the first HIV-1 fusion inhibitory peptide-based anti-HIV drug. However, its clinical application is limited because of its low potency and low genetic barrier to resistance. Furthermore, its mechanism of action is still elusive. Therefore, it is essential to define T20's mechanism of action, based on which a new analogous peptide with improved antiviral activity against divergent HIV-1 strains, including those resistant to T20.

Disclosure No significant relationships.

| P850 | GENDER IDENTIFY AND SELF-REPORTED HPV VACCINATION AMONG YOUTH LIVING WITH OR AT HIGH-RISK FOR HIV |

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Background Human Papillomavirus (HPV) is common and is linked to cancer in both males and females. Efforts are underway to increase uptake of the vaccine (Gardasil) that is now recommended for youth and adults up to age 45. However, little is known about the role of gender identify on vaccination, particularly among youth at increased risk for contracting and spreading the virus.

Methods We analyzed data (N=1070) from a longitudinal study of high-risk HIV negative youth and youth living with HIV aged 12–24. Data were collected in Los Angeles, CA and New Orleans, LA from clinic and community settings. We examined self-reports of HPV vaccination as well as predictors of vaccination.

Results Cis-gender females (CGFs) had the highest proportion of youth reporting vaccination (52.7%) followed by transgender youth (45.9%), gender non-conforming youth (44.2%), and MSM (39.0%). Cis-gendered, heterosexual males (CGHMs) reported the lowest proportion (32.9%). However, 18.8% of youth did not know if they had received the vaccine. In our multivariate logistic model examining predictors of vaccination, gender identity was only significant for CGHMs. Other significant variables included age, some education higher than a high school diploma or completing higher education compared to less than high school, ever being tested for Hepatitis C, currently having a healthcare provider, always using condoms, and Latino or other race/ethnicity compared to African-American.

Conclusion Results suggest that despite national efforts to increase the uptake of the vaccine, many youth at high-risk for HPV have not received it or did not know if they had. CGFs appear to have the highest uptake, but CGMs are a group for whom increased efforts targeting vaccination are needed. Demographic and health care factors may also impact vaccination rates. Research is needed on barriers to vaccination and new interventions that go beyond education and promotion such as policy initiatives.

Disclosure No significant relationships.

| P851 | PERFORMANCE DISK DIFFUSION METHOD IN IDENTIFYING GONOCOCCAL RESISTANCE |

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Background Because of their simple and cost-effective characteristics, many products of disk diffusion tests are commanly used by microbiological laboratories and hospitals world-wide to determine the gonococcal susceptibility and guide clinical treatments. To evaluate the reliability of routine detection of antimicrobial susceptibility of *Neisseria gonorrhoeae* by disk diffusion method, six kinds of discs targeted at the specific antibiotics (penicillin, ceftriaxone, cefixime, tetracycline, ciprofloxacin and spectinomycin) from two domestic and one foreign manufacturer were included into the evaluation using agar dilution method as a reference method to validate the concordance between the two methods.

Methods According to CLSI 2018 (M100, 28th ed) standard, the antimicrobial sensitivity results of more than 100 clinical isolates and 6 reference strains were interpreted. The coincidence rates of the two methods were analyzed by calculating four indicators: categorical agreement (CA), very major errors (VME), major errors (ME), minus errors (MIE). In addition, the correlation between agar dilution and disk diffusion methods were analyzed by using breakpoints established by linear least-squares regression.

Results The results showed that the MIC values of the 6 antibiotics on reference strains determined by the two methods were within the reference ranges. No very major or major discrepancies were detected in the 6 antibiotics. The performance of disk diffusion method to detect gonococcal susceptibility indicted that 1) the coincidence rates in spectinomycin and ciprofloxacin were high (CA≥98%); 2) disk dilution method could miss some penicillin-resistant strains; (3) the coincidence rate of ceftriaxone and cefixime was low (CA<80%), in which agar dilution method is needed to confirm the detection of non-sensitive strains.

Conclusion The domestic products for ciprofloxacin, tetracycline, spectinomycin, cefixime and ceftriaxone were as satisfactory as foreign ones but the domestic for penicillin was relatively poor in quality.

Disclosure No significant relationships.

| P852 | EVALUATION OF PLEXPCR® VHS FOR DIAGNOSIS OF GENITAL LESIONS |

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Background Genital lesions can be caused by herpes simplex virus types 1 and 2 (HSV-1 and HSV-2), varicella zoster virus (VZV) and *Treponema pallidum* (TP). Clinical presentations

can be indistinguishable, and correct identification of the etiology is essential for patient management. PCR is the gold standard for identification of herpes viruses, and PCR can also be used for direct detection of TP from genital lesions. Given the recent global resurgence of syphilis, early diagnosis using PCR is an important tool to supplement serology-based diagnosis of syphilis.

Methods The PlexPCR® VHS assay (SpeeDx) has been developed to detect and differentiate HSV-1, HSV-2, VZV and TP. 211 samples (157 positive and 54 negative) were collected from Melbourne Sexual Health Centre (Victoria, Australia) from January-April 2018. Samples consisted of genital, anal/rectal, oral and non-genital swabs. The performance of the assay was evaluated at the Victorian Infectious Diseases Reference Laboratory (Victoria, Australia) and compared to reference results from in-house qPCR tests (HSV-1/HSV-2/VZV/CMV multiplex and TP singleplex). TP detection was also compared to serology results.

Results The sensitivity/specificity of each target compared to in-house qPCR was 100%/99.4% for HSV-1, 96.0%/98.8% for HSV-2, 100%/100% for VZV and 100.0%/100.0% for TP. Analysis of TP PCR results compared to serology are still pending.

Conclusion Molecular diagnosis of genital lesions using PlexPCR VHS allows rapid identification of pathogens with high sensitivity and specificity, enabling appropriate patient management.

Disclosure No significant relationships.

P853   **HUMAN FACTORS ENGINEERING TO DRIVE THE DEVELOPMENT OF A NEXT GENERATION COLLI-PEE HOME-BASED FIRST-VOID URINE COLLECTION**

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Background The first-void urine (first 20 ml of the urine flow) is being used for the detection of sexually transmitted infections (STIs), in particular for the detection of (1) Chlamydia trachomatis, (2) Neisseria gonorrhoeae, (3) Mycoplasma genitalium and (4) Trichomonas. Novosanis' Colli-Pee is an innovative device for standardized, volumetric and hygienic self-collection of first-void urine.

The aim of the study was to design a next generation of the Colli-Pee device optimized in architecture and right materials for postal mailing.

Methods Co-creation sessions by living labs Happy Aging (BE) and EIZT (NL) were organized with 20 volunteers to score four 3D-printed designs. Additionally, at home-based testing allowed assessment of the usability of the new generation Colli-Pee in 120 healthy volunteers; 60 in BE and 60 in NL. Volunteers provided feedback via an online questionnaire on the ease of use, the process of an online urine self-test: from requesting and receiving the Colli-Pee urine collection system to the collection of urine to the returning of the sample by postal mail. The returned samples were checked for leakage and collected volume; as well as return conditions.

Results The prototype with a flexible funnel scored best for time of sampling (8.3), user-friendliness (8.3), and choice of material (8.6). The first results from 38 Belgian participants showed no difference between collected volume for the different pee positions used (p=0.996,Kruskal Wallis Test; mean (SD) in mL: standing position 10.21 (0.34), forward sitting position 10.00 (0.86), backward sitting position 10.34 (0.55)). From 50 Belgian participants, 20% of the volunteers mentioned that they did not use the instructions to assemble the Colli-Pee and 92% would recommend the Colli-Pee to others. Furthermore, all returned boxes with a urine sample were intact upon arrival.

Conclusion The next-generation Colli-Pee was well-accepted and offers a solution for home-based collection.

Disclosure No significant relationships.

P854   **INTERSPECIES CHIMERAS: A TOOL TO IDENTIFY CHLAMYDIAL VIRULENCE FACTORS**

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Background Chlamydia trachomatis is an obligate intracellular bacterium and is the most common notifiable infection in the United States. It spends its entire developmental cycle in a membrane bound cytosolic vacuole termed the inclusion, which protects it from otherwise deleterious host innate immune responses. Interferon gamma (IFNγ) plays a critical role in the clearance of Chlamydia in vitro and in vivo, at least in part by inducing cell-autonomous immunity in infected epithelial cells. Chlamydia muridarum, a rodent pathogen with high genomic synteny to C. trachomatis, is completely susceptible to human cell-autonomous immune responses in vitro. In contrast, C. trachomatis is highly resistant to these IFNγ-induced responses. In published coinfection experiments, inclusions coinhabited by these species are resistant to recognition by cell-autonomous immunity, suggesting that C. trachomatis has evolved active mechanisms to evade recognition by host cytosolic immune surveillance. These mechanisms are completely unknown.

Methods To identify chlamydial genes that may be involved, we have taken advantage of a previously generated library of interspecies chimeras, each of which has a genome that is predominantly C. trachomatis serovar L2 with discrete regions of C. muridarum genes recombined in (range = 12–113 recombined genes in each individual chimera). We have used these chimeras in an initial screen looking for ubiquitin recruitment to inclusion membranes—an established marker of cell-autonomous immunity recognition.

Results We have identified four chimeras that are ubiquitinated following IFNy stimulation. These four have zones of recombination overlapping with one another, providing us with 11 candidate genes.

Conclusion This outcome highlights the utility of our chimera library, especially when used to identify genetic factors underlying phenotypes for which C. trachomatis and C. murdarum are disparate. Future characterization of the candidate genes in this screen will identify chlamydial virulence factors that aid in immune evasion of IFNγ-induced host responses, and may inform design of future vaccines.

Disclosure No significant relationships.