Conclusions New drugs which target a reduction in toxicities have the highest impact on patient prognosis, and such drugs are within reach of current candidate products.

P3-S3.10 AN ASSESSMENT OF THE EFFECTS OF ANCILLARY SERVICES ON CD4 COUNTS AND VIRAL LOADS OF PEOPLE LIVING WITH HIV/AIDS

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Background The Ryan White Modernisation Care Act 2006 integrated medical case management with supportive social services to ensure that Persons Living with HIV/AIDS (PLWHA) from lower socioeconomic, marginalised groups, and those with mental health/substance use issues are sustained in medical care. This study sought to establish the relationship between the CD4 and viral load of PLWHA and the receipt of ancillary services.

Methods A random sample of N=222 subjects were drawn from the Bluegrass Care Clinic (BCC) database. The cohort was 67% white, 21.6% black, and 8.6% Hispanic with the majority of the subjects between 100 and 149% of the poverty level. Self-reported HIV risk factors for the sample were 59.9% MSM, 28.4% heterosexual, and 8.1% IDU. This sample adequately represents the population of the BCC as ethnicity, socioeconomic status and risk factors were similar for the clinic population as a whole. One way ANOVA tests were used to determine if the receipt of ancillary services by PLWHA in the BCC affects their viral loads and CD4 counts by using a multivariable analysis.

Results There was a statistically significant difference in mean CD4 counts when comparing between ethnicities. The ANOVA test showed a statistically significant relationship ($p=0.002$) between Hispanic ethnicity and mean CD4 count, as subjects in the study that were of Hispanic origin had lower mean CD4 counts (305) than non-Hispanic whites (550) and non-Hispanic African Americans (500). There was also a statistically significant difference ($p=0.021$) between the mean viral load of PLWHA having one to three mental health visits and PLWHA with no mental health visits at all.

Conclusion At the BCC, patients with adherence issues appear to be referred for mental health services, confirming the essential role of social workers on a multi-disciplinary HIV team. The BCC also has a Hispanic population with disproportionately lower CD4 counts. Implications for program improvement are to continue to target Hispanic patients with lower CD4 counts to retain them in medical care and improve adherence to ART medications. This study was limited by the fact that ancillary social services were lumped in with medical case management in the data set rather than delineated into individual service categories. Future research should use data sets that more accurately capture the various ancillary services provided to the sample subjects.

P3-S3.11 ABSTRACT WITHDRAWN

P3-S3.12 TRANSMITTED HIV DRUG RESISTANCE MUTATIONS IN ONTARIO, CANADA, 2002–2009

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Background We estimated the prevalence of transmitted HIV drug resistance (TDR) among HIV-positive outpatients in Ontario,

Canada who were diagnosed since 2002 when the provincial laboratories started testing for drug resistance among treatment-naïve patients.

Methods We analysed data from the Ontario HIV Treatment Network Cohort Study, a multi-site open dynamic cohort of people living with HIV. Participants were recruited from specialised HIV clinics and primary care practices. Data were obtained from medical chart extractions, interviews and linked with data from the Ontario Public Health Laboratories, which performs almost all viral load and genotypic resistance testing (GRT). We analysed data from participants who received GRT testing while treatment-naïve, defined as (1) no record of antiretroviral use in their clinical chart and (2) detectable viral load. We used the Stanford University HIV Drug Resistance Database to identify TDR mutations in the viral sequences of the protease and reverse transcriptase genes. We used descriptive statistics to characterise the prevalence of TDR mutations and report results with 95% CI.

Results Among 623 persons diagnosed in 2002–2009, 330 received GRT while treatment naïve. Among those tested, the mean age was 39 (SD 9.9); 12% were female, 65% men who have sex with men (MSM), and 66% white. The median baseline viral load count was 4.5 log₁₀ copies/ml (IQR 3.9–5.0) and the median baseline CD4 count was 399 cells/mm³ (IQR 240–540). Overall, 13.6% (CI 9.9 to 17.3%) had one or more drug resistance mutations, and 8.8% (CI 5.7 to 11.8%), 4.8% (CI 2.5 to 7.2%) and 2.7% (CI 1.0 to 4.5%) had mutations conferring resistance against nucleoside/tide reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), or protease inhibitors (PIs), respectively. TDR against two or more drug classes was observed in 2.7% (CI 1.0 to 4.5%). The most common mutations were T215 revertants, M41L, and K103N in the RT gene. The proportion with TDR was highest among IDU (30.4%), intermediate among MSM and heterosexuals (12.0% and 14.3%, respectively) and lowest among persons from HIV endemic regions (6.9%) ($p=0.06$). Participants diagnosed in 2008–2009 had a higher proportion of NRTI mutations (18.2% vs 5.9%, $p=0.0009$) and NNRTI mutations (11.7% vs 2.8%, $p=0.004$) than those diagnosed earlier; such increases were observed among MSM, heterosexuals and IDU. There was no evidence of a change in PI mutation frequency over time.

Conclusion Our finding of a recent increase in NRTI and NNRTI mutations is concerning but requires confirmation, ideally in a random sample of specimens from newly diagnosed individuals. Although the actual dates of infection were unknown, the results suggest that drug-resistant strains are commonly circulating within the established HIV epidemics in Ontario.

Clinical sciences poster session 4: Human papillomavirus

P3-S4.01 HIGH-RISK HUMAN PAPILLOMAVIRUS (HR-HPV) INFECTION DETECTION IN RUSSIA: NEED TO INTENSIFY ITS LABORATORY PROFICIENCY WITH STANDARDISATION PROGRAMS?

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Introduction HR-HPV infection is one of the most often diagnosed viral STIs and has been linked to some anogenital malignancies. HPV vaccines have not yet widely been approved for men, representing an important source of HPV transmission between sex partners. The earliest detection plays a crucial role in decreasing of a number of HR-HPV-infected (wo)men and some screening

Poster Sessions

Abstract P3-S4.01 Table 1 The laboratory detection of HR-HPV infection in penile (G), urethral (U) and expressed prostate secret (EPS) samples in St. Petersburg (SPb) and Amsterdam (AMS)

Clinics	ClinSPb1		ClinSPb2 LabSPb2	ClinSPb3 LabSPb3	ClinSPb4 LabSPb4	ClinSPb5
	LabAMS1	LabSPb1				
Labs Samples, glans penis	HR-HPV diagnostic test kits					
	LabAMS1	KitRU1	KitRU2			
G1	pos	pos	0	0	0	0
G2	0	0	Pos	0	0	0
G3	pos	pos	0	0	0	0
G4	pos	0	0	0	0	0
G5	pos	0	0	0	0	0
G6	pos	0	0	0	0	0
G7	0	0	0	0	0	0
G8	0	0	0	0	0	0
G9	0	0	0	0	0	0
G10	0	0	0	0	0	0

Anatomical site	HR-HPV positivity	Number of samples tested			HR-HPV concordance, SPb/AMS	
		LabSPb3, kitRU2	LabAMS1			
G	(+)Positive	45	15 (33.3%)	45	6 (13.3%)	3/6 (50.0%)
	(−)Negative		30		39	27/39 (69.2%)

Anatomical site	HR-HPV positivity	Number of samples tested			HR-HPV concordance, SPb/AMS	
		LabSPb1, kitRU1	LabAMS1			
G	(+)Positive	81	29 (35.8%)	79	25 (30.1%)	18/25 (72.0%)
	(−)Negative		52		54	45/54 (83.3%)
U	(+)Positive	80	20 (25.0%)	81	23 (28.4%)	16/23 (69.6%)
	(−)Negative		60		58	53/57 (92.9%)
EPS	(+)Positive	80	23 (28.8%)	73	17 (23.3%)	14/17 (83.4%)
	(−)Negative		57		56	50/55 (90.9%)
All 3 sites	(+)Positive	80	11 (13.8%)	72	9 (12.5%)	5/9 (55.6%)
	(−)Negative		41		40	32/40 (80.0%)

programs may be helpful. In Russia reliable figures regarding HR-HPV prevalence remain highly limited. This primarily results from the lack of any internationally valuable screening program on HR-HPV infections among both general population and high-risk groups. This information is important for not only epidemiological purposes and transmission studies but also has a great clinical impact. We investigated the concordance of HR-HPV infection detected in different lab settings across St. Petersburg as compared to the results obtained in Amsterdam to start the first screening program.

Material and Methods In parallel penile (G) and urethral (U) swabs, and expressed prostate secret (EPS) were collected in 134 enrolled in the study on heterosexual men with no STIs tested. The presence of HR-HPV DNA in the penile, urethral swabs and EPS samples was investigated in five commercial clinics/labs in St. Petersburg by two most common in the country diagnostic kits (local manufactures) and in Amsterdam (VU University) by the validated worldwide used GP5+/6+ assay, respectively.

Results The results are presented in the Abstract P3-S4.01 table 1. HPV prevalence in the study group was relatively high: up to 30% (RT-PCR). In house RT-PCR assays used in St. Petersburg five labs showed low similarity and detected less HR-HPV types in urogenital samples as compared to the setting in Amsterdam ($p < 0.0001$).

Discussion Our study showed: (1) HPV prevalence among the Russian population can be high and (2) more anatomical sites in males can be screened: we are the first to report of HPV distribution in three anatomical sites, including EPS. (3) Suboptimal HR-HPV diagnostics observed between techniques used in the study settings St. Petersburg as compared to GP5+GP6+. There is an urgent call

for the internationally valuable HPV screening and detection programs in Russia. At the moment we additionally: (1) extent the study group, (2) include females and (3) investigate the concordance between HPV typing in the labs.

P3-S4.02 HIGH-RISK HUMAN PAPILLOMAVIRUS (HR-HPV) DETECTION IN MEN WITH AND WITHOUT THE HISTORY OF CHLAMYDIA TRACHOMATIS INFECTION

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Introduction HR-HPV and *C. trachomatis* (CT) are among the most often diagnosed viral and bacterial STIs in the world, respectively. It has been speculated that both of them might be involved in urogenital carcinogenesis and, moreover, potentiate each other's impact and acquisition. The evidence points to a possible association between CT infection history and increased acquisition of HR-HPV infection was investigated among 173 urologist's office male attendees.

Material and Methods Penile and urethral swabs, and expressed prostate secret were collected from 173 heterosexual men visiting an urologist's office to get routinely tested for STDs in the year of 2009 in St.