recognised epidemic strain, harbouring resistance to cephalosporins. ST12302 was newly recognised in 2015 and identified in two provinces, Quebec and Ontario.

Conclusion N. gonorrhoeae isolates in Canada show a significant increase in azithromycin resistance in 2014–2015. Azithromycin resistance in Canadian N. gonorrhoeae isolates are approaching the 5% level at which the WHO states an antimicrobial should be reviewed as an appropriate treatment. Continued surveillance of antimicrobial susceptibilities and sequence types of N. gonorrhoeae is necessary to identify clusters, inform treatment guidelines and mitigate the impact of resistant gonorrhoea.

P3.155 **ASSESSMENT OF *ATOPOBIUM VAGINAE* AND *GARDNERELLA VAGINALIS* CONCENTRATIONS IN A COHORT OF PREGNANT SOUTH AFRICAN WOMEN**

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Introduction: *Atopobium vaginae* and *Gardnerella vaginalis* are bacterial species that are present in the vagina in increased concentrations during bacterial vaginosis (BV). Numerous studies have proposed a molecular diagnosis of BV by targeting several BV-related bacteria in a polymerase chain reaction (PCR); however, these studies evaluated separately the threshold concentrations of these bacteria. The purpose of this cross-sectional study was to assess *A. vaginae* and *G. vaginalis* concentrations in pregnant women of different age groups, gestational age groups, vaginal flora categories and HIV status and also to determine which combination of DNA threshold concentrations, rather than individually, best discriminated between bacterial vaginosis (BV) and non-BV categories.

Methods Pregnant women attending an antenatal clinic of a tertiary academic hospital in Pretoria, Gauteng, South Africa were enrolled in a cross-sectional study from July 2012 to December 2012. Self-collected vaginal swabs were obtained to detect BV with the Nugent scoring system and quantify *A. vaginae* and *G. vaginalis* DNA with a duplex quantitative real-time polymerase chain reaction (PCR) assay.

Results In 220 pregnant women, median concentrations of *A. vaginae* and *G. vaginalis* were not significantly different among various age groups (*A. vaginae* p=0.98 and *G. vaginalis* p=0.18) or different trimesters (*A. vaginae* p=0.31 and *G. vaginalis* p=0.19) but differed significantly among the vaginal flora categories (*A. vaginae* p<0.001 and *G. vaginalis* p<0.001) and HIV status (*A. vaginae* p<0.001 and *G. vaginalis* p=0.004). An *A. vaginae* DNA concentration of $\geq 10^7$ copies/mL together with a positive *G. vaginalis* result ($\geq 10°$Copies/mL) (i.e. AV_7GV_0) best discriminated between BV (39/220) and non-BV categories (181/220) with a sensitivity of 85% (95% CI 0.70 to 0.94) and a specificity of 82% (95% CI 0.76 to 0.88).

Conclusion Threshold concentrations for BV detection should be established for specific populations to ensure the development of tailored, sensitive molecular assays.

P3.156 **CORRELATION OF THE EXPRESSION OF THE P16INK4A PROTEIN AND HPV DNA IN INDIVIDUALS WITH PENILE CANCER IN THE STATE OF GOIAS, BRAZIL**

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Introduction Penile carcinoma (PC) is a rare disease, however it is still considered a serious public health problem. The expression of p16INK4a, a protein associated with tumour suppression, can be used as a marker for the presence of high risk HPV DNA. The upregulation of this protein is understood to be an attempt to stop uncontrolled cellular proliferation in response to HPV infection.

Objectives The goal of this study was to estimate the prevalence of HPV DNA and evaluate the expression and correlation of p16INK4a with HPV DNA in patients with PC in Goias, Brazil. Methods: this retrospective cohort study involved 190 patients with PC treated in the UroOncology service of Hospital Araujo Jorge (HAJ), a unit of the Association Against Cancer in Goias (ACCG), from January 2003 to November 2015. The paraffin blocks containing the cancerous tissue fragments were subjected to extraction of viral DNA, subsequently subjected to polymerase chain reaction testing with short PCR fragment (SPF PCR) primers to detect HPV DNA. The marking of the p16INK4a protein was performed with immunohistochemistry, using a commercial kit (Mach 4 Universal HRPPolymer Detection System – Biocare Medical, CA, USA). The slides were evaluated independently by two pathologists.

Results Of the 190 samples tested, 89 (46.8%) (CI 95%: 39.8%–53.9%) showed positive HPV DNA and 98 (51.7.0%) (CI 95%: 33.2 to 53.2) showed expression of p16INK4a. The correlation between the presence of HPV DNA and p16INK4a was 63.6% (CI 95%: 46.3 to 78.6). Although there is no expression of p16INK4a in 100% of cases positive for HPVDNA, there was statistical significance between the presence of viral DNA and expression of p16INK4a (p<0.003).

Conclusion Some studies suggest that the standard knowledge of the expression of the p16INK4a protein may be a useful marker for HPV activity in patients with penile cancer. The results of this study showed that there are significant differences between the expression of this protein in positive and negative HPV DNA samples.

P3.157 **DOES THE EUROPEAN GONOCOCCAL ANTIMICROBIAL SURVEILLANCE PROGRAMME (EURO-GASP) ACCURATELY REFLECT THE TRUE ANTIMICROBIAL RESISTANCE SITUATION IN EUROPE?**

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Introduction Euro-GASP antimicrobial resistance (AMR) data informs gonorrhoea (GC) treatment guidelines, therefore the data needs to be robust and reliable. We assessed whether Euro-GASP appropriately reflects the AMR situation across Europe.

Methods We compared data from Euro-GASP and national systems from 12 countries for azithromycin (AZ), cefixime (CEF) and ciprofloxacin (CIP) from 2009–2013 and performed Poisson regression to identify differences (p<0.05) between the proportions of resistant isolates in Euro-GASP and national data sets. The 2014 Euro-GASP AMR data for each country (n=19) were weighted to account for differences according to patient characteristics (age group, sexual orientation and gender) between the Euro-GASP patient data and the European STI surveillance data. Data were compared to determine whether resistance levels shifted above or below the 5% threshold used to assess the clinical utility of GC treatments.

Results Euro-GASP isolates were more likely to be resistant for AZ (incidence-rate ratio (IRR) 1.3, 1.1–1.5 95% confidence interval (CI), p=0.003) and less likely to be resistant for CEF (IRR 0.8, 0.7–0.9 95% CI, p=0.007) compared to the national data. There was no significant difference for CIP.

Weighting slightly altered the estimates of overall AMR (−4.7%–4.7% difference). More apparent differences for AZ and CIP (9.5%–17.9%) were observed for countries with low isolate numbers and low completeness of reporting (n=3). Weighting caused AMR levels to cross the 5% threshold in one country (CEF 5% to 3.4%).

Conclusion The comparability of resistance proportions was satisfactory for CIP; MICs for CIP-resistant gonococci were mostly well above the resistance breakpoint, so testing and interpretation remained reliable. The differences for CEF and AZ resistance proportions were likely due to variability induced by strains with MICs close to the resistance breakpoints. Weighting of the Euro-GASP 2014 data provided similar estimates of AMR, demonstrating that Euro-GASP laboratories submit representative isolates in respect to patient characteristics.

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Introduction Increase in CD4 count and achieving viral suppression are the ultimate goals of the HIV care, yet disparities in these outcomes exist among subpopulations of HIV-infected persons. We aimed to assess potential disparities in viral suppression and normal CD4 count among HIV-infected persons in care in Mississippi.

Methods We used Mississippi Medical Monitoring Project (MMP) data from 2009 to 2014 (n=1,233) in this study. MMP is a nationally representative surveillance system designed to assess and monitor the behavioural and clinical characteristics of HIV-infected adults receiving outpatient medical care in the United States. Outcome variables in this study were suppressed recent and durable viral load (<200 copies/ml), and normal CD4 count ($\geq$500 cells/mm^3). Patients'

characteristics in this study were race, gender, age, annual income, education, insurance, and length of diagnosis. Descriptive analysis, Chi-square tests, and multiple logistic regression were conducted, accounting for the complex sample design.

Results Our findings indicate that suppressed recent viral load prevalence was significantly higher among whites (72.8%), those aged $\geq$50 years (74.3%), those who had annual income $\geq$\$20 000 (76%), public insurance (68.3%), or those were diagnosed $\geq$5 years (67.4%). The prevalence of suppressed durable viral load was significantly higher among those who aged $\geq$50 years (71.7%), and were diagnosed $\geq$5 years ago (61.4%), and the prevalence of normal CD4 was significantly higher among females (46%). Multivariable analysis show that those aged $\geq$50 years were more likely to have suppressed recent (aOR=2.4) and durable viral load (aOR=2.9) compared to those aged 18–24 years, and women were more likely to have normal CD4 count than men (aOR=1.4), after controlling for the confounders.

Conclusion Our findings identified age and gender disparities in the HIV clinical outcomes, which may be used to develop and implement multifaceted interventions to improve health equity among all HIV-infected patients.

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Introduction There is strong evidence that sexually transmitted infections (STIs) cause adverse pregnancy outcomes, including preterm birth, stillbirth, low birth-weight and congenital infections. The prevalence of *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG) and *Trichomonas vaginalis* (TV) in the Asia Pacific region varies. The recently estimated mean prevalence of CT, NG and TV in low and middle income countries in Asia was 0.8%, 2.8% and 13.6% respectively. In Vietnam, pregnant women are not screened for CT, NG and TV during their antenatal visits. The aim of our current study was to estimate the prevalence of STIs and access feasibility and acceptability of screening for CT, NG and TV among pregnant women in Hanoi.

Methods We plan to enrol 800 pregnant women coming to Ha Dong General Hospital, Hanoi for antenatal care. Eligibility includes age 18 years or older, gestational age less than 35 weeks and willing to come back to the hospital for counselling and treatment if tested positive. After informed consent, enrolled women self-collect vaginal swabs or urine samples for testing using Xpert CT/NG and TV assays (Cepheid, Sunnyvale, CA, USA). We offer CT/NG testing to all 800 participants but only offer TV testing to the first 387 participants (due to TV's low prevalence).

Results To date we have enrolled 490 participants (Acceptability was 99.0% (95%CI, 97.7–99.7)). Among them, 34 had CT (6.9%; 95% CI, 4.9–9.6) and none had NG. Among 387 women who were tested for TV, 3 had the infection (0.78%; 95% CI, 0.16–2.25). Feasibility was 94.4% (95%CI, 81.3–99.3), with 34 out of 36 infected women treated for the corresponding infection.