The main author has no other affiliations aside from the ISEAN Hivos Program.

008.5 OUR VOICES, OUR COMMUNITIES, OUR RIGHTS

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Background It has been the desire of the Pacific Sexual Diversity Network (PSDN) since its inception that its network celebrate its identities and ideals in the form of a Human Rights Conference, designed to enhance understanding and transfer knowledge related to LGBTIQ Human Rights. In the Pacific, eight countries criminalise consensual same sex behaviour with many others having related discriminatory laws, and/or laws used with discriminatory and arbitrary application. Even where these laws do not exist, many states have other discriminatory laws that target people because of sexual orientation and gender identity.
Methods Connect people and LGBTIQ organised groups across the Pacific region to share ideas, to affirm the dignity, equality and security of LGBTIQ communities and individuals. Educate and advocate about international human rights law, recent international developments and agreed principles, to enhance respect for persons of diverse sexual orientations and gender identities. Promote collaboration to build genuine and accountable partnerships and networks for advocacy and social action. Promote and enable access to sharing and dissemination of information, ideas, experiences and resources. Improve understanding and strengthen collaborations amongst key stakeholders about health and human rights issues.
Results In assisting local PIDSOGIE communities strengthen knowledge and skills in law and policy reform advocacy, networks such as PSDN have a role in major policy shifts such as the repeal of the Samoan Female Impersonation Law. The 2012 report of the Global Commission on HIV and the Law recognises that good laws fully resourced and rigorously enforced, can protect human rights and widen access to HIV prevention and health services.
Conclusion Community networks such as PSDN make a critical contribution to the development of appropriate and rights based policy and laws at the country level which have a positive impact on the accessibility of prevention and other services for PIDSOGIE communities.
Disclosure of interest statement Pacific Sexual Divesity Network is funded by HIVOS The Netherlands, and Wellsprings, Arcus, Arc International - USA. Pacific Sexual Divesity Network – PSDN. Lesbian, Gay, Bisexual, Transgender, Intersex, Queer. – LGBTIQ. PIDSOGIE – Pacific Island Diverse Sexual Orientation Gender Indentities and Expressions.

008.6 THE GENDERED INFLUENCE OF STIGMA ON HIV TESTING BEHAVIOUR: RESULTS FROM A POPULATION-BASED SURVEY OF WOMEN AND MEN IN RWANDA

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Objective Stigmatisation is a multifaceted process, and distinct domains of stigma may impact HIV testing behaviour differently. We examined the relationship between two stigma domains and HIV testing behaviour among Rwandan men and women who participated in a population-based survey in 2011.
Methods We conducted multivariable logistic regression with data from 4,669 Rwandan women (N = 2613) and men (N = 2,056) aged 15 years and older to predict 'ever tested for HIV'. Independent variables included sociodemographics, knowledge of and proximity to HIV, and two stigma domains, 'drivers' (fear of HIV infection through casual contact with PLHIV) and 'manifestations' (anticipated and perceived stigma, shame and discriminatory attitudes). All analyses were disaggregated by gender.
Results Three quarters of women and men reported ever testing for HIV. Sociodemographic variables significantly associated with HIV testing behaviour included: age, secondary (women only) and post-secondary education (both genders), complete knowledge of HIV [women only, OR: 1.52, 95% CI: 1.20–1.96], frequent trips outside the community (men only), and proximity (personally knowing a PLHIV) [women, OR: 1.66, 95% CI: 1.22–2.25; men, OR: 1.89, 95% CI: 1.36 – 2.60]. Fear of becoming infected with HIV via contact with saliva was the only stigma variable significantly associated with testing behaviour for women [OR: 0.68, 95% CI: 0.49 – 0.94]. For men, holding a discriminatory attitude was the only stigma variable significantly associated with testing behaviour [OR: 0.63, 95% CI: 0.41–0.98]. Socioeconomic status and residence were not significantly associated with HIV testing behaviour for either gender.
Conclusion These findings demonstrate that drivers and manifestations of stigma influence HIV testing behaviour differently for women and men, suggesting the need for tailored interventions, including stigma-reduction components, to increase HIV testing among both genders in Rwanda. Targeted interventions are also needed to increase testing among adolescents (15–24) and older (50+) men and women.
Disclosure of interest statement Nothing to declare.

O09 - Novel methods for STI basic research

009.1 STANDARDISED, QUALITY ASSURED TIME-KILL CURVE ANALYSIS AND PHARMACODYNAMIC FUNCTIONS OF DIFFERENT ANTIBIOTICS FOR *IN VITRO* EVALUATION OF TREATMENT REGIMENS FOR *NEISSERIA GONORRHOEAE*

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Introduction *Neisseria gonorrhoeae* shows increasing resistance to first line empirical treatment, which demonstrates the need for robust methods to evaluate antibiotic treatment regimens. Antibiotic efficacy is traditionally determined *in vitro* by measuring minimum inhibitory concentrations (MICs). Time-kill curve assays for *N. gonorrhoeae* have been difficult to standardise. We developed a new time-kill curve assay and used pharmacodynamics functions to analyse the relationship between antibiotic concentration and bacterial net growth rate.
Methods We used a defined medium (Graver-Wade medium) and grew bacteria in 96-well microtiter plates. To measure colony forming units over a time course of six hours, we used a previously described drop plate method and spotted 10 μl droplets on chocolate agar with a multichannel pipette. The assay was

validated using 16 reference strains, representing diffent clades of the *N. gonorrhoeae* phylogenetic tree. We then studied a highly sensitive strain isolated in 1954 in Denmark in detail. Penicillin G, spectinomycin, gentamicin, tetracyline, chloramphenicol, ciprofloxacin, azithromycin, cefixime and ceftriaxone were examined in concentrations from 0.016× to 16×MIC. A pharmacodynamic function was fitted to the net bacterial growth rates at each concentration, resulting in four parameters that describe the pharmacodynamic properties of each antibiotic.

Results Our time-kill curve assay was reproducible for all the *N. gonorrhoeae* strains tested. Ciprofloxacin and spectinomycin induced the strongest bactericidal effect during the first six hours. Tetracycline and chloramphenicol were the only antibiotics that showed a purely bacteriostatic effect. Differences in the shape of the pharmacodynamic functions illustrate the time and concentration dependent properties of the antibiotics.

Conclusion We developed a standardised, robust and quality-assured time-kill curve assay for *N. gonorrhoeae*. Pharmacodynamic functions allowed classification of nine antibiotics according to their antimicrobial properties. These methods can be used to investigate new antibiotic regimens and help to improve dosing strategies.

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O09.2 ESTABLISHMENT OF THE GONORRHOEA MOUSE MODEL FOR PRE-CLINICAL TESTING OF ANTIMICROBIAL AGENTS AGAINST *NEISSERIA GONORRHOEAE*

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Introduction New antibiotics for gonorrhoea are needed due to the emergence of resistance to the extended-spectrum cephalosporins (ESCs) in *Neisseria gonorrhoeae*. Here we established the 17β-estradiol mouse model of gonococcal genital tract infection for testing antibiotics against gonorrhoea by defining the *in vivo* efficacy of cefixime (CFX) and ceftriaxone (CRO) against strain FA1090 (ESC^S) and the multi-drug resistant strain H041 (ESC^R).

Methods Estradiol-treated female BALB/c mice were inoculated vaginally with FA1090 or H041 bacteria. PBS or different doses of CFX or CRO were administered two days later (n = 9 mice/group) and vaginal swabs were quantitatively cultured for *N. gonorrhoeae* for 8 consecutive days. The percentage of mice colonised over time was compared among groups using the Log-rank test.

Results A single oral dose of 60, 12, 6 or 3 mg/kg CFX showed significant activity against strain FA1090 with the two highest doses clearing infection within 48 hr. One or two mice in the groups that received 6 or 3 mg/kg CFX did not clear infection. None of four higher concentrations (120, 60, 12, and 6 mg/kg) of CFX cleared H041 infection, but gentamycin (48 mg/kg, i.p. injection, 5 days, q24h) was effective compared to PBS. Five concentrations (30, 15, 5, 1.5, and 0.5 mg/kg) of a single i.p. dose of CRO had significant activity against FA1090, while 60, 30, 15, or 1.5 mg/kg had no effect against H041.

Conclusion The gonorrhoea mouse model shows a dose-dependent response for CRO and CFX against an ESC^S strain with *in vivo* break-points less than 0.5 and 3 mg/kg, respectively. Higher doses of these antibiotics were not effective against an ESC^R strain. We are currently correlating *in vivo* efficacy with pharmacokinetic analyses to further strengthen the usefulness of this model to test antimicrobial compounds against gonorrhoea.

Disclosure of interest statement This work was supported by NIH/NIAID (Interagency Agreement AAI14024–001) and USUHS (USU-DOD MIC73–2493).

O09.3 RELIBALE GENOTYPIC TROPISM TESTS FOR THE MAJOR HIV-1 SUBTYPES

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Introduction Human immunodeficiency virus (HIV) infects immune system cells by binding cell-surface CD4 and one of two coreceptors, CCR5 or CXCR4. Maraviroc (MVC) is an anti-HIV drug that binds to CCR5 and blocks HIV entry. Because MVC is ineffective against CXCR4-using viruses, it is only prescribed to patients shown to exclusively harbour CCR5-using viruses. The major obstacles to MVC being more widely used in anti-HIV therapies are (i) traditional pre-treatment prognostic "tropism tests" to determine CCR5- or CXCR4-usage are expensive and time consuming, and (ii) cheaper and rapid genotypic tropism tests have been developed only for subtype B viruses, which account for only 10% of infections worldwide. We developed PhenoSeq, a suite of reliable genotypic tropism tests for the major HIV subtypes; A, B, C, D and circulating recombinant forms of AE (CRF01_AE) and AG (CRF02_AG), which together account for 95% of infections worldwide.

Methods Development of genotypic tropism tests was informed by analysis of all previously published HIV genetic sequences with corresponding coreceptor usage and subtype data (n = 2257; 630 CXCR4-using and 1637 CCR5-using), to elucidate statistically significant mutations that distinguish CXCR4- from CCR5-using viruses. The accuracy of PhenoSeq was validated against independent HIV sequences from patients previously enrolled in phase III MVC clinical trials (A4001064 and MERIT), relative to phenotypic tropism tests results.

Results PhenoSeq genotypic algorithms exhibited more favourable sensitivity and specificity profiles for establishing CCR5- or CXCR4-usage of HIV subtypes A, B, C, D, CRF01_AE and CRF02_AG than alternative algorithms, including in-use algorithms geno2pheno and WebPSSM (two tailed t-test, $p \leq 0.05$ considered significant).

Conclusion As the only platform of algorithms that reliably infer tropism of all major global HIV subtypes, PhenoSeq may inform the use of MVC and future CCR5 blocking drugs, in particular for regions burdened most by the HIV pandemic, where non-B HIV predominates.

Disclosure of interest statement JFD and FD are employees of ViiV Healthcare. PRG is a former member of the ViiV Australia scientific advisory board and has received honoraria. KC and PRG have received funding from ViiV Healthcare Australia for conference travel. KC and PRG presently receive research