis reverse algorithm tests from which 20 early (primary, secondary and early latent), 13 late latent, and 7 new cases with no prior history were identified, 19 of whom were simultaneously treated in the field.

Conclusion: Equipped with specialized public health resources, field testing, and provider-dispensed treatment, the CFT has successfully launched a multi-pronged approach to actively identify and treat previously untreated or new syphilis cases in unhoused and other PRP experiencing multiple challenges in accessing care, and loss to follow up.

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PL17

ADDRESSING RISING CONGENITAL SYPHILIS IN ARKANSAS: A SYNERGISTIC APPROACH

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Background: In Arkansas, congenital syphilis cases increased by 156% from 25 in 2018 to 64 in 2023, leading to an immense public health crisis and Arkansas to create an outbreak declaration. Syphilis cases among women of childbearing age rose 343%. While investigating these cases further, we found missed opportunities for both syphilis and congenital syphilis cases to be prevented, tested, and treated. In response, Arkansas has implemented a multifaceted strategy to reduce the spread of this preventable disease and mitigate its devastating impact on infants and communities.

Methods: The analysis of epidemiological data led to the identification of crucial stakeholders for combating congenital syphilis, thus enabling the Arkansas Department of Health (ADH) to strategically leverage partnerships to address the issue comprehensively. ADH focused on provider education by hosting a summit to update professionals on guidelines and resources for managing syphilis during pregnancy. Through public health campaigns utilizing diverse communication channels such as radio ads and social media, Arkansas aims to destigmatize discussions on sexual health and prenatal care.

Results: From 2018 to 2023, syphilis cases among women of childbearing age saw a 343% increase in case counts. Of these cases, 49% reported any known risk factor. Approximately 115 medical providers and public health practitioners gathered at the Provider Education Summit. The outreach campaign includes radio ads that are scheduled to reach 377,100 persons 18+ with each person hearing the syphilis education and prevention messages 11.2 times. Roughly 600,000 impressions are anticipated to be delivered on the Spotify platform.

Conclusion: Based on the increasing cases of syphilis in the state, the need to increase outreach efforts through targeted educational is important. The comprehensive outreach campaign, which includes radio ads and digital impressions, aims to significantly enhance public awareness and prevention efforts, thereby potentially reducing the incidence of congenital syphilis in Arkansas

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PL18

LESSONS LEARNED FROM RAPID HIV AND SYPHILIS TESTING IN A SYRINGE SERVICES PROGRAM IN LOS ANGELES COUNTY

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Background: Methamphetamine use among early syphilis cases in women who have sex with men and men who have sex with women has increased substantially across the county since 2012; in Los Angeles County (LAC) approximately 1 in every 5 people who inject drugs has had syphilis.

Methods: LAC Department of Public Health partnered with a syringe services program (SSP) to provide rapid HIV and syphilis testing to individuals reporting methamphetamine use. Persons with reactive HIV tests were referred to care, and those with confirmatory laboratory syphilis serologies were offered treatment. Cross referencing of DPH syphilis records was conducted retrospectively.

Results: Between July and December 2023, approximately 450 unique individuals were served at the SSP. Of those, 316 agreed to rapid HIV testing and 214 agreed to rapid syphilis testing (RST). Of those tested for HIV, 11 (3%) were reactive. Six were newly diagnosed and 5 had been previously diagnosed; all were successfully linked to care. Of those tested for syphilis, 34 (15%) were reactive for treponemal antibodies using RST. Thirty percent refused to a blood draw for confirmatory testing. Over half (n=19) of the 34 reactive cases had a history of previous syphilis infection, with 8 reinfected or inadequately treated. Seven of the 8 were lost to follow-up (LTFU) and one received treatment. Of the 15 individuals with no prior syphilis history, 7 were diagnosed with syphilis; six were LTFU and 1 received treatment.

Conclusion: SSP clients have a high prevalence of syphilis and LTFU pending laboratory confirmatory syphilis testing was common. Collaboration with public health for real-time record searches would allow agencies to provide immediate treatment to those with previous untreated syphilis. Agencies could offer treatment to syphilis naïve patients based on a reactive RST alone if the client refused confirmatory testing or are at risk for LTFU.

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PL19

STANDARDIZING OPT-OUT HIV AND SYPHILIS SCREENING PROCESS IN THE EMERGENCY DEPARTMENT FOR PATIENTS'S AGES 13 YEARS AND OLDER

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Background: The amount of persons with HIV and/or syphilis to be missed due to no implementation of standardized screening in the ED is unbelievable. The objective was to standardize an opt-out HIV and syphilis screening process in the Emergency department for patients' ages 13 years and older to identify positive persons and provide linkages to care.

Methods: This is a descriptive analysis of the first year (2023 May - 2024 April) integrating an opt-out HIV and syphilis screening and providing linkages for identified positives for ages 13 and older. This project used best practices advisory from CDPH and CDC to standardized HIV and syphilis screenings in the ED prompting CBC orders to commence automatic screenings and to provide an effective navigation system to link identified positive patients to care. Outcomes included volume of tests performed, HIV and syphilis positivity rates, and linkages.

Results: 10,123 patients were screened for HIV in the ED from the project's first year launch. (13) 0.13% screened patients were newly identified with HIV+. (13) 100% newly HIV+ were successfully linked to care. (303) 3% screened patients were identified with an active syphilis RPR titer. The patient navigator was able to link appointments to (154) 51% of those identified with syphilis. Of those identified syphilis, (141) 92% attended their appointments. Demographics, screening rates, linkage barriers, and treatment rates vary between patients based on sociodemographic characteristics.

Conclusion: We concluded that standardizing an opt-out HIV and syphilis screening in the Emergency department for patients' ages 13 years and older helps identify missed positive persons and effectively link them to care. Differences of diagnoses and linkage to care varies on persons' sociodemographic characteristics. With this project, we were able to screen a significant amount, identify the positivity rates, and improve the navigation system workflow.

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PL20

A RAPID DIAGNOSTIC TEST FOR GONORRHEA AND CHLAMYDIA COMPARED TO GRAM STAIN FOR SYMPTOMATIC PATIENTS IN A SPECIALIZED STI CLINIC: A RANDOMIZED CONTROLLED TRIAL

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Background: Rapid diagnostic platforms that enable point-of-care testing for sexually transmitted infections (STIs) have the potential to decrease empiric antibiotic use, time to treatment, and loss to follow-up. However, the real-world impact of these platforms compared to gram stain in clinical settings has not been evaluated.

Methods: We are conducting a randomized controlled trial to evaluate the impact of a 30-minute, PCR-based test for gonorrhea and chlamydia on clinical management in a specialized STI clinic. Patients ≥ 18 -years-old of any gender identity presenting with symptoms suggesting urethritis or cervicitis and not known to be STI contacts are eligible. Participants are randomized 1:1 to standard of care (SOC; point-of-care gram stain) or in-clinic urogenital specimen testing for gonorrhea and chlamydia on the binx *io* platform. Outcomes include antibiotic use per patient (number of treatment courses), time to results, time to etiologic treatment, duration of clinic visit, and 30-day antibiotic use.

Results: As of June 4, 2024, we have enrolled 96 of 100 participants, 47 to the intervention arm, median age 29 years (interquartile range [IQR] 25-38), 63% identifying as male, 33% female, 3% transgender. Among 94 participants with complete STI results, 15/94 (16.0%) tested positive for gonorrhea and 7/94 (7.5%) for chlamydia. In the rapid test arm, 37/47 (78.7%) remained in clinic to receive results. Overall, 35/96 participants (36.5%) were not prescribed antibiotics active against gonorrhea or chlamydia during the clinic visit; 40/96 (41.7%), 19/96 (19.8%), and 2/96 (2.1%) received one, two, or ≥ 3 courses of any antibiotics, respectively. Median visit time was 57 minutes [IQR 45-69] for SOC and 87 minutes [IQR 72-97] for the rapid test.

Conclusion: The majority of symptomatic patients offered a 30-minute diagnostic test for gonorrhea and chlamydia are willing to wait for results. PCR-based rapid tests may enable etiologic diagnoses at the point of care but will extend visit duration.

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PL21

EVALUATION OF CHOCOLATE AGAR SLANT-PARAFFIN OIL FOR AMBIENT TRANSPORT OF *NEISSERIA GONORRHOEAE* CULTURE SPECIMENS FROM GREENSBORO, NC TO SEATTLE, WA

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Background: In our previous study, *Neisseria gonorrhoeae* (NG) from urethral discharge specimens held in chocolate agar slant-paraffin oil (agar slant-oil) remained viable 72–96 hours. This study evaluated the recovery of NG from clinical specimens transported in agar slant-oil at ambient temperature from Greensboro, NC to Seattle.

Methods: From 8/2023 to 2/2024, we collected gonorrhea culture specimens from patients presenting to Guilford County Department of Health and Human Services – Division of Public Health using a polyester-tipped swab promptly placed in agar slant-oil by either the provider or lab staff. Lab staff assured correct placement of swab specimens in the agar slant-oil. Specimens were held at room temperature until shipped to the University of Washington *Neisseria* Reference Laboratory (UW NRL). UW NRL cultured specimens on Modified Thayer-Martin agar and performed NG species confirmation by MALDI-TOF.

Results: We tested 58 (10 vaginal, 1 endocervical, 31 penile discharge, and 16 urethral) specimens from 57 patients. 86% (50/58) had a clinical NG culture performed and 40 were positive. Of the agar slant-oil specimens associated with these positive cultures, we recovered NG from 22 (55%) plus an additional slant-oil NG culture positive that had a positive NG NAAT but a negative clinical NG culture. 9 of 10 specimens that were negative by clinical NG culture had negative agar slant-oil culture results. Compared to clinical NG positive culture, recovery of NG from agar slant-oil varied by specimen types [penile discharge 55.5% (15/27); urethral 50% (6/12); vaginal 100% (1/1)]. Ten specimens were not fully inserted in the agar slant-oil and growth of contaminating bacteria inhibited NG recovery. Ambient transit days for agar slant-oil specimens from Greensboro to Seattle ranged from 1-5 days.

Conclusion: We showed modest recovery of NG from clinical specimens transported at ambient temperature in agar slant-oil from Greensboro to Seattle.

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PL22

DEVELOPMENT AND PERFORMANCE OF THE FIRST-TO-KNOW SYPHILIS TEST FOR OVER-THE-COUNTER USAGE IN THE GENERAL POPULATION: A DE NOVO RAPID TEST FOR TREPONEMAL ANTIBODY.

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Background: The recent outbreak of syphilis in MSM, in over 55 populations, and congenital syphilis has hastened the need for widely available Syphilis testing. Almost 60% of syphilis infections are asymptomatic, although almost all develop antibody. Lessons from COVID-19 show people are capable of self testing and this helps direct positive cases to seek treatment. The First-To Know[®] Syphilis test (NOWDiagnostics, Springdale Arkansas) is under review for over-the-counter (OTC) usage in the USA, can be administered at home, once cleared and will aid in the diagnosis of infection with *Treponema pallidum*.

Methods: First to know is a simple buffer-less lateral flow device that detects antibodies to syphilis antigens and requires a fingerstick and whole blood to run the test in as little as 15 minutes. Our clinical testing included both pregnant cohorts and all comer cohorts. This is a de novo device as there is nothing else like it as an OTC test. For this study we used the algorithm of 2/3 tests had to be positive for a true positive. A positive result in First-To-Know[®], without supporting testing, means you either have syphilis or have had syphilis in the past.

Results:

Results from a large multi site study included a set of enriched samples for pregnant women. sexually active and expectant mother cohort will be discussed along with overall comparator and RPR tests, as well as OTC in the general population. From 1440 clinically enrolled self-administered tests, recruits scored an overall 96.52% sensitivity and a 99.48 % specificity. A series of supportive studies and analytics are required and were completed for FDA review.

Conclusion: Indeed, the First-To-Know[®] test is simple enough to be performed in any setting and availability of this test should have a dramatic impact of syphilis detection and prevention strategies and reduce comorbidities such as HIV-1 and other STI transmission.

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PL23

DEVELOPMENT OF A CRISPR-BASED MULTIPLEX ASSAY FOR NEISSERIA GONORRHOEAE DETECTION AND GYRASE A GENOTYPE DETERMINATION

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Background: Low-resource settings suffer disproportionately from *Neisseria (N.) gonorrhoeae* infection, but often lack the capacity to support etiologic diagnosis. Syndromic management, however, misses a high proportion of cases and contributes to the development of antimicrobial resistance – a global public health threat. Specific High-sensitivity Enzymatic Reporter unLOCKing (SHERLOCK) using CRISPR associated (Cas) enzymes and isothermal amplification can facilitate low-cost point-of-care assays. We aimed to develop a multiplex SHERLOCK assay for *N. gonorrhoeae* detection and predicting ciprofloxacin resistance via identification of a single mutation in the gyrase A (*gyrA*) gene.

Methods: We used machine-learning platforms that predict optimal CRISPR guide RNA (crRNA) sequences to develop crRNAs targeting the *porA* gene for *N. gonorrhoeae* detection and *gyrA* S91F. We used Cas12a for *porA* detection, and Cas13a for *gyrA* genotype determination. Upon Cas12a crRNA binding, cleavage of a DNA linker releases a HEX reporter, whereas upon Cas13a crRNA binding, cleavage of an RNA linker releases a FAM reporter. We combined the two assays into a single reaction, and evaluated the performance on 10 purified *N. gonorrhoeae* isolates (2 susceptible to ciprofloxacin with minimum inhibitory concentrations (MIC) <0.015, and 8 resistant with MICs between 8 and > 16). We further performed confirmatory *porA* detection and *gyrA* genotyping by qPCR.

Results: The multiplex CRISPR-based assay identified all 13 isolates and correctly classified all *gyrA* genotypes as either mutant or non-mutated. Results were available within 90 minutes. The agreement of both CRISPR *N. gonorrhoeae* detection and *gyrA* genotype determination with qPCR was 100%.

Conclusion: We developed a multiplex assay using two Cas orthologs for simultaneous *N. gonorrhoeae* detection and *gyrA* genotype determination, which demonstrated promising preliminary performance on purified isolates. Future work can optimize assay kinetics and substitute antigen-bound reporters for quenched fluorophores to produce a field-deployable, multiplexed lateral flow test.

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PL24

EVALUATION OF THE PERFORMANCE OF DRIED BLOOD SPOTS VERSUS MICROVOLUME BLOOD TUBES IN SEROLOGICAL TESTING FOR SEXUALLY TRANSMITTED BLOODBORNE PATHOGENS

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Background: Remote testing for sexually transmitted infections may increase access to underserved and high-risk individuals who are unlikely to present to a health clinic for screening. Remote testing for sexually transmitted bloodborne pathogens (BBP) typically involves transfer of finger-pricked blood onto either dried blood spot (DBS) cards or into microvolume blood tubes (MVBT), but the performance of these devices in serological testing for BBPs remains unclear. We evaluated the performance of DBS vs MVBT using spiked samples in order to identify the optimal collection device for remote serological testing.

Methods: Whole blood from four BBP-negative individuals was obtained by venipuncture, pooled, and separated into 420 aliquots. Mock samples were generated by spiking thirty aliquots in quintuplicate with increasing concentrations of BBP in human serum (very low – very high) per device; unspiked samples served as controls. 600 uL of mock blood were dispensed to MVBT. Two DBS/analyte were loaded with 50 uL of mock blood/spot, allowed to air dry, and then 3 punches were eluted using 300 uL of PBS. Serological testing for HIV-1 and HIV-2 antibodies, HIV p24 antigen, syphilis, hepatitis C (HCV) antibody and hepatitis B core antibody (HBVcAb) and HBV surface antigen (HBVsAg) was performed on the Roche cobas e801 platform.

Results: Compared to MVBT, all serological tests of DBS samples resulted in a significant loss of sensitivity. By analyte, the percent positive agreements were: HIV antibodies 100%, HIV antigen 25%, syphilis treponemal antibody 40%, HCV antibody 28%, HBVcAb 0% and HBVsAg 100%. All analytes had 100% negative agreement.

Conclusion: Compared to MVBT, using DBS for serological testing resulted in a significant loss in assay performance; these results confirm recent findings from Europe. The unacceptable false negative rate from DBS puts clients at increased risk for missed diagnoses, complications of untreated infections, and BBP transmission to partners.

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PL25

MOLECULAR TESTING FOR TRICHOMONAS VAGINALIS IN 34306 SAMPLES FROM WOMEN WITH VAGINAL DISCHARGE AND ASYMPTOMATIC WOMEN OF ALL ETHNICITIES THROUGH AN ONLINE POSTAL SELF SAMPLING SERVICE FOR STIS

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Background: An online postal self-sampling service (OPSS) with symptomatic triage enabled females reporting vaginal discharge to be tested for *Trichomonas vaginalis* (TV). Asymptomatic testing in selected regions allowed us to estimate local TV prevalence.

Methods: Using the highly sensitive and specific cobas TV assay (Roche), we tested women for TV through online STI testing services in 23 areas of England. We analysed 34,306 samples from:

Females from all ethnicities reporting vaginal discharge (n=24,812)

Asymptomatic females: White British (n=2016), all other ethnic groups (n=7478)

TV positivity rates were compared by ethnicity, age, deprivation decile, sexuality, and urban/rural classification.

Results: Overall TV positivity across all cohorts was 3.7% (1261/34306), with 4.4% (1099/24812) positivity in females with vaginal discharge, 1.2% (24/2016) in asymptomatic White British females and 1.8% (13/7478) in asymptomatic females from all other ethnic groups combined.

In symptomatic women, positivity was highest in those of Black Caribbean/White and Black Caribbean (9.0%), Black African (5.1%), and White and Black African (6.5%) ethnicities. White British women reporting discharge had 4.0% TV positivity. There was a linear association between deprivation and higher TV positivity, with 7.6% recorded in the most deprived area and a 1.5% in the least deprived areas.

Comparing TV positivity and *Neisseria gonorrhoeae* (NG) positivity in these cohorts (tested with NG NAAT on the same 34,306 samples), TV positivity was higher across all groups:

Symptomatic - 4.4% (1099) vs. 1.4% (354)

Asymptomatic Ethnic Minority Women - 1.8% (138) vs. 0.8% (56)

Asymptomatic White British - 1.2% (24) vs. 0.5% (11)

for TV and NG, respectively.

Conclusion: The high TV positivity rate among women with vaginal discharge seen in this study supports the use of an online triage to identify symptoms and provide the most clinically appropriate tests.

Further evidence is needed to help determine the most appropriate use of TV testing among asymptomatic populations.

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PL26

ASSOCIATION OF THE PENILE MICROBIOTA AND HUMAN PAPILLOMAVIRUS SUBCLINICAL INFECTIONS: A CROSS-SECTIONAL STUDY AMONG MEXICAN MEN

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Background: HPV is the most sexually transmitted viral infection. In women, there is a clear association between imbalance in vaginal microbiota and the risk of acquisition of viral infections. However, it is yet unclear if microbial communities play a role in viral infections in men. Moreover, there has not been establish if these observations are in specific anatomical sites, such as the glans or the penile body.

Methods: Samples from 71 men (31 HPV-negative, 40 HPV-positive) glans and penile shaft were taken for sequencing of the V4 hypervariable region of the 16S rRNA gene. Data analyses consisted of measure of diversity metrics, Community state types analyses, differential abundance analyses and a machine learning approach to find out which bacteria genus are best predictors of HPV status.

Results: Diversity metrics were higher in HPV-positive samples. CST's show no clear association to HPV-status. HPV-positive samples had an increased relative abundance of *Prevotella*, *Fingoldia*, *Peptoniphilus* and *Dialister* and a lower relative abundance of commensal *Staphylococcus*. These anaerobic bacteria were also the best predictors of HPV status (AURC 0.85). No differences were found according to anatomical site and HPV status

Conclusion: Anaerobic bacterial pathobionts are increased in HPV-positive samples, regardless of the anatomical site. It's possible that the loss of commensals leads to a diminished immune response. Longitudinal studies are needed to establish causal relationships.

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PL27

RETROSPECTIVE OBSERVATION OF TENOFOVIR DRUG LEVELS IN DRY BLOOD SPOT SPECIMENS IN TRUVADA AND DESCOVY PATIENTS

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Background: The utility of dried blood spots (DBS) for measuring tenofovir diphosphate (TFV-DP) concentrations has been well-documented. However, large-scale observational studies based on diagnostic labs' retrospective analyses are lacking. This study aims to fill that gap by providing comprehensive data on TFV concentrations in a large cohort.

Methods: TFV-DP, creatinine, and HIV ELISA assays using DBS were developed and validated according to CLIA and CAP guidelines. The lower limit of quantification of TFV-DP in DBS was 100 fmol/punch. Clinically collected TFV-DP test samples analyzed in 2023 were curated from the Laboratory Information System (LIS) and analyzed.

Results: A total of 11,298 specimens were successfully tested for TFV-DP, with male samples comprising 95% of the total TFV-DP test samples. The 20-39 age group represented 66% of the total samples, marking the highest age range for both males and females. Descovy drug monitoring accounted for 70% of total TFV-DP test samples. Interestingly, co-testing for creatinine and HIV on DBS was performed on <1% and 5%, respectively, of TFV-DP samples. The Truvada 99th percentile drug concentration range was <100 - 8577 fmol/punch, with a median of 2213 fmol/punch. The Descovy 99th percentile drug concentration range was <100 - 6196 fmol/punch, with a median of 544 fmol/punch.

Conclusion: This study highlights the observed drug concentrations were similar to the range reported by Gilead (NDA 208215/S-0120.) The high percentage of male samples and the predominant age range of 20-39 reflect the demographic most engaged in PrEP monitoring and HIV prevention. The limited number of patients who tested for creatinine and HIV ELISA underlines areas for improved clinical monitoring, assuming these patients were not tested by other methods. DBS-based TFV-DP drug monitoring, along with creatinine and HIV ELISA, can better support PrEP patients and enhance the effectiveness of PrEP regimens.

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PL28

ADVANCING EFFORTS TO REDUCE DISPARITIES THROUGH REAL-TIME POLICY MONITORING AND TECHNICAL ASSISTANCE

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Background: Laws and policies affect whether and how people impacted by HIV, viral hepatitis, STIs, and TB can access disease prevention and other health services. Inequitable application of laws and policies, particularly those negatively impacting populations most at risk for HIV, viral hepatitis, STIs, and TB, may exacerbate health disparities. Tracking pending state legislation allows for rapid identification of real-time changes, trends, and potential health impacts to inform comprehensive, evidence-based responses. Pairing legislation tracking with the provision of timely and tailored technical assistance (TA) enables practitioners to leverage policy as a public health intervention through a syndemic approach.

Methods: Utilizing FiscalNote software, our team is tracking legislation in active sessions across all fifty states and Washington DC. We utilized nine search terms to ensure precision and consistency. Each identified bill was coded based on disease, strategic focus areas of a syndemic approach to HIV, viral hepatitis, STI, and TB prevention strategy, and content areas. After coding, we developed reports to highlight trends, passed legislation, and focus areas.

Results: 170 bills in 2023-2024 legislative sessions were identified and tracked. Trends identified as strategic focus areas include: syringe service programs (SSP), congenital syphilis, HIV criminalization/decriminalization, and PrEP/PEP access via pharmacies. Our team has received a number of SSP-related requests related to bills restricting the establishment and/or operation of SSPs that have passed in active state legislative sessions. Recently enacted laws that restrict SSPs forecast worrying trends around perception of SSPs and may potentially impact previously authorized SSPs.

Conclusion: Tracking legislation in specific disease areas provides an opportunity to identify and explore trends in real-time and inform evidence-based practice across the public health ecosystem. Syringe service programs are a topical example that explores the direct application of policy tracking with TA based on a syndemic approach to public health.

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PL29

EVALUATION OF A DIGITAL PARTNER NOTIFICATION TOOL FOR REPORTABLE STI EXPOSURES, MIAMI, FL, MARCH – MAY 2024

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Background: Identifying, testing, and treating partners exposed to a sexually transmitted infection (STI) is critical for interrupting disease transmission. Traditionally, STI prevention programs do this through in-person or phone interviews with index patients and their partners, referring the latter for STI testing and treatment (partner services). However, partner services have become less effective over time with index patients naming fewer locatable partners. To give patients another tool for secure anonymous partner exposure notification, the Florida Department of Health began using digital partner notification (dPN) at Miami-Dade's PrEP Clinic in March 2024. We assessed the effectiveness of dPN as a supplement to traditional partner services.

Methods: De-identified dPN data from March 6, 2024, through May 22, 2024, were extracted from the dPN database. The number of index cases, named partners, partners receiving dPN, and named partners verified as tested were calculated. Reported partners, notified partners, and tested partners were divided by the index patients to calculate ratios per index patient.

Results: In total, 142 new index patients and 422 sexual partners (2.9 partners per index patient) were identified. Among the 422 partners identified, 102 (24%) received dPN notifications (0.72 partners per index patient). The remaining 320 were either non-contactable or were notified by the index patient of exposure. Of those notified by dPN, 54% (n=55) opened the message. A total of 37 partners verified they had been tested (18 self-verified, 3 verified via follow-up, 16 verified by DIS).

Conclusion: The use of dPN identified sexual partners, notified partners of exposure, and brought partners to testing without requiring DIS resources. Obtaining accurate contact information remains crucial for effective partner services regardless of partner notification method. Bringing exposed sexual partners to testing and treatment is essential for STI transmission intervention, and dPN may be an additional tool to assist in these efforts.

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PL30

IMPROVING PROGRAM PERFORMANCE: EVALUATING INTERPERSONAL AND TECHNOLOGICAL INTERVENTIONS IN A RURAL ED-BASED STI SCREENING PROGRAM

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Background: In January 2023, our rural Emergency Department (ED) launched a public health screening program to identify untreated HIV, hepatitis C virus (HCV), and syphilis infections. We developed a nurse-driven Best Practice Advisory (BPA) alert in the electronic health record (EHR) and an orderset for physician use. When initial screening rates were below target, preliminary investigation revealed staff reluctance to adopt a new program and issues with the BPA's user experience. We questioned "Are screening rates lower than expected due to staff resistance, faulty EHR integration, or both?"

Methods: We implemented technological (modifications addressing BPA functionality) and interpersonal (RN and physician education campaigns) interventions to improve program performance. Testing performance was measured from program launch in January 2023 to May 2024 using EHR-generated reports on BPA and orderset activity. Variables include number of patients meeting testing criteria, number of eligible patients tested, and number of physician-lead tests ordered.

Results: After BPA modifications, the number of monthly tests ordered increased from 201 to 255 (26.6%) for 2.5 months before plateauing. Following each of four RN education campaigns, testing increased 54% on average. While this result gradually declined over an average of six weeks, the new baseline was consistently higher after each campaign, producing an overall upward trend in tests ordered. After a single refresher presentation to physicians, the monthly orderset utilization increased from 3.3 to 8.5 (156.2%).

Conclusion: Each technological and interpersonal intervention improved screening rates for some amount of time. Recurrent engagement with nurses –via regular education, sharing patient success stories, and emphasizing the positive impact of the screening program–resulted in the largest sustained increases in testing rates. However, these interventions impacted each other and all were necessary for increased testing rates. Ongoing interventions are critical to maintaining an effective routine screening program.

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PL31

APPLYING DIGITAL HEALTH TO SCALE COMMUNITY OUTREACH OF PUBLIC HEALTH PROGRAMMING FOR STIS

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Background: In regions with disparate geographies and limited resources such as the U.S. Virgin Islands, disseminating information about local STI services and efficiently operating community testing is critical. We investigated how digital health solutions could scale clinical operations and community participation.

Methods: We examined the operational efficiency impact of Beacon, a guided public health platform, to automate data collection, sample collection workflows, jurisdictional reporting, and patient communications. To evaluate the operational efficiency impact for providers, we record the number of personnel required to support a testing operation as well as the number of hours for data reporting activities. Through patient interviews, we record how self-registration, electronic result access, and colloquial health information impacted patient participation in HIV and STI testing, as well as adherence with follow-up health advisory.

Results: Individuals with access to at-home self-registration were more likely to sign up for testing than when registration was only available in person. Individuals with access to at-home eligibility assessments for testing were more likely to participate in testing than when eligibility screening was only available on-site at community events. Individuals reported positive sentiment to testing experiences. Field public health personnel were able to reduce the number of hours spent on manual data entry across multiple systems through the implementation of the electronic health record system and its support for data reporting for STI testing.

Conclusion: Guided electronic health record workflows enable field personnel to more efficiently operate community testing events. Digital access to health eligibility screening, scheduling, and result reporting contribute to improved patient engagement with community testing for STIs. Future work is focused on how health education and asynchronous telemedicine can impact patient adherence.

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PL32

12-MONTH HIV/STI PREVENTION OUTCOMES AMONG PATIENTS DIAGNOSED WITH A SEXUALLY TRANSMITTED INFECTION IN EMERGENCY DEPARTMENTS IN A HIGH-PREVALENCE JURISDICTION

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Background: Diagnosis of a bacterial sexually transmitted infection (STI) is associated with future HIV acquisition. Many patients seeking care in Emergency Departments (EDs) experience barriers to longitudinal sexual healthcare. We sought to describe 12-month HIV/STI prevention outcomes among patients diagnosed with an STI during an ED encounter in a jurisdiction with high HIV/STI prevalence.

Methods: Retrospective cohort study of adult patients diagnosed with a bacterial STI (gonorrhea, chlamydia, syphilis) 1/1/2021–6/30/2022 at four EDs in the Bronx, NY. Data were extracted from the Einstein-Rockefeller-CUNY Center for AIDS Research Clinical Cohort Database and confirmed by manual review. Outcomes assessed through 6/30/2023 included repeat HIV/STI testing, discussion of HIV preexposure prophylaxis (PrEP), and prescription for postexposure prophylaxis (PEP) or PrEP. We used Chi-squared tests (Fisher's exact tests when appropriate) and multivariable logistic regression to identify characteristics independently associated with outcomes.

Results: 583 patients not known to be living with HIV were diagnosed with a bacterial STI in the ED. Approximately half were cisgender-women (48% cisgender-men, 1% gender minority), most were non-Hispanic Black (50%) or Hispanic (42%), 90% were 18-39 years old, and 26% had a prior STI. Within 12 months of the index STI, 28% and 36% had repeat HIV and STI testing, respectively, there was one new HIV diagnosis, and 10% re-tested positive for an STI. PEP was prescribed for 1%, PrEP was discussed with 22% and prescribed for 2%. Compared to other genders, cisgender-women were more likely to complete repeat HIV and STI testing ($p=.002$ and $<.0001$, respectively); identifying as a gender minority was associated with discussing PrEP (aOR 11.4; 95% CI 1.9, 67.1); and cisgender-men were prescribed PrEP most frequently (89% of those prescribed, $p=.05$).

Conclusion: HIV prevention outcomes in this population at high-risk were suboptimal with disparities by demographic characteristics. Strategies are urgently needed to equitably link this population to longitudinal HIV/STI prevention.

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PL33

PILOT RANDOMIZED CONTROL TRIAL OF A DIGITAL PATIENT DECISION AID TO FACILITATE GONORRHEA AND CHLAMYDIA SCREENING IN THE EMERGENCY DEPARTMENT (STICKER)

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Background: Rising rates of sexually transmitted infections (STIs) among adolescents and young adults (AYA) are concerning. Emergency department (ED) visits offer a unique opportunity to increase STI testing. This study aimed to test the acceptability, feasibility, and potential efficacy of STICKER (STI Check in the ER), a digital patient decision aid facilitating shared decision-making around genitourinary, pharyngeal, and rectal STI testing among AYA ED patients.

Methods: In this pilot randomized controlled trial (RCT), we enrolled sexually active AYA English-speaking ED patients aged 14-24 years. Enrolled patients were randomized to standard of care (control) versus the STICKER app (intervention), which was developed through a multi-stakeholder, user-design process. Participants and their providers completed post-intervention surveys after each visit. Data analysis included descriptive statistics, bivariable analyses and relative risk estimate of efficacy.

Results: Between September 2023 and May 2024, we randomized 140 participants with a median age of 19 (IQR 18-22). Majority reported being female (69%), and heterosexual (76%), and Hispanic (83%) or Black (13%). Demographic variables did not differ between arms. STICKER arm participants reported the app to be “clear” (Likert scale 0-10; median 9, IQR: 7-10) and “helpful” (9, IQR: 7-10). STICKER arm participants rated the ED higher (8 vs 9, $p = 0.043$) and *more* often recommended the ED (89% vs 100%, $p = 0.052$). STICKER recipients were more likely to have had genitourinary testing (24% vs 44%, relative risk (RR) 1.81, 95% Confidence Interval (CI) 1.09 – 3.02), and oral STI testing (1.6% vs 16%, RR: 10.2 (CI: 1.36 -76.2) than the control arm. Rectal STI, HIV, or syphilis testing did not differ statistically.

Conclusion: STICKER was acceptable and clear to patients, providing enhanced ED visit satisfaction, and was feasible to implement in the ED setting. STICKER led to a significant increase in genitourinary and pharyngeal STI testing among AYA ED patients.

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PL34

SUCSESSES AND LESSONS LEARNED FIVE YEARS AFTER IMPLEMENTING THE ENDING THE HIV EPIDEMIC PROGRAM AT CHEROKEE NATION HEALTH SERVICES

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Background: American Indian/Alaska Native (AI/AN) communities are inequitably impacted by HIV. In response, Cherokee Nation Health Services (CNHS) launched the Ending the HIV Epidemic (EHE) Program in 2019. This program included a public education campaign centering on HIV care and HIV prevention; strengthened universal HIV screening and treatment among patients; and the creation of a robust Pre-Exposure Prophylaxis (PrEP) program.

Methods: Programmatic and electronic medical record data covering years 2015 – 2023 period were abstracted and analyzed descriptively to identify lifetime HIV screening prevalence stratified by temporal, age groups, and pregnancy status trends. Additionally, data were analyzed descriptively to identify temporal and geographic trends for PrEP utilization, and number of CNHS clinics and providers dispensing PrEP medication.

Results: Overall, lifetime HIV screening prevalence among all CNHS patients aged 13-64 years increased steadily from 46.1% in 2018 before the EHE Program launched to 73.5% in 2023. Among patients aged 13-17 years, testing increased from 10.7% to 18.1%. Comparatively, among those aged 35-64 years, testing increased from 52.6% to 83.4%. Additionally, virtually all pregnant people between 2018 and 2023 were screened for HIV. The number of total unique PrEP patients increased from 16 in 2018 to 76 in 2023; while the number of providers and locations at which PrEP was delivered increased from 6 to 21 and 3 to 9 during the same period, respectively. After implementation, geographical access to PrEP improved. Robust community, patient, and provider education facilitated the acceptability, implementation, and broad geographic reach of the Program across Cherokee Nation.

Conclusion: Relationship building and trust supported implementation of a multifaceted EHE Program resulting in increased rates of HIV testing and PrEP uptake among adults. Opportunities remain to continue improving screening among adolescents and to increase the overall utilization of PrEP.

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PL35

UNDERSTANDING THE IMPACT OF ANTIRETROVIRAL THERAPY AND OTHER FACTORS ON HPV CLEARANCE IN CISGENDER WOMEN WITH HIV/HPV CO-INFECTIONS IN THE DC COHORT, 2016-2023

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Background: Women with HIV are at elevated risk for HPV. Antiretroviral therapy (ART) treats HIV; however, no pharmacological treatment for HPV exists. Prior studies have shown varied effects of ART class on HPV clearance, with only some demonstrating an association between ART class and HPV clearance. Our objective was to evaluate the association between ART class and HPV.

Methods: This retrospective cohort study used data from the DC Cohort Longitudinal HIV study (2016-2023). We investigated HPV clearance among 184 women with HIV/HPV co-infection, comparing two ART classes at time of HPV diagnosis: protease inhibitors (PIs) and integrase strand transfer inhibitors (INSTIs). ART class and HPV clearance were classified dichotomously using electronic health record data, including pap smear, biopsy, and HPV testing. Descriptive statistics were performed to compare characteristics by HPV clearance status. Cox proportional hazards models and Kaplan Meier curves were used to assess differences in time to HPV clearance.

Results: Among 184 women, a large proportion were Non-Hispanic Black (94.0%), public insurance recipients (76.1%), current smokers (48.4%), receiving care at a community-based DC Cohort clinic (70.1%), and cleared their HPV infection (74.5%). Those who didn't achieve HPV clearance exhibited CD4 counts < 200 cells/mm³ (p=0.02), HIV viral load ≥ 200 copies/mL (p=0.01) and were current smokers (p=0.02). Current smoking, compared to past or never smoking, was associated with a longer time to HPV clearance (HR = 0.60, 95% CI: 0.42, 0.85). PIs did not significantly impact time to HPV clearance compared to INSTIs (HR = 1.47, 95% CI: 0.90, 2.40).

Conclusion: This study suggests that CD4 count, viral load, and smoking status, but not ART class, may influence HPV clearance among women with HIV. Our results elucidate the influence of clinical and sociodemographic factors, including ART, that influence HPV clearance amongst people with HIV.

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PL36

GENITAL HERPES IN COMMERCIALY-INSURED CLAIMS DATA, MARKETSCAN 2022

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Background: Genital herpes is a common sexually transmitted infection but is not nationally reported. Genital herpes is caused by two viruses: herpes simplex type 1 (HSV-1) and herpes simplex type 2 (HSV-2). Herpes infection may be overlooked due to asymptomatic infection and an absence of routine screening. Recent prevalence estimates for HSV1 and HSV2 were approximately 18 and a half million people infected in the United States. In this analysis, we used recent claims data to determine the number of healthcare claims with a diagnosis of genital herpes and provided demographic description of these visits.

Methods: We analyzed the latest available complete 2022 Merative™ MarketScan® commercially-insured medical claims data, available December 2023, to determine the number of claims associated with any genital herpes. Claims with any diagnosis containing ICD codes (A60, A6000, A600, A6001, A6002, A6003, A6004, A6009, A601, A609) were termed genital herpes. Multiple claims per enrollee were aggregated to provide a unique enrollee with multiple claims. These claims were stratified by sex, geographic regions, and age groups. Descriptive statistics were calculated with SAS 9.4.

Results: A total of 197,445 out of 17,645,244 unique enrollees had insurance claims related to any genital herpes diagnoses in 2022. Of those, 65% were female, 35% were male, 53% were 18-34 years old vs 21% overall, 21% were 35-44 years old, 52% resided in the South vs 46% overall, and 20% resided in the Northeast region.

Conclusion: These commercially-insured medical claims data provide a snapshot of enrollees with healthcare access who have received a diagnosis of genital herpes. These findings suggest that younger adults (18-34) residing in the South are an important demographic group seeking healthcare for genital herpes. Monitoring healthcare claims data for general demographic information on patients with herpes may provide an additional layer of surveillance and trends for understanding herpes morbidity in the US.

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PL37

UNITY IN IMMUNITY: COMMUNITY-BASED ORGANIZATION STRATEGIES AND CHALLENGES IN ENHANCING MPOX VACCINE CONFIDENCE AND UPTAKE AMONG PEOPLE LIVING WITH HIV (PLWH) IN THE UNITED STATES SEPTEMBER 2023-MAY 2024.

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Background: Gay, bisexual or other men who have sex with men (GBMSM) were disproportionately impacted by the 2022 mpox outbreak in the United States (U.S.) and are also at greater risk for sexually transmitted infections (STIs). In late 2023, CDC Foundation awarded funds to 44 community-based organizations (CBOs), 30 working with people living with HIV (PLWH). We examined mixed methods reporting from CBOs to investigate strategies used and barriers faced in enhancing mpox vaccine confidence and uptake to increase community immunity against mpox.

Methods: CBOs were awarded up to \$100,000 during an 8-month implementation period (September, 2023- May, 2024) to contribute to program goals of 1) increased availability of accurate information about the safety and effectiveness of the mpox vaccine and 2) increased mpox vaccine confidence, access, and uptake among groups at greatest risk for mpox. To evaluate progress towards goals and document implementation approaches and barriers, CBOs completed mid-project (January 2024) and final (May 2024) mixed-methods surveys. Quantitative data were cleaned and analyzed to generate descriptive statistics while qualitative data were coded using both inductive and deductive codes and thematically analyzed by a single analyst.

Results: Analysis of engagement strategies and corresponding accomplishments from the 30 CBOs engaging PLWH indicated that integration of mpox programs and messaging into regular STI prevention, outreach and treatment efforts was an effective manner to promote mpox vaccination amongst PLWH, with 3,449 mpox vaccine doses administered during the project period. CBOs also credited project successes to their ability to provide holistic care, leveraging established trust with community members to address structural and attitudinal barriers to vaccination.

Conclusion: CBOs' engagement strategies, including integration of vaccine promotion into regular STI education and outreach, were effective in preventing mpox resurgence among PLWH. These approaches show promise for prevention and control of other syndemics, including HIV and STIs, which disproportionately impact GBMSM.

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PL38

A CALL-BACK PROTOCOL INCREASES MPOX VACCINE SERIES COMPLETION

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Background: A 2-dose series of the mpox vaccine JYNNEOS assures a higher protection rate than a single dose. Prior to the intervention, individuals in Michigan who received the mpox vaccine had a 66% completion rate of the full series. The Michigan Department of Health and Human Services wanted to increase full series completion via patient education and appointment navigation.

Methods: An analysis of the immunization registry identified 2,973 individuals who had received a single dose of vaccine. A team of DIS with experience in COVID-19 contact tracing and gonorrhea follow-up were assigned the cases and collaborated to develop a script, education materials, and vaccine navigation appointment resources. Of the 2,973 individuals identified, 2,239 were called and 1,308 (58%) were successfully reached.

Results: 348 of the 1,308 persons reached indicated they had already received two doses and were fully vaccinated. This was due to a variety of reasons and data was cleaned in the immunization registry (out of state vaccination, name variations, etc.). 25 individuals reported mpox infection after receiving first dose and/or having received the smallpox vaccine as part of their routine childhood immunizations, negating need for second dose. 751 individuals (~57%) reported willingness to get the second dose, and approximately 184 individuals were not interested in completing the two-dose series.

Conclusion: A mpox vaccine call-back protocol contributed to cleaner immunization data and patient education for those who could be vulnerable to mpox infection can be integrated into routine DIS workflows. A call-back protocol can also identify valuable information regarding the need for patient education and barriers clients are facing accessing services. Further evaluation should be conducted to assess the outcome of complete vaccination for the clients who self-reported they would follow-up for their second dose.

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PL39

**MPOX CLINICAL CARE EXPERIENCES AND VACCINE PERCEPTIONS AMONG PERSONS
DIAGNOSED WITH MPOX DURING A CHICAGO MPOX OUTBREAK INVESTIGATION: MAY 16-JUNE
1, 2023**

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Background: Between March 18 and June 27, 2023, forty-nine mpox cases were reported in Chicago among gay, bisexual, and other men who have sex with men, 57% of whom were fully vaccinated. Between May 16–June 1, 2023, CDC and the Chicago Department of Public Health (CDPH) conducted qualitative interviews with case-patients exploring patients' mpox diagnosis experiences, vaccination status and vaccine perceptions.

Methods: CDPH contacted thirty-three case-patients who were diagnosed with mpox between March 18–May 26, 2023. Nineteen agreed to an in-depth interview. Questions focused on case-patient experiences during the time-period of symptom onset and receipt of diagnosis. Interviews were transcribed, coded, and analyzed for key themes using the Framework Method.

Results: Sixty-eight percent (13/19) reported mild or no symptoms, 85% (11/13) of whom were vaccinated. Seventy-nine percent (15/19) initially suspected other causes, like other sexually transmitted infections, hemorrhoids, or folliculitis. Case-patients did not think their initial presentation was consistent with symptoms of mpox. Regarding medical care, 37% (7/19) reported concerns over providers' mpox knowledge, resulting in negative care experiences, testing delays and, in some cases, misdiagnosis. Twenty-one percent (4/19) mentioned their providers did not suspect mpox because they were vaccinated, or providers were unaware of the recent outbreak. Self-advocacy was a strong theme among case-patients after suspecting mpox either by insisting the provider test for mpox or by going to a different provider. All case-patients said they perceived the vaccine to be effective and would recommend it to others.

Conclusion: Key themes highlight the importance of ensuring clinicians' awareness of a mpox virus infection irrespective of vaccination status and the importance of maintaining mpox on the differential diagnosis for rashes among persons with potential exposures. Understanding perceptions about vaccination among providers and patients with mpox, as well as patient experiences with medical care is critically important to informing prevention and control efforts.

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PL40

"I'M A REALLY HARD STICK": BARRIERS, FACILITATORS, AND PREFERENCES IN EMERGENCY DEPARTMENT HIV TESTING AMONG PEOPLE WHO INJECT DRUGS

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Background: Suffolk County, Massachusetts is an Ending the HIV Epidemic (EHE) priority area with an ongoing cluster of HIV transmission among people who inject drugs (PWID). Many PWID with HIV in this cluster had accessed care in emergency departments (EDs) prior to diagnosis but were not offered HIV testing there. ED-based HIV testing and PrEP initiation have thus become local EHE priorities.

Methods: We conducted in-depth interviews with 26 PWID recruited from a low-threshold clinic for substance use disorder treatment in Boston, Suffolk County, Massachusetts serving people who were recently in the ED. Interviews were recorded and transcribed. We identified themes related to acceptability, barriers, and facilitators to HIV testing and PrEP initiation in the ED for PWID.

Results: Mean participant age was 37 years (SD 11.8); 69.2% identified as white and 26.9% as Latinx; 65.3% lived at or below the federal poverty level. Findings were organized around five themes: 1) Need for multimodal HIV testing, 2) Distrust begets distrust, 3) Context-dependent interest in HIV testing, 4) Creating safe and supportive settings, and 5) PrEP misconceptions. Participants were supportive of HIV testing in the ED but expressed a range of preferences for testing modality (e.g., saliva, venipuncture, finger prick). Distrust of PWID by ED providers were frequently described, resulting in reciprocal distrust of providers. Willingness to accept HIV testing was often associated with recent potential HIV exposures such as needle sharing. Participants desired provider-driven efforts to discuss HIV testing and PrEP in safe and supportive environments. Many participants held the misconception that injection drug use is not an appropriate reason to use PrEP.

Conclusion: PWID are supportive of HIV testing and PrEP initiation in EDs, but efforts may be further optimized. Possible modifications include offering multiple HIV testing modalities and creating safe, confidential spaces to discuss testing and PrEP.

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PL41

SUBSTANCE USE AMONG TRANSGENDER WOMEN LIVING WITH HIV IN GOIÁS, CENTRAL BRAZIL: FINDINGS FROM A CROSS-SECTIONAL STUDY

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Background: Substance use constitutes a major public health issue. Studies have demonstrated a heightened prevalence of alcohol, cocaine, and cannabis consumption among transgender women (TGW). Additionally, some evidence has indicated an association between substance use and non-adherence to antiretroviral treatment. Therefore, the objective of this study was to delineate the prevalence and consumption patterns of alcohol, cannabis, and cocaine/crack among TGW in Central Brazil.

Methods: This cross-sectional study was conducted between April 2018 and November 2019 among TGW in Goiás, Central Brazil. This study was conducted in three cities: Goiânia, Itumbiara, and Jataí. Participants were recruited using a respondent-driven sampling method and underwent face-to-face interviews regarding substance use. The Alcohol Smoking and Substance Involvement Screening Test were utilized to evaluate substance use. The positivity for HIV was identified through a rapid test. Prevalence was estimated with a 95% confidence interval.

Results: A total of 440 transgender women participated in the study, with a median age of 25 years (interquartile range: 20.5–29.5 years). The majority of participants were single (85.5%) and had engaged in sex work during their lifetime (58.6%). Among TGW living with HIV, our findings revealed high prevalences of alcohol use (73.7%), cannabis use (51.6%), and cocaine/crack use (27.2%) over their lifetime. Our results also demonstrated that harmful substance use is prevalent among TGW living with HIV. Additionally, 35% of participants reported using both drugs.

Conclusion: Our study identified a high frequency and significant overlap in the use of alcohol, cannabis, and cocaine/crack among TGW residing in three cities along a drug-trafficking route in Central Brazil. This suggests that drug use is associated with the vulnerabilities experienced by this population. Consequently, multi-level interventions and resources are imperative to enhance treatment availability and access to health services, underscoring the urgent need for health policies addressing drug disorders in this socially marginalized group.

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PL42

LOW TESTING OPPORTUNITIES FOR HIV AMONG IMMIGRANTS AND REFUGEES LIVING IN CENTRAL BRAZIL

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Background: Forced migration worldwide can be a challenge for HIV control; therefore, the objective of this study was to investigate the opportunity for HIV testing among immigrants and refugees in Brazil and to estimate the infection prevalence.

Methods: This is a cross-sectional study conducted with 308 immigrants in vulnerable situations and refugees resident or passing through the central region of Brazil. Data collection was conducted from July 2019 to January 2020. All participants were interviewed and after underwent rapid HIV testing, provided by the Brazilian Ministry of Health.

Results: The majority were male (56.8%), aged between 16 to 33 years (53.9%), in terms of region of origin, 62.3% were from Central America, with Haiti being the predominant country of origin of the participants in this study (56.2%), followed by Venezuela (27.3%) and the Dominican Republic (5.9%). All were asked if they had ever been tested for HIV at any point in their lives, 51.6% reported that they had not or did not know, and among those who stated they had been tested, the vast majority (95%) reported a negative result, and 5% did not know the result. In this study, the HIV prevalence was identified as 0.6% (2 out of 308 participants), with only one of the two individuals who tested positive for the infection having previously undergone an HIV test, which had returned a negative result.

Conclusion: Despite the low prevalence of HIV identified in this study, the limited access to testing for this infection among immigrants and refugees living in the central region of Brazil raises concerns. The findings of this study could be pivotal for intervention strategies in future programs designed to welcome immigrants in vulnerable situations and refugees arriving in Brazil and other countries, emphasizing the necessity of incorporating testing for HIV and other transmissible diseases during reception.

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BREAKING BOUNDARIES IN HEALTHCARE: PREP NURSES PIONEERING CUTTING-EDGE INITIATIVES FOR THE LGBTQ+ COMMUNITY

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Background: Registered nurses (RNs), numbering approximately four million, are the largest healthcare profession in the U.S. This paper examines the outcomes of nurse-led initiatives providing HIV and prevention education to the LGBTQ+ community, focusing on engaging and retaining high-risk patients in pre-exposure prophylaxis (PrEP) programs. The study aims to demonstrate the effectiveness of specialized PrEP-RN nurses in linking and retaining LGBTQ+ patients in HIV prevention programs. Partnering with Gilead Sciences, the project strives to educate patients on PrEP and achieve sustainable linkages through nurse-led efforts, ensuring long-term compliance. This is particularly crucial given the high HIV prevalence among transgender women (15-28%) and men who have sex with men (MSM), the most at-risk groups.

Methods: In South Florida, four skilled RNs completed intensive training in HIV prevention, earning the PrEP-RN title. They established key community connections and conducted vital clinical follow-ups to combat stigma and misinformation about HIV prevention, moving away from traditional physician-centric models. Operating across four CAN Community Health clinics in cities including Fort Lauderdale and Miami, these nurses adhered to CDC and organizational PrEP guidelines, offering comprehensive services. They tackled barriers to PrEP access with a personalized approach, providing one-on-one educational sessions, regular telehealth follow-ups, and quarterly in-person check-ins.

Results: The PrEP RN study enrolled 121 patients over the last year, with 50.4% identifying as MSM and 13.2% as bisexual. Sixty-three percent of the participants were from the LGBTQ+ community, underscoring the project's reach into vulnerable sectors.

Conclusion: This project underscores the pivotal role of nurses in addressing global health issues like HIV. The quantitative outcomes demonstrate the significant impact a small group of nurses can have in a region, suggesting that scaling such initiatives could substantially benefit at-risk communities like the LGBTQ+. This emphasizes the critical leadership role of nurses in transforming healthcare practices.

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