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SPEAKER ABSTRACTS

O111

The promise of curing HCV as a way of improving HIV treatment: a novel strategy

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In 2008, the District of Columbia (DC) Department of Health and the NIH launched the DC Partnership for HIV/AIDS Progress, a collaborative research initiative designed to decrease the rate of new HIV infections in the city, improve the health of district residents living with HIV infection, and strengthen the city's response to the HIV/AIDS epidemic. This programme was developed to address the high level of incident HIV infections in the city using state of the art research as the tool. The initial focus was to determine the true status of disease burden in the city. To accomplish this, we created the DC Cohort, which has now collected longitudinal clinical data from approximately 8000 consented HIV-infected outpatients receiving care at 13 treatment clinics in DC. Additionally, through the HIV Prevention Trials Network, a series of clinical trials brought the current state of the art prevention research to the city residents. Combined with public health campaigns aimed at educating city residents, the city has vastly improved treatment coverage and has reduced HIV incidence. In addition, the programme has been seeking ways to better understand HIV/HCV co-infection and has sought to expand HCV treatment options for this population. Through a number of clinical studies we demonstrated how sustained HCV suppression could be reliably obtained in this co-infected population. Further we found that HCV treatment was a gateway for reaching what many public health officials believed was the most difficult population to identify and engage – dually infected people. Further work has focused on defining how best to deliver HCV treatment. The ASCEND study, launched in 2015, examined whether primary care physicians and other healthcare providers, such as nurse practitioners and physician assistants, can use a new antiviral therapy as effectively as specialist physicians to treat people with HCV infection. Validation of this task shifting provides an important piece of information as we advance our plans for HCV eradication.

O112

Towards and HIV cure: a clinician's perspective

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Given the challenge of delivering complex, expensive and potentially harmful antiretroviral therapy (ART) on a global level, there is intense interest in the development of short-term, well-tolerated regimens that will either fully eradicate all HIV (a "cure") or durable prevent HIV replication in absence of any therapy (a "remission"). Recent heroic interventions such as hematopoietic stem cell transplant suggest that dramatic reductions in the reservoir size can be achieved, but that complete eradication will be challenging. Also, failure to eradicate on HIV is associated with risk of delayed rebounds in viremia, which can have detrimental effects to the HIV-infected person and his or her partners. Most experts agree that a remission will be easier to achieve than a complete cure. Enthusiasm for this approach is supported by observations made in "elite" controllers and perhaps the rare and still controversial post-treatment controllers. Observations from these studies suggest that a sustained remission will likely require a low reservoir size and a potent and durable HIV-specific immune response. Enthusiasm for a remission is also being driven by success using immunotherapies to reduce and control cancer cells. Cancer and HIV persistence share a number of similarities. In each case, a rare population of cells with the capacity to cause harm becomes established in difficult to reach tissues. The local environment in each case is reshaped to prevent immune mechanisms from clearing the diseased cell. Specifically, a chronic inflammatory environment stimulates and immunosuppressive response and therapies that target these immune pathways have either been very successful (in cancer) or now entering the clinic (in HIV disease). These interventions have the potential to enable successful repurposing of preventative vaccines into the HIV cure arena. Efforts to cure or durably control HIV are now entering an era of experimental medicine in which the agenda will be increasingly driven by studies performed in non-human primates and early proof-of-concept clinical studies. Recent progress in these studies will be summarized. A pathway towards testing of viable combination regimens that have the chance to achieve a durable remission will also be discussed.

O121

HIV/AIDS treatment guidelines – México

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Guidelines for using antiretroviral agents in Mexico evolved during the past years to include efficacious, less toxic and simpler regimens. In Mexico, there is universal access to antiretroviral therapy; guidelines are based on the efficacy to get viral suppression, tolerability and toxicity profiles, posology, as well as economic factors. Currently, the preferred regimen for the initial treatment is an efavirenz-based combination, due to its demonstrated viral efficacy, in the co-formulation tenofovir/emtricitabine/efavirenz, is the only single-tablet regimen available in Mexico. This combination is also the most economical regimen. According to the results of multiple clinical trials, Mexican guidelines recommend now also integrase inhibitiors (INSTI)-based regimens as an option when efavirenz is contraindicated or not tolerated. Different factors have influenced the decision to keep INSTI-based regimens after the efavirenz-based options: (1) elvitegravir is currently not available in Mexico, with raltegravir and dolutegravir being the only available options; (2) dolutegravir is not available as a STR; and (3) INSTI-based regimens are the most expensive regimens today. As an option for initial treatment, a Darunavir-based regimen remains the only protease inhibitor-based regimen included in our guidelines. In the near future, changes are expected in our guidelines according to the upcoming availability of new STRs based on INSTIs or NNRTIs, and required changes in costs that allow the increasing use of efficacious, tolerable and easy to use regimens, without threatening the sustainability of a universal access programme.

O122

HIV/AIDS guidelines on cART – the Brazilian perspective

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Brazil has recently incorporated dolutegravir (DTG) in both first and third line ART regimens in the Brazilian Unified Health System (SUS). Darunavir use was also extended as a preferable protease inhibitors (PI) in the second line, alongside its use in the third line. TDF/3TC/DTG is the preferable scheme for people living with HIV/AIDS (PLWHA) starting in 2017. TDF/3TC/EFZ is chosen for pregnant women and TB-HIV co-infection, without criteria of severity. PLWHA with tuberculosis can undergo TDF/3TC/RAL scheme whenever one of the conditions are presented: CD4 <100 cells/mm^3, concomitant opportunistic infection, need of hospitalization/serious illness or disseminated TB. Regimens containing EFV are the initial choice for cART in cases of intolerance or whenever DTG is contraindicated. The safe use of ABC is corroborated by the incorporation in the SUS of the HLA B*5701 test. For the PI, ATV is the preferred one, followed by DRV and LPV, all boosted with ritonavir. The innovation is that DRV, previously administered to PLWHA with multiple ARV schemes exposures, can be used in the second line regimens. The Brazilian policy on cART poses challenges still to be solved: (i) the use of raltegravir for late presenter pregnant women living with HIV/AIDS, (ii) drug switch (phase out of nevirapine, fosamprenavir, indinavir, lopinavir and saquinavir) and (iii) new paediatric formulations (DTG). Implementing these guidelines and policies takes into account national budget and new ART, considering cost in the long run and its sustainability as a public health policy.

O123

ARV guidelines in Argentina

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Antiretroviral therapy in Argentina is free of charge to all eligible HIV infected individuals seeking for HIV care. According to current local guidelines, ARV treatment should be offered to subjects with a confirmed HIV infection regardless their CD4 T cell count. As of December 2016, approximately 50,000 PLWH were receiving ARVs through the National Programme. An additional 20,000 were being covered by the social security and private sector. At the three healthcare sectors, there are ARVs available within the four mayor drug classes, including generics drugs of nucleosides, non-nucleosides and protease inhibitors. The choice of an initial regimen is requested at the Programme by a registered physician within the available options recommended by the Argentinean Society of Infectious Diseases. Accordingly, an NNRTI, or boosted ritonavir protease inhibitor, or integrase inhibitor in combination with two analogue nucleosides are within the available regimens. A national wide survey has recently showed an increase number of primary HIV resistance, mainly to the NNRTIs. Figures close to the 10% prompted to the HIV/AIDS Programme to make available resistance testing prior to initiation of ARV therapy to subjects willing to start an efavirenz based regimen. The need of implementing timely results of resistance testing to newly HIV infected individuals across the country imposes a formidable challenge to the healthcare system. In this scenario, widely access to affordable new drugs, that is integrase inhibitors, should be considered.

O131

Treatment of hepatitis C: "where are we now?"

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In this lecture, we are going to talk about the management of patients with chronic HCV infection in this new era of highly effective direct-acting antivirals (DAAs). We came from a time of SVR rates of around 60% in the former difficult to treat genotype 1 patients with a poor tolerance to interferon treatment, to achieving a cure in more than 95% of them with few adverse events, with only 12 weeks of treatment in the majority of patients. Patients naïve to treatment with mild fibrosis and low viral load can even be treated with a shorten regimen of 8 weeks. Genotype 3 HCV infection is now the more difficult to cure, especially in patients with cirrhosis, but new combinations of DAAs are under development and we had the opportunity to see very good preliminary results in this population presented at the last AASLD meeting. Most of Latinamerican countries are prioritizing treatment only for patients with advanced liver disease, for budgetary reasons, but we expect in the near future to see more and more patients achieving the cure of this life-threatening infection, before becoming at high risk of hepatocellular carcinoma.

O132

Retreatment of patients failing AAD therapy in Spain in a real life setting: updated results from the HEPCREsp GEHEP004 cohort

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Introduction and aims: To describe the virological characteristics of patients failing approved DAA regimens in ithe HCVREsp-GEHEP004 Cohort in Spain, how they have being retreated and how were efficacy rates of retreatment.
Methods: HCVREsp-GEHEP004 is a prospective multicentre cohort enrolling HCV infected patients treated with IFN-free DAA regimens at discretion of the investigators. Population-based sequencing of HCV NS3, NS5A and NS5B genes was performed. After receiving a comprehensive resistance interpretation report, the retreatment regimen was chosen.
Results: HCVREsp includes 5521 patients treated with DAAs across Spain. Data of 277 failing patients (GT-1a (*n* = 96), Gt-1b (*n* = 81), GT-3a (*n* = 60), GT-4a (*n* = 9), GT-4d (*n* = 31)) are shown. Patients had failed SOF/SIM (18.8%), SOF/DCV (18.4%), SOF/LDV (42.2%) or paritaprevir/ombitasvir ± dasabuvir (15.2%). Patients failing SOF/SIM developed RASs in NS3 in 74% of the GT1a infected patients and 52% of the GT1b, being RASs in position 168 the most prevalent. To date, 41/53 patients failing SOF/SIM have been retreated, 39 with Harvoni and 25 have reached 12 weeks post end of treatment: 22 patients (88%) have achieved SVR12. Almost all the patients failing SOF/DCV showed NS5A RASs, being Y93H highly prevalent in GT-1b (77.8%) and GT-3a (75.0%); to date, 22/48 patients failing SOF/DCV have

been retreated, 11 have reached 12 weeks post end of treatment: 7 patients (58%) have achieved SVR12. Patients treated with SOF/LDV also showed a high prevalence of Y93H at failure, especially GT-1b (81.0%), in contrast to GT-3a infected patients (only 11.7% prevalence); of note, three GT-4 patients failing SOF/LDV harboured S282T. To date, 52/112 patients failing SOF/LDV have been retreated, 42% with SOF/SIM, 21 have reached 12 weeks post end of treatment: 18 patients (86%) have achieved SVR12. Most patients treated with 2D/3D developed RASs, and 14.2% showed RASs against the three drugs; almost a half of the patients failing 3D/2D (7/16) have been retreated.

Conclusions: Genotype 1a and 1b patients failing DAAs in Spain harbour a high prevalence of RASs, especially in NS5A. Genotype 3 patients failing SOF/LDV are less prone to develop NS5A RASs than SOF/DCV failures. Retreatment of Sof/DCV failing patients was more difficult than SOF/LDV or SOF/SIM, with lower rates of SVR12. Resistance testing may help to guide the retreatment option.

O133

Increased age-adjusted mortality and incidence of non-AIDS defining events among people living with HIV enrolled after 50yo and aging in care in Latin America. A CCASAnet cohort study

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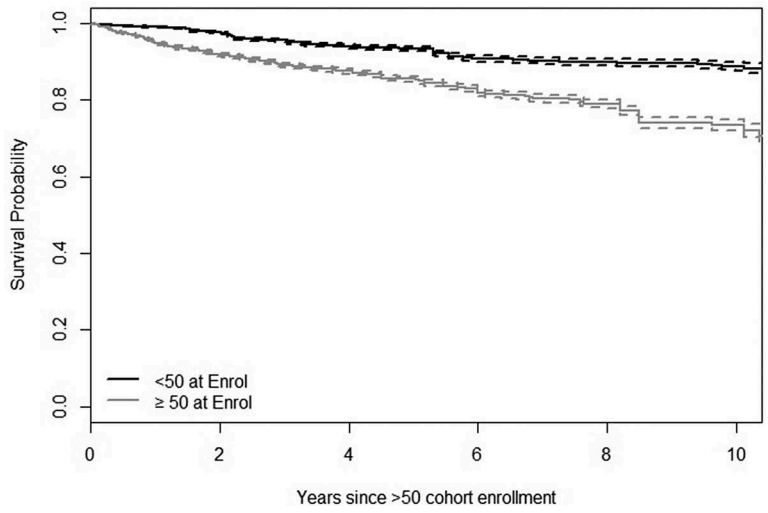
Introduction: The proportion of people living with HIV (PLWH) older than 50 years is increasing in our region. The growth of this population will increase demands on healthcare systems as comorbidities are expected to rise. This study aims to quantify the frequency of non-AIDS associated comorbidities (NADEs) amongst aging people receiving care for HIV in CCASAnet centres between 2000 and 2015. We also explored whether the incidence of NADEs differs by age at enrolment (<50 years old (yo) and ≥50 yo) in patients of similar age.

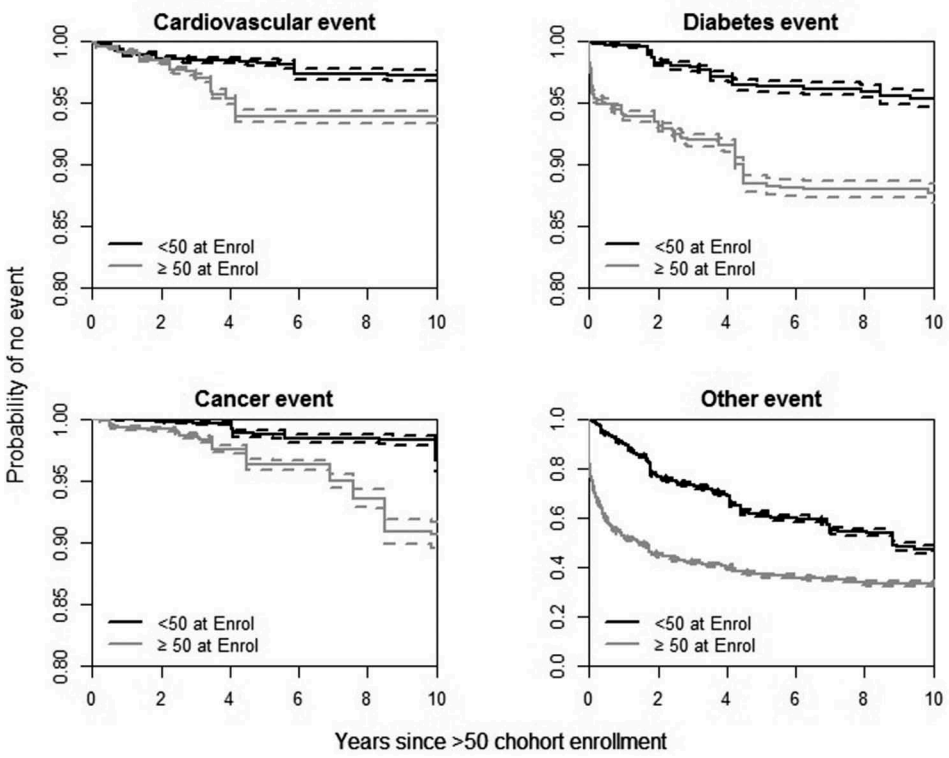
Methods: We selected HIV-infected adults between 50 yo and 65 yo receiving care in CCASAnet cohort centres between 2000 and 2015. We divided participants in two groups based on age at enrolment in care (<50 and ≥50 yo). We compared mortality between both groups and estimated the frequency of NADEs (cardio- and cerebro-vascular diseases, type 2 Diabetes mellitus "DM2," hypertension and non-AIDS-related neoplasias) in each group using Kaplan–Meier (KM) curves. We used inverse probability weights techniques and stratification by age-group to adjust for confounders and selection bias. We adjusted by gender, route of transmission, time since diagnosis to art, CD4 count at 50 and age.

Results: 4788 patients over 50 years from seven Latin American countries were included. People enrolled in care ≥50 yo (*n* = 2010, 42%) had a significantly higher crude and adjusted mortality than those <50 yo at enrolment (*n* = 2788, 58%) (Figure 1). Follow-up information on clinical events was collected for only 2937 patients. Amongst those, there was a higher incidence of DM2, cardiovascular events and non-AIDS-related neoplasias in people enrolled ≥50 yo when compared with those enrolled <50 yo (Figure 2). A high number of diabetes and other events were diagnosed right after enrolment in care in patients enrolled after 50 yo.

Conclusions: PLWH enrolled in care in CCASAnet sites after 50 yo have an increased age-adjusted mortality, and incidence of NADEs than those reaching 50 yo in care. In addition to prevalent comorbidities at 50 yo or at enrolment in care after 50 yo, a large proportion of PLWH receiving care in our sites develop chronic NADE while in care. Higher incidence of Non AIDS related morbidity in patients enrolled after 50 yo may reflect a lack of clinical care in this population and the need of planning provision for complex, primary care for adults living with HIV older than 50 yo in our region.



Abstract O133–Figure 1. Comparison of the probability of the 10-year survival since 50 yo cohort enrolment by group (<50 vs ≥50 yo) in patients younger than 65 at end of follow-up, adjusted for site, gender, route of transmission, time since diagnosis to art, CD4 count at 50 and age.



Abstract O133–Figure 2. Comparison of the probability of NADE event after 50 yo cohort enrolment by group (<50 vs ≥50 yo) in patients younger than 65 adjusted for site, gender, route of transmission, time since diagnosis to enrol, CD4 count at 50 and age.

O142

The 90s in the Americas: treatment

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The number of persons on antiretroviral treatment in Latin America and the Caribbean continues to increase, reaching an estimated 1.1 million persons at the end of 2016. This indicates that 55% (47–64%) of all persons living with HIV in LAC are receiving lifesaving treatment. In addition, the percentage of all children living with HIV (0–14 years) on ART is estimated to be 64% (54–76%). Pregnant women receiving ARVS to prevent MTCT, represent 88% (77–95%) of the PW living with HIV. Countries in the region have adhered to the 90-90-90 targets. An additional target of reducing late diagnosis (<200 CD4 cells/mm^3) below 10% amongst newly diagnosed individuals was also included. Unfortunately, 35% of new cases were diagnosed late in the course of the infection. In 2013, 79% of patients on first-line were being prescribed a WHO-recommended regimen (preferred or alternative). In 2013, 31% of patients on first-line were using the WHO preferred EFV-based regimen. What are the obstacles to reach the third 90? Of course being far behind the first two nineties is the main issue. Socioeconomic context is not favourable at all, as unemployment is raising in many countries, which implies losing the social security protection. Also housing deficits, malnutrition and cost of surface transportation to the clinics conspire against appropriate and timely periodic visits, and so adherence is at risk. Temporary stock-outs still happen in some countries, with obvious consequences. Last but not least, resistance rates, particularly related to NNRTIs, are as high as 15% in some areas, which highlight the need of obtaining baseline genotypes before first ART start and/or the substitution of efavirenz by drugs with high genetic barrier, like boosted-PIs or dolutegravir.

O143

The 90s in the Americas: retention in care/adherence

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According to last numbers released by UNAIDS 18.2 million of 36.7 million HIV infected people are on ART, 1.1 million of them in Latin America. This is far below the two first 90-90-90 goals to achieve 81% of all HIV infected people on ART. Testing and linkage/retention are the main gaps in fighting the epidemic, being both essential to reduce HIV transmission and prevent HIV-related morbidity and mortality. Many factors contribute to poor linkage and poor rates of enrolment in care in Latin America such as patient and sociocultural factors as well as economic and health system barriers. Poor linkage to care after diagnosis has been partially blamed for high rates of late presentation to ART in some countries. Comprehensive services including home-based testing and immediate ART initiation, integration and decentralization of healthcare provision, task shifting to trained health-care workers and lay providers to face up human resource constraints and to provide services outside the office setting and even financial incentives for patients along with social and family support and reduction of stigma and discrimination have been proposed to improve linkage to care. Prompt ART initiation and active and continuing patient education for adherence optimization as well as proactive monitoring of adherence are critical in the setting of treatment as prevention goals and to prevent resistance to ARV drugs. The above-mentioned interventions to promote linkage are also crucial for adherence, along with simplicity and safety of ARV drugs and especially quality and fluency of patient–healthcare provider relationship. Some concerns have been raised recently

on adherence of adolescents and young adults who initiated ART in good health and with high CD4 counts. New strategies such as communication technologies and financial incentives may be used to increase adherence in particular settings. Linkage and retention in care require appropriate and trained healthcare teams as well as maintenance of drugs and monitoring tests supply chain. Heterogeneity in availability of this resources and even stock outs episodes are observed in the region. Ending the epidemic in Latin America will take a combination of political will, national policies, strategic planning, resources mobilization and novel, comprehensive and standardized interventions to improve testing, care and treatment.

O144

The 90s in the Americas: prioritization of treatment – is it necessary?

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In 2014 the UNAIDS launched the 90-90-90 initiative, with a view to help end the AIDS epidemic. Its ambitious goals were that, by 2020, 90% of all people living with HIV would know their serostatus, 90% of all people diagnosed with HIV would be receiving antiretroviral therapy (ART), and 90% of all those on ART would be virally suppressed. Irrespective of the capacity of individual countries to achieve these goals, this initiative provided useful metrics for national programmes to monitor their progress towards universal access to treatment. Optimization of limited and often scarce material and human resources is of paramount importance to achieve the UNAIDS goals. Thus, targeted testing through knowledge of local characteristics of the epidemic and of key affected populations, strengthening of referral systems, identification of patients in more urgent need of care, and improvement of acceptance, adherence and retention in care are some of the issues that need to be addressed in order to achieve the UNAIDS targets.

O211

The second decade: cashing in on evolving capacities for better outcomes

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The African continent is currently undergoing a youth bulge. It is estimated that by 2030, one in every four individuals will be African, the vast majority of them under the age of 35 years (You et al., 2014). However, over 40% of all new HIV infections occur amongst youth and 85% of young people living with HIV live in Sub-Saharan Africa (Idele et al., 2014). Adolescents and young adults are at increased risk of HIV infection due to the many developmental, psychological, social and structural transitions that take place in this period of the life course, yet engaging and retaining adolescents actively in healthcare promotion and provision is challenging in every setting worldwide. Adolescent girls and young women (AGYW) are particularly effected and in South Africa young women are 4–6-fold more likely to be HIV infected than their male counterparts. Huge success in ARV treatment worldwide has allowed more people to live productive lives with HIV and initiation of treatment early has shown to significantly reduce transmission. The Adolescent population, however, struggles to cope with an HIV diagnosis and often gains that are made during paediatric treatment may be lost in adolescence. To tackle the challenges of care and treatment as well as primary and secondary prevention in this critical age group, we desperately need integrated and tailored programmes that are adolescent-friendly and that incorporate biomedical, structural and social interventions.

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O233

PrEP: unseen benefits of PrEP programmes

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In Latin America, PrEP should be offered to populations with higher HIV prevalence: men who have sex with men (MSM) and transgender women (TGW). The largest gap in the region's HIV care continuum is between those living with HIV and those who are unaware of their status. Therefore, it is expected that a high proportion of MSM and TGW who seek PrEP test positive in the baseline serology. In order to bring these newly diagnosed individuals to virologic suppression a test-and-treat strategy with proper linkage-to-care is necessary. PrEP programmes should collaborate with diagnostic and counselling services and with HIV care facilities. This could impact HIV incidence not only by offering antiretrovirals to high-risk negative individuals but also – and maybe even more – by contributing in diagnosing and linking to care previously undiagnosed HIV-positive individuals (treatment as prevention). Diagnosis algorithm should incorporate new point-of-care technologies capable of identifying acute HIV infections. PrEP programmes should develop specific strategies for hard-to-reach populations and their comorbid behavioural disorders that may interfere with PrEP adherence. Furthermore, linking PrEP users to combination prevention services could reduce the risk of acquiring HIV through counselling, condom distribution, STD diagnosis and treatment services, harm reduction and substance use programmes, mental health services and also through interventions that address socioeconomic and other structural factors that influence HIV transmission. In order to achieve all the potential benefits of PrEP, strong leadership is needed from the public health, behavioural and social sciences fields both in implementation and in research projects.

O314

Treatments for hepatitis C through the Brazilian Unified Health System (SUS)

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In 2016, the Ministry of Health (MoH) of Brazil provided 36557 treatments for hepatitis C through the Brazilian Unified Health System (SUS), achieving the highest number of patients in the past years. This accomplishment represents a milestone in the financial negotiations of Brazilian government with pharmaceutical companies to obtain over 30% discount for daclatasvir, simeprevir and sofosbuvir. Since the introduction of the new direct-acting antiviral agents for hepatitis C in October 2015 with the implementation of the new Guidelines for hepatitis C and coinfections, the

MoH will have provided 50204 treatments for 12-week and 24-week course of treatment by the end of March 2017. The preliminary analysis of treatment effectiveness in Brazil showed that patients with hepatitis C genotype 1 achieved a cure rate of 97%. Based on results of real life clinical studies demonstrating the low effectiveness of 12-week course of treatment for hepatitis C genotype 3 with cirrhosis, the MoH extended the treatment period for 24 weeks for these patients. Recently, the MoH introduced the 4-drug combination of ombitavir, veruprevir, ritonavir and dasabuvir in SUS. Toward the elimination of hepatitis C as a public health threat by 2030, the Department of STI, HIV/AIDS and Viral Hepatitis in the MoH will submit the revised Guidelines for hepatitis C and coinfections for approval by the National Commission and through public consultation in March 2017.

O323

Efficacy and safety of switching to EVG/COBI/FTC/TAF in virologically suppressed women

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Introduction: The integrase inhibitor regimen (elvitegravir/cobicistat/emtricitabine/tenofovir disoproxil fumarate [E/C/F/TDF]) demonstrated superior efficacy when compared to a protease inhibitor regimen (atazanavir boosted by ritonavir [ATV/r] plus F/TDF) in 575 treatment naïve women at week (W) 48. We now report the safety and efficacy of subsequent switching to E/C/F/tenofovir alafenamide (TAF) versus remaining on ATV/r + F/TDF.
Methods: After completing the initial randomized, blinded 48-week trial, women on ATV/r + F/TDF were randomized 3:1 to receive open label E/C/F/TAF versus remaining on their current regimen. Viral suppression (HIV-1 RNA <50 and <20 copies [c]/mL) by FDA snapshot analysis, pre-defined bone and renal safety and tolerability endpoints 48 weeks after switch are reported. Women who become pregnant while on study are given the option to continue study drug.
Results: 212 HIV-infected, virologically suppressed women were randomized (E/C/F/TAF *n* = 159, ATV/r + F/TDF *n* = 53). Virologic suppression (<50 c/mL) was maintained in 94.3% on E/C/F/TAF versus 86.8% on ATV/r + F/TDF (weighted difference: 7.5%; 95% CI: −1.2% to 19.4%), with virologic failure in 1.9%, 3.8%, respectively. More women on E/C/F/TAF achieved <20 c/mL at W48 compared to ATV/r + F/TDF (84.9% vs 71.7%, weighted difference: 13.2% [−0.0% to 27.5%], p = 0.041). No treatment emergent resistance was detected in either study group. Mean % increase in BMD was higher in the TAF group for both lumbar spine and total hip (Table 1). Multiple markers of renal safety were improved for participants randomized to TAF (Table 1). No cases of proximal renal tubulopathy were reported. Participants on TAF had greater increases in lipids (Table 1), with no difference in TC:HDL ratio (Table 1). Nineteen women became pregnant during the switch study, 13 E/C/F/TAF and 6 ATV/r + F/TDF and three normal infants have been delivered in each group to date.
Conclusions: These data demonstrate that women who switch to an integrase inhibitor + TAF-based regimen maintain high levels of virologic suppression with improvement in BMD and renal function biomarkers, as compared with those remaining on their ritonavir boosted atazanavir + TDF-based regimen.

O324

Significant efficacy and long-term safety difference with TAF-based STR in naïve adults

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Abstract O323–Table 1. changes in renal, bone and lipid safety parameters from baseline at week 48

]Parameters[a]	E/C/F/TAF (*n* = 159)	ATV/r + F/TDF (*n* = 53)	Significance
eGFR (mL/min) (Cockcroft-Gault)	4.2 (−6.0, 13.6)	−1.8 (−8.4, 7.2)	0.060
ββ-2 microglobulin/Cr (β-2M/Cr) (%)	−47.7 (−79.7, −13.6)	20.7 (−11.1, 113.0)	<0.001
Retinol binding protein/Cr (RBP/Cr) (%)	−33.6 (−54.6, 1.5)	23.4 (−6.8, 93.3)	<0.001
Lumbar spine BMD (%)	2.82 (3.158)	0.00 (3.383)	<0.001
Total hip BMD (%)	2.08 (3.327)	1.33 (3.242)	0.29
Total cholesterol (mg/dL)	27 (7, 46)	5 (−7, 24)	<0.001
LDL cholesterol (mg/dL)	16 (1, 34)	8 (−10, 18)	0.002
HDL cholesterol (mg/dL)	5 (−1, 12)	0 (−4, 7)	0.009
Total cholesterol:HDL ratio	0.1 (−0.1, 0.5)	0.0 (−0.3, 0.4)	0.075
Rate of initiation of lipid-modifying agents	2 (1.3%)	0	1.00

[a]Mean (SD) used to summarize BMD; otherwise, median (Q1, Q3) is used.

Abstract O324–Table 1. W144 efficacy and changes from baseline in renal, bone and lipid safety parameters

Efficacy parameter	E/C/F/TAF (*n* = 866)	E/C/F/TDF (*n* = 867)	Significance
HIV-1 RNA <50 c/mL, *n* (%)	729 (84.2%)	694 (80.0%)	p = 0.021(diff in percentages [95% CI]: 4.2% [0.6% to 7.8%])
HIV-1 RNA ≥50 c/mL, *n* (%)	40 (4.6%)	34 (3.9%)	–
Virologic failure or lack of efficacy	17 (2.0%)	17 (2.0%)	–
Other[a]	23 (2.7%)	17 (2.0%)	–
No virologic Data in W144 Window	97 (11.2%)	139 (16.0%)	–
HIV-1 RNA <20 c/mL, *n* (%)	702 (81.1%)	657 (75.8%)	p = 0.006 (diff in percentages [95% CI]: 5.4% [1.5% to 9.2%])
Safety parameter[b]			
Renal safety, change from baseline			All $p < 0.001$
eGFR (mL/min) (CG)	−1.6 (−11.4, 9.4)	−7.7 (−18.4, 4.2)	$p < 0.001$
UPCR	−10.5% (−43.9%, 38.0%)	25.2% (−23.8%, 95.2%)	$p < 0.001$
ββ-2M/Cr	−25.7% (−58.2%, 13.7%)	53.8 (−26.0%, 305.1%)	$p < 0.001$
RBP/Cr	34.8% (−4.6%, 83.3%)	111.0% (38.4%, 264.9%)	$p < 0.001$
Bone density, change from baseline			Both $p < 0.001$
Lumbar spine	−0.92% (4.12%)	−2.95% (4.29%)	$p < 0.001$
Total hip	−0.75% (4.45%)	−3.36% (4.33%)	$p < 0.001$
Fasting lipid parameters, change from baseline			All $p \leq 0.006$
Total cholesterol (mg/dL)	31 (13, 49)	13 (−5, 30)	$p \leq 0.006$
LDL (mg/dL)	19 (2, 36)	6 (−8, 21)	$p \leq 0.006$
HDL (mg/dL)	6 (0, 13)	2 (−3, 9)	$p \leq 0.006$
Total cholesterol: HDL ratio	0.2 (−0.3, 0.7)	0.1 (−0.4, 0.6)	$p \leq 0.006$

b-2M/Cr: urine beta-2-microglobulin to creatinine ratio; c/mL: copies/mL; eGFR: estimated glomerular filtration rate; HDL: high-density lipoprotein; LDL: low-density lipoprotein; UPCR: urine protein to creatinine ratio; RBP/Cr: urine retinol binding protein to creatinine ratio.
[a]Other includes discontinued drug due to other reasons and last available HIV RNA ≥50 c/mL or added another ARV.
[b]For safety parameters, mean (SD) used to summarize BMD; otherwise, median (Q1, Q3) is used.

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Introduction: Two randomized, controlled, double-blinded multinational phase 3 trials compared tenofovir alafenamide (TAF) versus tenofovir disoproxil fumarate (TDF), each in single tablet regimens coformulated with elvitegravir/cobicistat/emtricitabine (E/C/F). At Week (W) 48, E/C/F/TAF was statistically noninferior to E/C/F/TDF for the proportion of subjects with HIV-1 RNA <50 copies(c)/mL and had significant improvements in renal and bone safety endpoints. We now describe follow up of blinded data through W144, including longer-term safety data and prespecified <20 copies(c)/mL secondary endpoint.

Methods: ARV naïve participants randomized 1:1 to receive E/C/F/TAF (TAF) or E/C/F/TDF (TDF). W144 viral suppression (HIV-1 RNA <50 and <20 c/mL) by FDA snapshot analysis, predefined bone and renal safety and tolerability endpoints are reported.

Results: 1733 HIV-infected adults were randomized and treated: 15% women, 43% non-white, 23% viral load >100,000 c/mL. Median baseline characteristics: age 34 years, CD4 count 405 cells/μL and VL 4.58 log10 c/mL. At W144, TAF met prespecified criteria for both noninferiority and superiority to TDF by FDA snapshot algorithm (HIV-1 RNA <50 and <20 c/mL) (Table 1). Mean [SD] % decrease in BMD was significantly less in the TAF group for both lumbar spine and total hip (Table 1). As shown in Table 1, multiple measures of renal safety were significantly better for participants randomized to TAF. There were no cases of renal tubulopathy in the TAF arm versus 2 on TDF. No participants on TAF had renal-related discontinuations versus 12 on TDF ($p < 0.001$). Participants on TAF had greater increases in TC, LDL and HDL (Table 1), with no difference in the rate of initiation of lipid-modifying agents (TAF: 5.5% vs TDF: 5.8%).

Conclusions: Through W144, participants on E/C/F/TAF had significantly higher rate of virologic suppression (<50 c/mL) than those on E/C/F/TDF, driven by fewer participants on E/C/F/TAF with no W144 data. Participants on E/C/F/TAF also had significantly higher rate of virologic suppression (<20 c/mL), driven by fewer participants on E/C/F/TAF with viral load ≥20 c/mL. E/C/F/TAF continued to have a statistically superior bone and renal safety profile compared to E/C/F/TDF,

demonstrating significant safety advantages over E/C/F/TDF through three years of treatment. Individuals on TAF had greater plasma lipid changes, but proportions starting lipid-lowering therapy were comparable.

O331

Treatment as prevention in HCV and drug users covering hep B and C

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Hepatitis B (HBV), Hepatitis C (HCV) and HIV are transmitted efficiently by PWID. Because of their social characteristics, they are an important challenge to public health worldwide. Fibrosis and progression of hepatic disease are both affected negatively by alcohol consumption and coexistence with HIV, which are both very frequent in this population. With the new antiviral medication of direct action for the treatment of HCV, we have come to discuss treatment as prevention for this group of patients for whom, despite preventive strategies, transmission of HCV is still high. Several questions remain to be answered. We still do not know how efficient the new therapies are in the "real world" for these patients and whether expanded treatment will be sufficient to reduce transmission. Can mathematical models be transposed to real life? On the other hand, the benefits of treatment as a preventive measure in this case are reduced by the risk of reinfection. In order to optimize the benefits of treatment as prevention in HCV, it is essential to improve diagnosis and adherence as well as extending coverage of treatment, working on improving the cost of drugs, and modifying restrictions based on the stage of hepatic disease and the use of drugs to have access to treatment. Some trials are ongoing; we are close to finding out whether we are capable of reaching our goal.

O332

New ART strategies and the future of ART

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The advent and global rollout of triple-drug combination antiretroviral therapy (ART) for the treatment of HIV infection has resulted in a dramatic reduction in morbidity and mortality from this disease worldwide. To date, regimens that include a non-nucleoside reverse transcriptase inhibitor (NNRTI), typically efavirenz (EFV) in combination with tenofovir disoproxil fumarate (TDF) and lamivudine (3TC) or emtricitabine (FTC) have been the preferred first-line regimen. However, over the last few years guidelines in the US and Europe have shifted so that regimens including integrase strand-transfer inhibitors (INSTIs) are now preferred over NNRTIs. In addition, a novel formulation of tenofovir (tenofovir alefenamide [TAF]) that has fewer adverse effects on bone mineral density and markers of renal tubular dysfunction has been approved in many countries. Of particular note is the INSTI dolutegravir (DTG), which is superior to EFV and ritonavir-boosted darunavir; resistance to DTG has not yet been reported in patients receiving this drug as part of first-line ART. Newer drugs currently in phase 3 trials include the NNRTI doravirine and the INSTI bictegravir. Both drugs are being studied as single-tablet formulations that do not require a boosting agent. Results of the PADDLE study, in which participants received DTG plus 3TC as a two-drug initial regimen have generated considerable interest; phase 3 trials of this regimen are underway. Other two-drug regimens being explored include DTG plus the NNRTI rilpivarine (RPV), and an injectable long-acting formulation of RPV in combination with the long-acting INSTI cabotegravir. In addition, long-acting implantables are being developed that may permit administration of ART as infrequently as once or twice a year. Such advances may greatly simplify drug administration and increase adherence to ART for many patients.

POSTER ABSTRACTS

ARV-BASED PREVENTION

P001

Duration of the first combination antiretroviral treatment in people living with HIV in Mexico

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Introduction: The large number of antiretroviral drugs available allows multiple combinations, many of these combinations have similar efficacy. The goal of antiretroviral therapy (ART) is to reduce viral load to undetectable levels, below 50 copies/mL, however, these goals are not always achieved due to toxicity, poor adherence to treatment, potency and pharmacokinetic interactions. These are the reasons for changing regimes to maintain effectiveness [1]. Studies in the United States, reported a median duration of ART regimens of 11.8 months and 2.6 years [2]. The objective of this study was to assess the duration of the various combinations of drugs used for the initiation of antiretroviral treatment in naïve patients.
Methods: This study was a cohort retrospective observational study that included all patients with HIV infection who initiated HIV treatment at 138 HIV care clinics in Mexico between 2006 and 2015. The clinics included are part of the Mexico Ministry of Health. Patient information is routinely collected in the "Antiretroviral Management, Logistic and Surveillance System" (SALVAR in Spanish). It was considered a regiment change cessation of therapy by substitution or interruption of either drug or the entire therapy. The KM analysis was used.
Results: A total of 62,156 patients were included. The median baseline CD4 cell count was 362 cells/µL and 69% had an initial ART regimen that was non-nucleoside reverse transcriptase inhibitors (NNRTI) based. 20% used protease inhibitor (IP). The average duration of the first treatment was 5.9 years (Figure 1). It was observed that NNRTI-based regimens had a significantly longer median duration of 7.3 years than regimens based on PI 3.2 years or that they only included nucleoside reverse transcriptase inhibitor (NRTI) one year ($p < 0.05$) (Figure 2).
Conclusions: The regimen based on NNRTI showed a significantly longer duration than the rest. The median duration was longer than reported in other studies. It is possible that NNRTI regimens have fewer adverse effects in relation to IP based regimens. In Mexico, the antiretroviral management guidelines include the use of regimens with NNRTI as the preferred regimen in patients initiating ART. The duration of regimen based on Integrase Inhibitor (II) was short, because it is a recent treatment in Mexico.

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P002

Protein tyrosine phosphatase inhibitors booster the anti-HIV-1 activity of IFN-α *in vitro*

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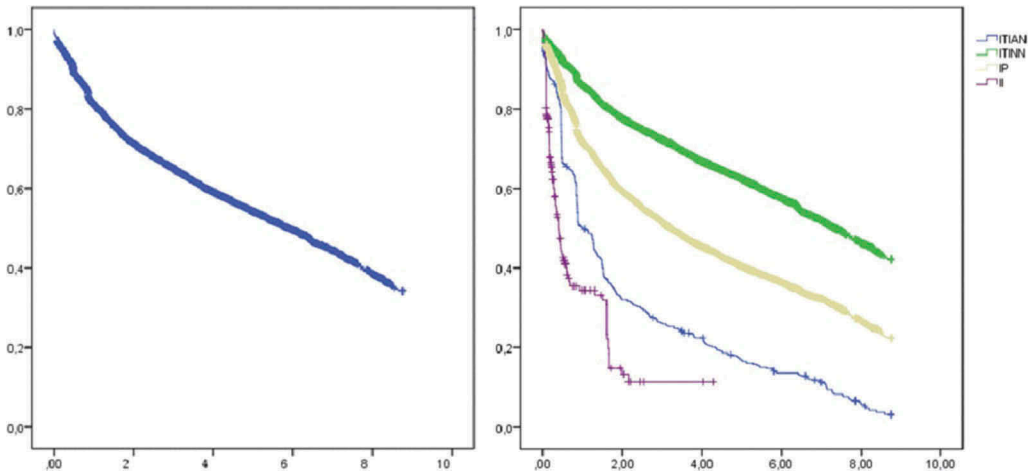
Introduction: Several studies have shown that IFN-α inhibits HIV-1 replication *in vitro*. It has been described that protein tyrosine



Abstract P001–Figures 1 and 2. Years of the first ART regimen.

phosphatases inhibitors (PTPi) may enhance the activity of IFN, by delaying the inactivation of the cascade induced by the cytokine. The effect of PTPi on HIV replication has not been described. The aim of this study was to evaluate the effect of IFN alone or combined with PTPi *in vitro* and determine its impact on the INF-α activity.
Materials: The effect of IFN-α was evaluated against HIV-1 in MT4 cells and against HBV in HepG2.2.2.15 cells. Two PTPi were evaluated: sodium stibogluconate (SSG) and NSC87877 (NSC).
Results: None of PTPi showed cell toxicity, at the highest concentration evaluated against MT4 or HepG2.2.2.15 cells, alone or combined with IFN, in the range of concentration evaluated (IFN-α:10000 UI/mL SSG: 2 mM, NSC: 0.2 µM). More importantly, combining SSG (0.1 mM) or NSC (2.1 nM) with IFN-α (10 UI/mL) enhanced the anti-HIV-1 effect of IFN-α 4–5-fold compared to using IFN-α alone. As expected, this effect was inversely proportional to HIV-1 input. The ratio of STAT1 phosphorylated/non-phosphorylated was increased two fold when the combination PTPi/IFN was used.
Conclusions: Our results suggest that IFN activity is modulated by the use of PTPi, producing a reduction in the effective concentration of IFN required. The mechanism associated with the enhancement of IFN activity could be related with an inhibition of tyrosine phosphatases that regulate the cascade of the interferon response, which could lead to a prolongation of the IFN signal, however further studies will be needed to verify these results, including the mechanism of action (e.g. inhibition of tyrosine phosphatases that regulate the cascade of the interferon response) and the potential use of these combinations to inhibit HIV-1 replication *in vivo.*

CLINICAL PHARMACOLOGY

P003

The prognosis of HIV/AIDS patients in intensive care

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Introduction: Approximately 4–10% of hospital admissions for HIV patients require intensive care (IC), whether or not related to HIV infection. 28–40% of those admitted to IC are unaware of their condition. Prior to antiretroviral treatment, IC mortality was >70% which discouraged its admission, with the greatest use being seen a decrease in mortality and opportunistic infections. Highly active antiretroviral therapy (HAART) has led to a review of the prognostic and patient admission criteria for IC, as it has converted HIV infection into a manageable chronic disease. This study analysed the performance of a score of HIV/AIDS patients admitted to IC.
Methods: Observational, retrospective study. We analysed 592 clinical records of HIV/AIDS patients admitted to IC during the period October 2006–December 2012. The data was input into an Excel spreadsheet. For analysis SPSS 16 was used, a statistically significant $p < 0.05$ was considered. A token was made with 12 variables, the sum of them gave a numerical value, which made possible the realization of a score and its value varied from 0 to 13 points (Table 1).
Results: Mean age 38 years/median 39 years. Eighty eight per cent of the patients had CD4 ≤220 cells/µL. Twenty one per cent with HAART at admission to IC. Eighty-seven per cent had an HIV/AIDS history of more than one year. Sixty-one per cent admission for marking disease. Reasons for admission: (1) pulmonary disease 29%: pneumonia (37%), tuberculosis (28%) and pneumocystosis (24%); (2) neurological disease 25%: meningoencephalitis (31%), cryptococcosis (29%) and lesion occupying space (27%); (3) sepsis 20%. Overall mortality 48%. Table 2 shows the number of cases, score obtained (0–13 points), evolution and mortality in each score: the lowest has a better survival

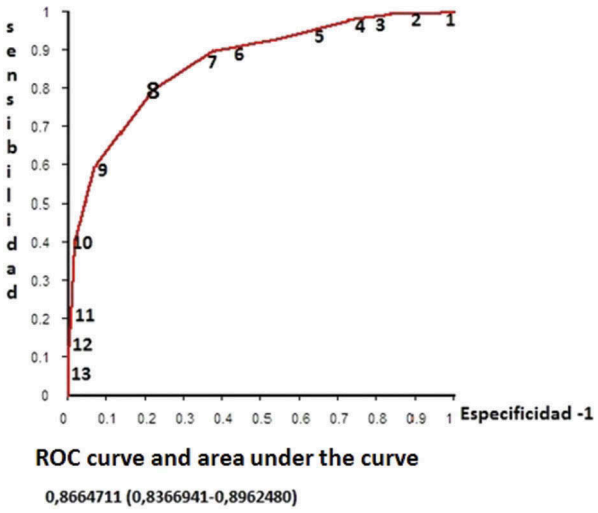
Abstract P003–Table 1. Record of HIV/AIDS patients admitted to IC.

Parameter		Yes	No
Weight loss >10% (six months prior) or albumin <2.6 g/L or Karfnosky <a 50		1	0
Acute physiology and chronic health evaluation II ≥13 points		1	0
Mechanical ventilation at the entrance		1	0
Cause of admission: marker disease		1	−1
Previous diagnosis of AIDS		1	0
Diagnosis of AIDS more than one year		1	0
CD4 cells/µL	≥200	0	
	199–100	1	
	≤99	2	
Stable HAART 3 or more months		−1	1
Respiratory insufficiency		1	0
Neurological dysfunction		1	0
Liver failure		1	0
Sepsis/septic shock		1	0

Abstract P003–Table 2. Number of cases, score, evolution and mortality of the score.

Score obtained	No. of cases	Survival	Deaths	Per cent (%) mortality per score
0	5	5	0	0
1	12	11	1	8,33
2	13	13	0	0
3	19	19	0	0
4	40	36	4	10
5	72	58	14	19,44
6	58	49	9	15,51
7	74	46	28	37,83
8	99	43	56	56,56
9	74	16	58	78,37
10	65	5	60	92,30
11	30	2	28	93,33
12	24	0	24	100
13	7	0	7	100
Total	592	307	285	–

N: 592 patients.



Abstract P003–Figure 1. Curve ROC and area under the curve.

rate (90–100%), the highest have a 100% mortality rate. A score of 8 or more points identifies patients at high risk of adverse prognosis, with a sensitivity of 80%, specificity of 78% and positive predictive value of 77% and negative of 80%. A significant association was found between score and mortality. The receiver operating characteristic (ROC) curve shows the cut off point for this score, where it achieves the highest sensitivity and specificity (8 points). The area under the curve has an acceptable discrimination value (0.8664711 (0.8366941–0.8962480)) (Figure 1).

Conclusions: Admission of an HIV/AIDS patient to IC should be made taking into account several prognostic factors and not on an isolated basis. We believe that the achievement of a score does not replace clinical judgment at all in conjunction with the patient's decision. The prognostic score presented is easy to perform using accessible variables and has utility to identify patients at high risk of death. We encourage your use.

CO-MORBIDITIES AND COMPLICATIONS OF DISEASE AND/OR TREATMENT

P004

Clinical characteristics and long-term monitoring of a cohort of HIV/AIDS patients admitted in intensive care

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Introduction: Intensive care (IC) admission of patients with HIV/AIDS, prior to the era of highly active antiretroviral therapy (HAART) was controversial and discussed, many centres now report an improvement in HIV/AIDS survival [1,2]. There are studies of clinical characteristics, admission, reason for IC entry and short-term prognosis. Few papers describe long-term follow-up of an HIV/AIDS cohort. This study describes the clinical characteristics and long-term follow-up of HIV/AIDS patients admitted to IC.

Methods: Cohort study, observational, longitudinal and retrospective. Clinical characteristics of 708 patients between October 2006 and February 2014, and follow-up of a subgroup of 413 patients between October 2006 and February 2011 were evaluated, evaluating mortality at 28 days, one year and three years. All were diagnosed with HIV and/or AIDS. An Excel spreadsheet and descriptive statistics were used, including mean, median, range, percentage. We considered a significant $p \leq 0.05$ (confidence interval: 95%).

Results: Clinical characteristics of the patients (708): Mean 38 years, median 39 years (14–76). Men 67%. Days of hospitalization: mean six and median four days (1–57). Admission: 43% respiratory insufficiency (RI), 37% sepsis and septic shock (S /SS), 27% neurological dysfunction (DN) and 15% hepatic insufficiency (HI). APACHE II (Acute Physiology and Chronic Health Evaluation II) ≥13 points: 77%. Mechanical ventilation (MV) 38%. 81% had nutritional-functional deficits. Marked disease income 60%. Previous diagnosis of AIDS 87%. Stable HAART (more than three months) 21%. 88% had CD4 ≤199 cells/µL. Mortality in IC 48% (338). The factors associated with higher IQ mortality were MV, Apache II, nutritional-functional deficit, previous AIDS, marker disease, CD4 ≤199 cells/µL, TARGA, IR, S /SS, DN and HI ($p < 0.05$). Subgroup follow-up: of 413 patients, 215 (52%) graduated from IC. Mortality at 28 days was 11% (24 patients), 27% (51 patients) and at three years 5% (7 patients). The highest risk factors for mortality at follow-up with $p < 0.05$ were: 28 days: Nutritional-functional deficit and MV; one year: Nutritional-functional deficit, MV, CD4 ≤199 cells, neurological dysfunction and previous diagnosis of AIDS; three years: Irregular HAART.

Conclusions: Our case series provides evidence that the severity of the acute event influences mortality, and are also statistically significant other variables such as the HIV/AIDS stage and the pathology that determined its entry. Intra-IC mortality was higher than the literature. In the long-term follow-up, variables such as nutritional status, immunological status and HAART have significance, mentioned in different publications [3,4]. The low mortality at three years of follow-up, shows as a chronic disease, influenced by the presence of HAART (*p* significant).

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P005

Prevalence of hepatitis B, hepatitis C, syphilis and tuberculosis in a large cohort of patients living with HIV/AIDS in Colombia

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Introduction: The HIV Colombian group (VIHCOL) comprises 17 HIV care centres located in 10 Colombian cities, which provide outpatient medical care to people living with HIV/AIDS. In this current study, we aimed to determine the prevalence of co-infection of hepatitis B, hepatitis C, syphilis and tuberculosis amongst a large cohort of HIV-positive patients in Colombia.
Methods: We conducted a multicentre retrospective study between January 2014 and December 2015 in 17 HIV care centres located in 10 Colombian cities. HIV-infected patients over 15 years of age receiving medical care in the participating institutions were included. Prevalence rates for HBV (either HBsAg, anti-HBs or anti-HBc), HCV (anti-HCV), syphilis (non-treponemal and treponemal tests) and latent tuberculosis (TST ≥5 mm) were obtained and analysed by age, sex and health system affiliation. History of active tuberculosis was also recorded.
Results: A total of 22,492 HIV-positive patients were included during the study period. Prevalence rates of co-infection with HBV (HBsAg), HCV, latent tuberculosis and active tuberculosis were 10.2% (95% CI: 9.5–11%), 0.8% (95% CI: 0.6–1%), 12.4% (95% CI: 12.2–14%) and 2.1%, respectively. Non-treponemal test was positive in 12.3% (95% CI: 11.6–13%) of the patients while treponemal test was positive in 18.2% (17.1–19%) of the patients. HBV infection was more frequent in HIV patients belonging to the contributory plan than in the subsidized and special plans (13% vs 2.5% vs 2.3%). Subsidized patients had higher syphilis co-infection rates (22.3% based on non-treponemal tests or 33.8% based on treponemal tests) when compared to the other health plans. Missing data varied for the different laboratory markers, being up to 51% in some instances.
Conclusions: Hepatitis B co-infection rate was high, while hepatitis C co-infection rate was lower compared to general population. We found statistically significant differences between health system affiliation plans for hepatitis B, syphilis and latent TB.

P006

Symptoms, psychosocial and treatment-related variables amongst patients with virologic failure into two first-line antiretroviral therapy

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Introduction: The adherence to highly active antiretroviral therapy (HAART) remains a challenge in the treatment of HIV patients, even with current simplified treatments. Recent publications indicate that factors such as depression, stigma, unemployment, poverty, side effects to the drugs and limited access to treatment, are the most commonly related to poor adherence. However, symptoms like fatigue, cognitive failure and sleep disorders should also be considered as variables related to low compliance. Therefore, we

Abstract P006–Table 1. Sociodemographic, HIV-related variables, symptoms and functionality for each line antiretroviral therapy.

	Line antiretroviral therapy		
Variable	**Emtricitabine/tenofovir disoproxil furnarate/efavirenz (1)**	**Emtricitabine/tenofovir disoproxil fumarate/ atazanavir/ritonavir (2)**	
Sex (F (female)%/M (male%)	***n* = 43(F9.3%/M90.1%)**	***n*=7 (F 43%/M 57%)**	
Age (mean years ± SD)	33.7 (±9.8)	32.2 ± (10.9)	***t* *****p* < 0.01 1.99
Education (mean years ± SD)	12.0± (5.7)	12.3 ± (8.6)	0.124
Diagnosis (mean years ± SD)	1.3± (0.8)	1.5 ± (0.6)	−0.443
Viral load (mean years ± SD)	23347.86 (±33769.67)	28758.73(± 31772.09)	1.99
CD4 cells (mean years ± SD)	387.98 ± (338.12)	414.98 ± (406)	1.70
Depressive symptoms (BDI-II mean score ± SD)	13.0 ± (1.0)	10.7 ± (10.0)	1.983
Fatigue (mean score ± SD)	1.12 ± (1.0)	0.54 ± (0.77)	−2.121**
Sleep pattern changes (mean score ± SD)	1.68 ± (1.3)	0.25 ± (0.51)	−2.510**
Cognitive symptoms (mean score ± SD)	0.74 ± (0.67)	0.59 ± (0.73)	1.241
Functionality/SF-36 (mean score ± SD)	69.4 ± (17.7)	75.2 ± (20.6)	−3.834**

SD: standard deviation.

Abstract P006–Table 2. Frequencies and differences in self-reported side effects and stressful life events for each line antiretroviral therapy

	Line antiretroviral therapy			
	(1) *n* = (43)		(2) *n* = 7	
Self-reported side effects	***Yes***	***Not***	***Yes***	***Not***
Anergy/fatigue	90%	10%	71%	29%
*Diarrhea***	12%	88%	86%	14%
Dizzy	27%	72%	0%	100%
Headache	23%	77%	29%	71%
*Heartburn***	16%	84%	86%	14%
*Insomnia/Hypersomnia***	93%	7%	0%	100%
*Irritability***	91%	9%	0%	100%
*Jaundice***	0%	100%	86%	14%
*Nausea***	18%	82%	86%	14%
*Slowed down***	81%	9%	0%	100%
Chi square = 3.324p < 0.05**				
Self-reported Stressful life events				
*Caregiver of a relative***	2%	98%	71%	9%
*Couple Separation***	17%	83%	71%	9%
*Dead of a relative***	5%	95%	86%	14%
*Unemployment***	12%	31%	57%	43%
Chi square=1.115 p<0.05**				

investigated the frequency of symptoms associated with depression, self-reported psychosocial and treatment-related factors, in a sample of patients with failure to the first line of HAART [1–4].
Methods: A descriptive, cross-sectional study, with a non-probabilistic sample of 50 patients. Patients were evaluated by the mental health department after the documentation of virological failure. All patients were evaluated using the Beck Depression Inventory second edition (BDI-II) and Medical Outcomes Study Short Form-36 (SF-36). Using the World Health Organization suggested criteria, we asked the patients to self-report the adverse effects of the treatment that resulted in low adherence and also to report stressful life events that took place during the three months prior to the time of the evaluation (Tables 1 and 2) [5].
Results: Of the all participants (85% men), 86% had emtricitabine/tenofovir disoproxil fumarate/efavirenz [line antiretroviral therapy 1 (LAT1)] and 14% had emtricitabine/tenofovir disoproxil fumarate/atazanavir/ritonavir (LAT2). No significant differences in sociodemographic and HIV-related variables were seen. Patients in LAT1 reported a higher frequency of fatigue, changes of sleep pattern and functionality impairment (t = 2.221–3.834, p < 0.01). On the self-report questions patients on LAT2 had more gastrointestinal complaints, whereas sleep disturbance, irritability and slowing down, were present only in the LAT1 group (Chi-square = 3.324, DF = 9, p < 0.05). Participants in group 2 reported higher frequency of stressful life events (Chi-square = 1.115, DF = 5, p < 0.05).
Conclusions: In this study, we showed that participants in LAT1 had a higher frequency of neuropsychiatric symptoms that could be related to sleep deprivation secondary to treatment use, in comparison with LAT2. This evidence suggests the importance of periodic assessment of mental health of patients initiating HAART and monitoring side effects to antiretrovirals. This would ultimately reduce the number of treatment failures and may help to develop of interventions that facilitate reinsertion to daily activities.

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HIV-HEPATITIS CO-INFECTION

P007

Treatment response evaluation of direct-acting antivirals agents in HCV-HIV co-infection: a real life experience in Brazil

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Introduction: Historically treatment of HIV and HCV co-infection has always been a concern due to the poorer response to anti-HCV therapy compared to mono-infected and to the worsened fibrosis progression in the presence of HIV. Currently Brazil includes HIV co-infection for treatment regardless of the degree of hepatic fibrosis and prioritizes these patients to receive a treatment regimen compatible with their antiretroviral therapy. The DAAs allow co-infected to be treated like HCV mono-infected patients, calling into question whether these patients should be considered a special population any longer. Clinical and epidemiological profile as well as response evaluation to treatment of hepatitis C/HIV co-infected patients are described in this article.
Methods: We enrolled all co-infected patients under treatment from December 2015 to June 2016 at a co-infection clinic at Hospital das Clínicas of the State University of Campinas-São Paulo. The patients received sofosbuvir + daclatasvir with or without ribavirin, after antiretrovirals interactions were managed. Demographic, clinical and laboratory parameters were retrospectively analysed in medical records.
Results: 50 patients were enrolled, GT1a (66%), GT1b (16%), GT3 (8.3%), GT4(2%). 88% were male and 74% were white. The mean age was 49,6, mean baseline HCV RNA was 6.3 log10 UI/mL, mean baseline CD4 was 704 cells/µL, 66% were classified as C3. 56% had cirrhosis, 41% underwent ARV switch. There were three patients who did not follow-up, one because of reclusion, another one because of collateral effects of the new ARV prescribed. As a partial result, we obtained 76% of SVR4 and 62% of SVR12, while eight patients are still completing SVR with non-detectable PCR

HCV at the end of the treatment. One cirrhotic, gen1a and no prior treatment of hepatitis relapsed at the fourth week after treatment.
Conclusions: The SVR rates after treatment with DAAs of co-infected patients are comparable to the rates of mono-infected. The whole scenario begs the question if there still is a particular subset of population. But although we may not have the same concerns as before, the co-infected patients have different features regarding SVR. The DAAs should be checked for interactions, including with antiretroviral therapy. The need to change ART may lead to side effects and non-adherence. Co-infected patients will still be considered a particular group because of risk exposure and reinfection possibility. Furthermore, we have little options so far for re-treatment.

P008

Increase in the prevalence of hepatitis C genotype 4 detected in HIV program care in Bogota, Colombia between 2010 and 2016

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Introduction: The geographic distribution of hepatitis C in Latin America reveals that the most common genotypes are type 1A and 1B [1–3]. However, there has been a change in the dynamics of the prevalence of hepatitis C virus types in our HIV programme care. The aim of this study is to determine the characterisation of HIV/hepatitis C co-infection.
Methods: A cross-sectional retrospective study was developed in the CEPAIN HIV programme care at Bogota, Colombia. All patients were tested for hepatitis C, since January 2010–December 2016. The reactive cases were identified due to the presence of antibodies against the hepatitis C virus (Anti-HC). The clinical history of each patient was reviewed to extract the clinical variables, in these patients the presence of viral RNA was investigated; Positive cases were considered as active HCV infection.
Results: Of the 4233 HIV patients, it was diagnosed 35 patients with hepatitis C. The average age is 37 years, with a greater presentation in the age group of 35–49 years (48.2%). The distribution according to the patients` gender showed that the majority were men (34 people). In 2016, the prevalence of hepatitis C genotype 4 in the study population was 0.51 per 100 people. Table 1 shows cases and prevalence rate of genotype 4 over the seven-year period.
Conclusions: It is observed that contrary to the epidemiology in the region for hepatitis C genotype 4, there is a significant increase in cases, which implies a different therapeutic approach with the advent of new therapies. Molecules as sofosbuvir, has not an adecuate entry or import to the country, which makes it difficult to achieve and treat the patients. Of the 22 patients only 4 have been used interferon treatments, the rest are waiting for adequate, effective and non-toxic drugs.

Abstract P008–Table 1. Prevalence rate of HIV/hepatitis C genotype 4 co-infection

Year	Total HIV cases in the programme	Total cases co-infection Hepatitis C/VIH	Hepatitis C cases genotype 4	Per cent hepatitis genotype 4 of the total cases of hepatitis/ year	Prevalence rate cases hepatitis C genotype 4
2010	2156	1	0	0	0
2011	2493	0	0	0	0
2012	2852	3	0	0	0
2013	3218	6	5	83.3	0.15
2014	3639	8	6	75	0.30
2015	4026	9	4	44.4	0.37
2016	4233	8	7	87.5	0.51

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P009

GT3 treatment in a real-life setting

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Introduction: Interferon-free direct-acting antiviral (DAAs) therapy has revolutionized treatment for chronic hepatitis C, although patients with genotype 3 (GT3) remain the most difficult type to treat.
Methods: In this real-life study we included patients with GT3 treated with different regimens of DAAs. They were naïve and experienced patients and mono and HIV/HCV co-infected individuals.The primary goal was to evaluate the sustained virologic response (SVR) (HCV-RNA level <15 IU/mL) at week 12 or 24 after the end of treatment.
Results: Overall 89 patients initiated HCV therapy, with an average age of 47 years. From these 63 (70.8%) had finished treatment and in 50 patients SVR is analysed (HCV-38 and HIV/HCV-12). From the total 74.1% were naïve and the degree of fibrosis had the following distribution: F0/F1-34.8%, F2-11.2%, F3-19.1%, F4-25.8% and unavailable in 8.9%. HIV/HCV co-infected patients were under ART in 95.2% of the cases, with HIV-RNA undetectable in 76.2% and with a median TCD4 cell count of 555 cell/mm^3. They initiated different schedules: SOF + RBV-24w (52.8%), SOF + DCV + RBV-12/24w (37%), SOF/LDV + RBV-24w (5.6%) and 4 patients (4.5%) were treated with SOF + PEGIFN + RBV-12w, respectively. The global SVR was 91% and 80.6%, respectively, in PP or ITT analysis: 88.4% in HCV mono-infected and 100% in co-infected patients. According to the degree of fibrosis SVR was: F0/F1-90.4%, F2-100%, F3-90% and in F4-88.2%. SVR in the different

regimens prescribed was 100% for both SOF + DCV + RBV and SOF + PEGIFN + RBV, and 87.1% and 80% in those treated with SOF + RBV and SOF/LDV + RBV. There were 5 relapses (all mono-infected): F0/F1-2, F3-1 and F4-2. Six patients were lost for follow-up and 1 died due to hepatic decompensation.
Conclusions: The global SVR is not yet satisfactory in GT3 compared to other genotypes. The overall response was better in co-infected patients. Treatment including SOF + PEGIFN and SOF + DCV had high efficacy. There were no therapy discontinuations due to adverse events.

P010

Prevalence and determinants of hepatitis B and hepatitis C co-infection in patients attending the largest HIV clinic in Suriname, South America, 2008–2016

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Introduction: Hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV infections share transmission routes. Higher morbidity and mortality are seen in HBV/HIV and HCV/HIV co-infected patients compared to patients with a viral hepatitis- or HIV-monoinfection. Viral hepatitis treatment in HIV-infected patients is therefore imperative. Suriname, a South American middle-income country, has an estimated 1.0% HIV prevalence rate, but the HIV/hepatitis co-infection rate is unknown. In this study we investigated the viral hepatitis co-infection prevalence in people living with HIV/AIDS (PLWHA) attending the Academic Hospital Paramaribo (AZP), the largest HIV clinic in Suriname.
Methods: Retrospective data were obtained from all PLWHA that attended the AZP from 1 January 2008 to 31 October 2016. Sex, age, HBV and HCV testing results were collected. Characteristics associated with chronic HBV (positive Hepatitis B Surface Antigen (HBsAg)) and/or anti-HCV were examined using descriptive statistics and logistic regression analysis.
Results: Over half of the 1929 PLWHA enrolled at the AZP were female (53.2%) and had a median age of 40.8 (33.4–50.2), 37.9% were lost to follow-up (had not attended the clinic for over a year) and 4.2% were deceased. Testing rates were 66.0% and 61.2% for HBV and HCV respectively. 6.4% of those tested were HBsAg positive (82/1273; 95% CI 5.2–7.9), 1.4% were HCV positive (17/1181; 95%CI 0.9–2.3). 0.3% tested positive for HBsAg and HCV (3/1166; 95%CI: 0.1–0.8). Age above 40 was associated with anti-HCV (OR = 4.6; 95%CI: 1.3–16.1, compared to PLWHA younger than 40), other determinants were not significantly associated with HBV and HCV co-infection.
Conclusions: 6.4% of Surinamese PLWHA are co-infected with viral hepatitis B and 1.4% with hepatitis C, which is higher than the HBsAg and anti-HCV prevalence (2.9% and 1.0%, respectively) in the general emergency department population. This highlights the need to test all HIV infected patients for viral hepatitis and offer treatment for those infected. Regarding HCV, implementation of Direct Acting Antiviral Therapy is therefore highly recommended. Furthermore, we noted a high loss-to-follow-up rate and interventions are needed to improve retention in care.

P011

Hepatitis B prevalence amongst a cohort of 432 HIV-positive adult patients in Honduras

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Introduction: Approximately 10% of the HIV-infected population worldwide is infected with hepatitis B virus (HBV) [1]. HIV increases the risk of cirrhosis and end-stage liver disease in HBV co-infection. In Central America, the adult hepatitis B prevalence rate is below 2% [2]. Absent data on Honduras, HBV prevalence rates in El Salvador and Guatemala, Honduras' neighbours, are 1.0 and 0.5, respectively [3]. The rate for people co-infected with HIV and HBV is unknown. Siempre Unidos, the only non-governmental organisation authorized by Honduras' government to provide antiretroviral medications, operates two clinics providing HIV education, testing and treatment. Patients are primarily of low income and educational levels and live in urban or semi-rural settings. Our aim was to test our HIV patients for hepatitis B and assure treatment for all who were co-infected.
Methods: We assessed HBV in 432 HIV-positive clinic patients between October 2014 and June 2016. After educating patients about HBV testing and receiving oral consent, all but three patients agreed. Our certified testing counsellor and nurse used Alere Determine HBsAg (Alere International Ltd, Galway, Ireland) to help diagnose acute infection and confirm chronic infection during patients' regular clinic appointments.
Results: HBV surface antigen (HBsAg) was found in the sera of 8 (1.9%) of our 432 HIV patients. Half of the co-infected patients were male, 87.5% were heterosexual and 75% had a primary level of education (grades 1–8). All of the women identified themselves as housewives while the men's employment included fire-fighting, sales and unemployment.
Conclusions: An HBV co-infection rate of about 2% was found in a cohort of 432 HIV-positive patients in Honduras. Since morbidities related to HBV are amongst the leading causes of hospital admission and mortality in people with HIV, HBV screening is recommended for all HIV patients.

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HIV AND ENDEMIC DISEASES

P012

Epidemiological profile of AIDS amongst people aged 50 and over in Brazil

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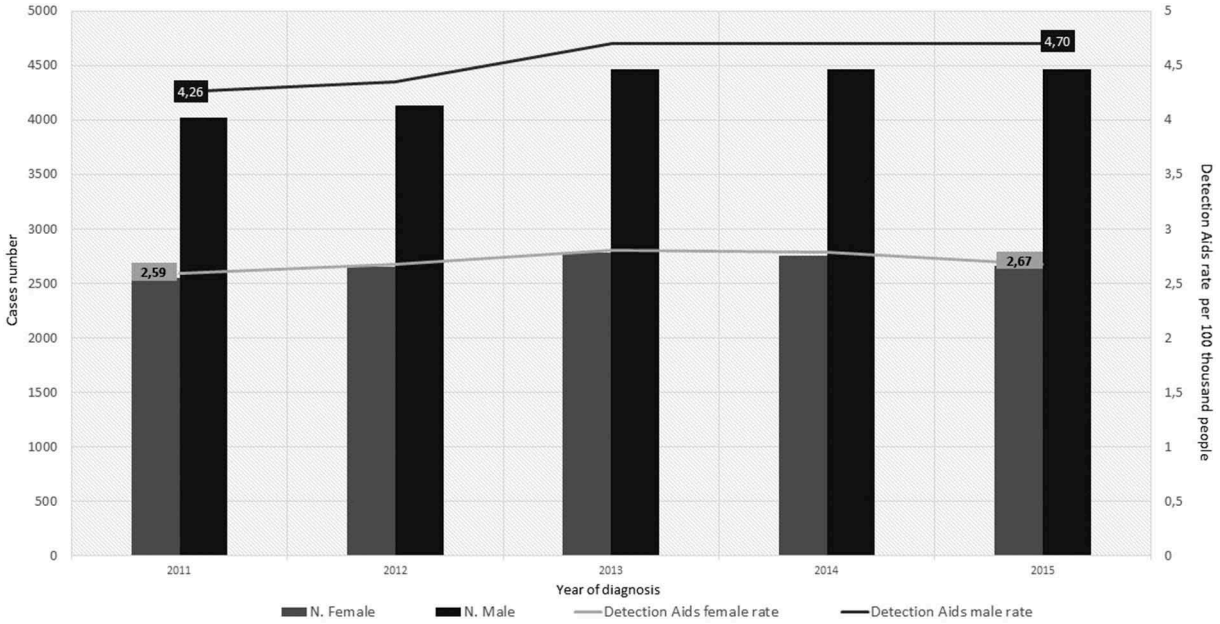
Introduction: Overall, senior citizens is the population group in Brazil that has shown most growth. By 2025, Brazil will have a



Abstract P012–Figure 1. Frequency of HIV/AIDS cases notified amongst the population aged over 50 and the general population, based on parameters of gender, ethnicity, level of schooling and exposure category, between 2011 and 2015.

Abstract P012–Table 1. Epidemiological AIDS aspects among people aged 50 and older.

		General POP		50 Y.O. POP	
		N	(%)	*N*	(%)
Gender	Male	133,694	65.0	21,544	62.6[a]
Ethnicity	White	577,68	42.1[a]	10,783	50.4[a]
Ethnicity	Black	161,302	50.2[a]	10,443	48.8[a]
Schooling	Illiterate	3019	2.9[a]	1180	6.9[a]
Schooling	Primary	52,976	51.3[a]	10,723	62.8*
Schooling	High school	32,178	31.1[a]	3465	20.3*
Schooling	University	15,169	14.7[a]	1694	9.9[a]
Exposure category M	MSM	31,868	31.9[a]	2492	29.8[a]
Exposure category M	Heterosexual	37,540	51.2[a]	8034	73.4[a]
Exposure category F	Heterosexual	39,228	96.9[a]	7359	97.1[a]
CD4 strata at initiation of ART	<200	41,046	25.2	8294	30.5
CD4 strata at initiation of ART	200–349	40,693	25.0	6887	25.4
CD4 strata at initiation of ART	350–499	39,620	24.3	6067	22.3
CD4 strata at initiation of ART	500+	41,449	25.5	5919	21.8

Source: Brazilian Ministry of Health.
[a]The calculation of the proportion did not consider cases of unknown, blank or not applicable information.

population increase that is 15 times greater amongst senior citizens. The problem of ageing and HIV/AIDS in the country reflects the cultural taboo of sexual activity at this age, the social exclusion and prejudice related to the infection. In this context, epidemiological studies of health conditions and determinants in the elderly are essential to help HIV/AIDS policies.

Methods: We conducted a descriptive, analytical, cross-sectional study of AIDS epidemiological scenario, as well as its trends amongst people living with AIDS in this age group, registered by secondary data from the Brazilian Ministry of Health databases regarding reported cases of AIDS between 2011 and 2015.

Results: Amongst the general population, 205,660 AIDS cases were registered from 2011 to 2015, with 34,946 (17%) cases being amongst people aged 50 and older. The AIDS detection rate amongst elder men doubled in comparison to elder women (Figure 1) and most of the cases were in men (62.6%). Heterosexual exposure amongst elder men (73.4%) was predominant when compared to the general population (51.2%). Most of the cases amongst the elderly (50.4%) was amongst whites, while in the general population we verified a higher proportion of cases (50.1%) amongst blacks. The proportion of HIV/AIDS cases in illiterate senior citizens was 6.9%, while in the general population it was 2.9%. The majority of them started ART with CD4 <200 (Table 1). According to data from the PCAP 2013 [1], the proportion of illiteracy (or low schooling) amongst the elderly may lead to late diagnosis, which corroborates the finding that a greater proportion of elderly individuals have a late ART initiation, with CD4 <200. Despite this, we observed an increasing distribution of ARV for individuals over 50 years, indicating that this population has a good adherence to ART.

Conclusions: The aging process involves complex issues regarding sexuality that influences the vulnerability of elder people. In the light of increased AIDS detection rates found amongst this population, it is important to expand access to information regarding HIV/AIDS prevention, and also to encourage the dialogue about sexuality and sexual health problems people aged 50 and over may

face. Routine medical visits and healthcare programmes should incorporate sexual healthcare for the elderly.

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P013

The performance of Whatman® 903 paper and the new Polyethylene sulfone membrane for HIV viral load, pol genotypic resistance and genotropism using dried plasma and blood samples

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Introduction: Dried blood spots (DBS) and dried plasma spots (DPS) are alternative sample collection types for HIV molecular virology testing. This overrides logistic and technical limitations required for sample collection, handling and transportation. We evaluated HIV viral load (HIV-VL) from DPS, HIV drug resistance (HIV-DR) and genotropism from DPS and DBS in two types of filter membranes.
Methods: For HIV-VL, 55 EDTA preserved plasma samples were spotted (70 µL) on Whatman® 903 (903) paper and polyethylene sulfone membrane (PES) and stored at room temperature overnight. HIV-VL testing for plasma was performed by Abbott m2000 system and for DPS by Abbott m2000 system with protocol modifications. Genotyping of 43 EDTA preserved plasma samples with VL ≥1000 copies/mL was performed from plasma, DBS-903, DBS-PES, DPS-903 and DPS-PES from patients with virological failure sequencing *pol* gene (Protease and Reverse Transcriptase regions) and *C2V3* region of gp120. Nucleic acid extraction was performed using BOOM technology. HIV-DR was analysed by Stanford HIVdb and genotropism by Geno2pheno algorithms.
Results: Pearson correlation coefficient showed a significant correlation in all viral load measurements; results ranging from 2.9 to 6 log10, showing $r = 0.980$, $p < 0.0001$ for DPS-903 versus DPS-PES; $r = 0.982$, $p < 0.0001$ for DPS-PES versus plasma; and $r = 0.976$, $p < 0.0001$ for DPS-903 versus plasma. As compared to plasma samples, the efficacy in obtaining genomic sequences was 95.3% for pol and envelope (env) using DBS-903, 88.4% for pol and env using DPS-903, 97.7% for pol and 95.3% for env using DBS-PES, 86.0% and 90.7% for pol and env, respectively, using DPS-PES with no statistical difference between both membranes. Tropism assignment concordance between plasma and DPS-903 was 94.4% and 100.0% for DBS-903, 92.5% for DPS-PES and 95.0% for DBS-PES; whereas it was 94.6% for DPS-903 and DPS-PES and was 95.2% for DBS-903 and DBS-PES.
Conclusions: DPS 903 and the recently described PES are feasible and efficacious for HIV viral load determination and both membranes performed very well when DPS or DBS were used for determination of drug resistance or genotropism. Which may well be applied for sample collection and transportation from remote regions and resource limiting settings. For sequencing purposes, analysis of DPS and DBS are equally informative.

HIV AND TUBERCULOSIS

P014

HIV and tuberculosis incarcerated patients in Mexico City between 2013 and 2016

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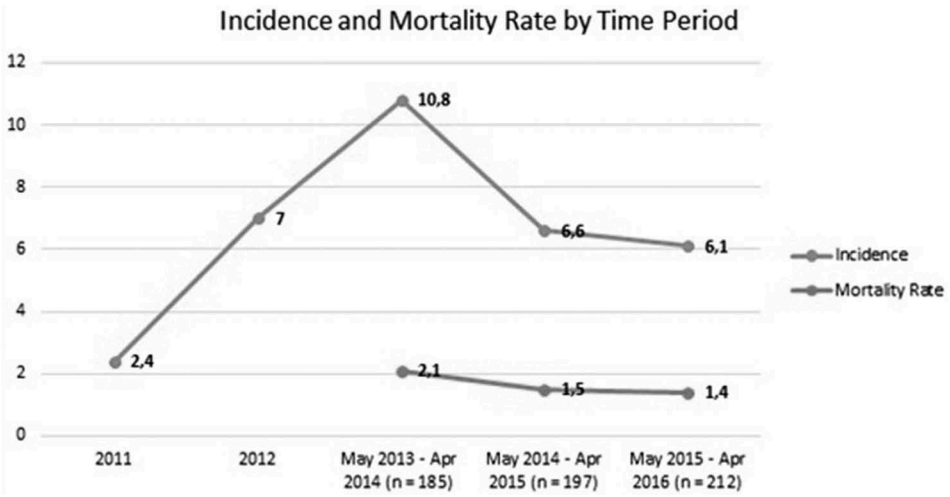
Introduction: Currently, the global leading cause of death amongst people living with HIV (PLWH) is tuberculosis (TB) [1]. Without appropriate treatment, 28–53% is at risk of dying, and this risk



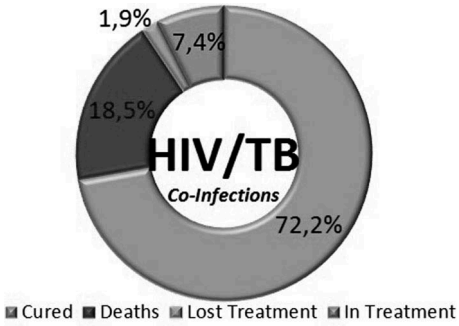
Abstract P014–Figure 1. Incidence and mortality rate by time period.

increases to 65–94% amongst those who are co-infected with HIV [2]. In 2010, the estimated incidence of pulmonary TB amongst inmates in Mexico was 34 times greater than that of the general population (473.9 cases per 100 thousand persons) [3].

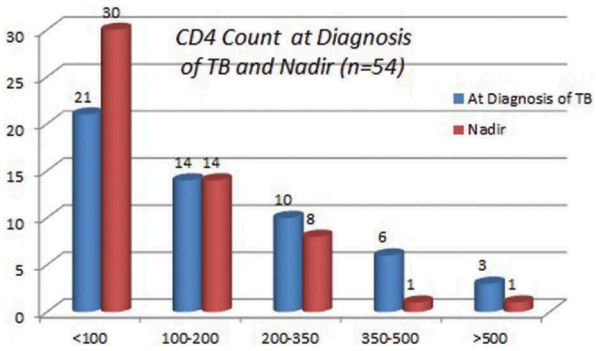
Methods: Retrospective cohort study to obtain prevalence, incidence, mortality rate and percentage cure amongst incarcerated patients living with HIV/TB. We used as a diagnostic method for tuberculosis: chest X-ray, basiloscopy, culture and GeneXpert in expectoration and/or gastric juice. Inclusion criteria: (a) incarcerated, male patients infected with HIV and (b) any type of TB diagnosis within the time period of May 2013-April 2016. The number of study subjects by time period is as follows: 185 from May 2013 to April 2014, 197 from May 2014 to April 2015 and 212 from May 2015 to April 2016.

Results: A prevalence rate of 4.1% (8 cases) was estimated up to April 1, 2013. During the time period of May 2013 to April 2016, 46 cases of TB (36 pulmonary, 9 milliary and 1 ganglionic) were diagnosed – 3 of which were *M. tuberculosis* and resistant to rifampin. We estimate the following incidence rates according to time period: 10.8% (2013–2014); 6.6% (2014–2015); and 6.1% (2015–2016). There were 10 deaths that were directly attributable to TB infection and we estimate the rate of mortality for the following time periods to be: 2.1% (2013–2014); 1.5% (2014–2015); and 1.4% (2015–2016), (Figure 1). Of the total number of patients with HIV and Tuberculosis: 72.2% were cured with treatment antifimic, 18.5% died, 7.4% continued in treatment and 1.9% was lost in treatment (Figure 2).

Conclusions: Local conditions that are possibly driving the transmission of TB in the centre include: (a) overcrowding, (b) promiscuity, (c) little or no ventilation in the prison and (d) use of inhalable drugs and sharing of drug paraphernalia. Additionally, our results show that M. Tuberculosis can infect patients with any level of CD4 (Figure 3), and that detection and proper treatment allow for: (a) the control of TB transmission, (b) an increase in the percentage of patients cured, and (c) the decrease in the rate of mortality. Finally, detection and proper treatment of TB should be included in public health policy permanently to decrease mortality amongst patients co-infected with HIV/TB incarcerated.



Abstract P014–Figure 2. HIV/TB co-infections.



Abstract P014–Figure 3. CD4 count at Diagnosis.

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P015

Antiretroviral therapy (ART) switch in patients with newly diagnosed tuberculosis (TB): the experience in Mexico

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Introduction: Patients receiving antiretroviral therapy who need the initiation of rifampin-based anti-tuberculosis treatment (anti-TB) represent a management challenge due to unfavourable drug–drug interactions and the risk of loss of HIV control. There is no solid data on the best ART switch strategy in these patients. Our objective was to describe the ART switch recommended by a national peer-advisory board (CORESAR) to practitioners caring for HIV-TB co-infected patients, to investigate the determinants of the choice of the switch modality and to assess the virologic outcomes of the diverse switch strategies.

Methods: We conducted a nationwide, HIV clinic-based, cohort study in Mexico. Inclusion criteria were: adults under ART with newly diagnosed TB and requiring the start of anti-TB, whose physician had received therapeutic advice, by a panel of experts, regarding the switch of ART to minimize pharmacologic interactions. The primary end-point was the incidence of HIV viremia control (persistent plasma HIV-RNA levels of <200 copies/mL) during anti-TB. Non-completers were considered as therapeutic failure.

Results: Fifty-six patients were assessed. ART regimens at TB diagnosis were: 2 NRTI + PI (32 patients), 2 NRTI + NNRTI (20 patients) and other regimen (4 patients). Twenty-two patients were switched to 2 NRTI + raltegravir (RAL); 18 patients, to 4 NRTIs; 8 patients, to 2 NRTIs + lopinavir/ritonavir 400/400 mg (LPV/r+) bid; 5 patients, to 2 NRTI + NNRTI; and 3 patients, to a single NRTI (3TC or FTC). Patients switched to RAL (or to NN) had fewer prior failed ART regimens, more often had viral control and less frequently had a PI-containing scheme, at switching. Rate of patients maintaining viral control during anti-TB was 68%, 0%, 37% and 100% amongst those receiving RAL, 4 NRTI, LPV/r+, NRTI and NN, respectively. Half of patients achieving viral control with RAL had viral failure at switching.

Conclusions: In patients already receiving ART and initiating anti-TB a switch to RAL (or to NN) may be an adequate strategy, particularly amongst those with favourable viral control history. Conversely, contention with only NRTI could be an acceptable alternative for drug-heavily exposed individuals. Our results ought to be interpreted with caution as they were generated through an observational survey.

P016

A local audit of the standard for diagnosing latent tuberculosis infection for adults living with HIV in a tertiary hospital in Santiago, Chile

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Introduction: Tuberculosis (TB) remains a public health concern around the world; approximately 10% of people living with HIV with latent TB infection (LTBI) will develop active TB disease each year. There are currently two tests for diagnosing LTBI, TST (tuberculin skin test) and IGRA (interferon-gamma release assay), but TST remains the most preferred method for LTBI diagnosis in resource-limited countries. According to the Chilean national guidelines, all those living with HIV should have access to LTBI investigation through TST. Our audit aimed to assess whether the standard for diagnosing LTBI for adults living with HIV is being implemented in clinical practice in our centre to highlight gaps in service delivery.
Methods: Data was collected from HIV+ adults who attended the HIV clinic at Hospital San Juan de Dios de Santiago-Chile for the first time between 2014 and 2016. The percentages of TST performed, TST-positive (≥5 mm) individuals and follow-up was registered.
Results: A TST was performed on 186/281 (66%), 218/294 (74%) and 259/330 (78%) in 2014, 2015 and 2016, respectively. Of the TST performed 14/186 (7.5%), 16/218 (7.3%) and 22/259 (8.4%) were positive (≥ 5 mm) and 12/186 (6%), 43/218 (20%) and 39/259 (15%) of patients defaulted follow-up to interpret the results in 72 h in the same period.
Conclusions: The standard for diagnosing LTBI has improved over the period, but up to 20% of the patients do not attend their scheduled test for LTBI. Data on the prevalence of latent TB by TST in our HIV clinic is similar to the prevalence described in Chile using the same TST. In addition, an important proportion of patients do not follow up the second visit to obtain their results. For this reason, it would be convenient to screen for LTBI using IGRAs, which require only a single visit and do not cause a false-positive reaction, but the limitation is the cost.

HIV and women including MTCT

P017

Efficacy of dolutegravir/abacavir/lamivudine (DTG/ABC/3TC) fixed dose combination (FDC) compared with ritonavir-boosted atazanavir (ATV/r) plus tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) in treatment-naïve women with HIV-1 infection (ARIA study): subgroup analyses

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Introduction: Built around an unboosted integrase-strand transfer inhibitor (INSTI), the FDC of DTG/ABC/3TC offers a complete regimen for treatment of HIV-1 infection, with good tolerability and a high barrier to resistance. To gain additional data for women on this regimen, we conducted ARIA, an international, randomized, open-label study to evaluate the safety and efficacy of DTG/ABC/3TC versus ATV/r + FTC/TDF (ClinicalTrials.gov: NCT01910402).
Methods: Treatment-naïve adult women, with HIV-1 RNA ≥500 copies(c)/mL were randomized 1:1 to 48 weeks of treatment with DTG/ABC/3TC or ATV/r + FTC/TDF once daily. The primary endpoint was the proportion of women achieving an HIV-1 RNA <50 c/mL at week 48 (Snapshot algorithm). Women who became pregnant were withdrawn, and were possible offered entry into a DTG/ABC/3TC pregnancy study. Additional analyses were performed to evaluate efficacy based on geographic region and baseline characteristics.
Results: 495 women were randomized and treated. Subjects were well matched for demographic and baseline characteristics. Median age was 37 years; 45% of subjects were White and 42%

Abstract P017–Table 1. Proportion of subjects with HIV-1 RNA

	Subgroup [*n*]	DTG/ABC/3TC *N* = 248 (%)	ATV/r + TDF/FTC *N* = 247 (%)
Overall		82	71
Age (years)	<50 [424]	80	71
	≥50 [71]	92	74
CD4+ cell count (cells/mm^3)	≤350 [253]	85	72
	>350 [242]	78	71
	≤200 [113]	81	69
	>200 [382]	82	72
Baseline HIV-1 RNA (c/mL)	≤100,000 [360]	83	74
	>100,000 [135]	80	64
HIV-1 subtype	B [206]	80	69
	Non-B [271]	84	73
Geographic region	Western Europe [131]	83	71
	US and Canada [153]	77	70
	Other [211]	85	72

African heritage. Overall results showed that DTG/ABC/3TC was superior to ATV/r + FTC/TDF, with 82% and 71%, respectively, achieving HIV-1 RNA <50 c/mL at week 48 (adjusted difference 10.5%, 95% CI: 3.1–17.8%, p = 0.005). Differences were driven by lower rates of both discontinuations due to adverse events (AEs) and Snapshot virologic non-response in the DTG/ABC/3TC group. In subgroup analyses conducted based on region and baseline characteristics, higher response rates were consistently observed in the DTG/ABC/3TC group compared to ATV/r + TDF/FTC group (Table 1). There were fewer drug-related AEs and fewer withdrawals due to AEs in the DTG/ABC/3TC group. There were no treatment-emergent primary INSTI or ABC/3TC resistance mutations in the DTG/ABC/3TC group.

Conclusions: DTG/ABC/3TC demonstrated superior efficacy and a favourable safety profile compared to ATV/r + FTC/TDF in treatment-naïve women, after 48 weeks of treatment. Subgroup analyses performed based on baseline characteristics and geographic region were consistent with overall results.

P018

Trends in HIV/AIDS mortality amongst women in Mexico from 1990 to 2015

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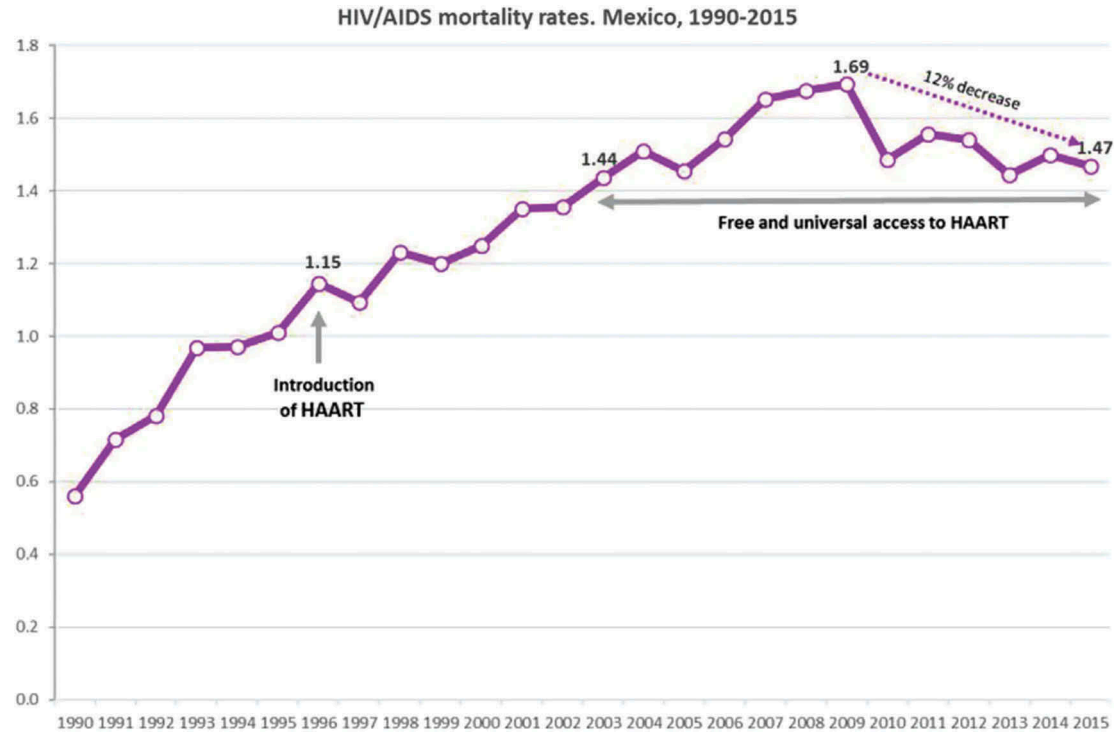
Introduction: Free and universal access to HAART in Mexico became a public health policy since 2003. As a result, at the end of 2015, a total of 107,000 persons were receiving HAART. After reaching the highest level in 2009, HIV/AIDS mortality rates in Mexico have decreased both men and women. The aim of the study was to analyse the recent trend in AIDS mortality amongst women in Mexico and his associated factors.

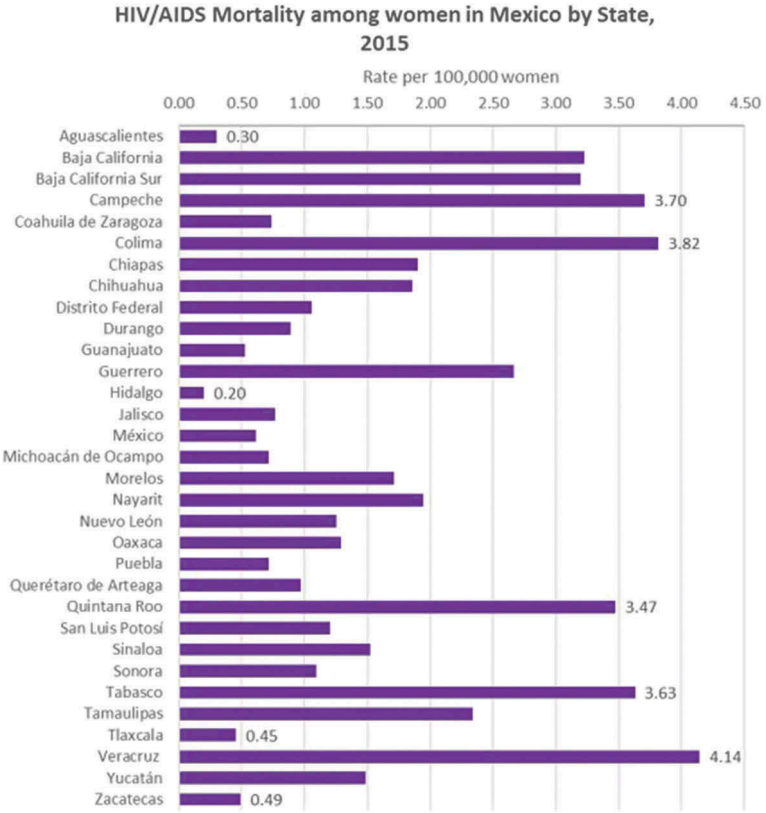
Methods: Official vital statistics on mortality and population estimates, from CONAPO and INEGI, were used to calculate AIDS mortality rates.

Results: 110,082 people died of AIDS in Mexico (1990–2015), of which 18,179 (13.5%) were women. The mortality rate in women had a growing trend between 1990 and 2009 when it reached 1.69 deaths per 100,000 inhabitants. After 2009, the rate decreased by 12% to reach 1.47 deaths per 100,000 inhabitants by 2015 (Figure 1). However, there are significant differences in the distribution of mortality in the regions of the country. In 2015, the Mexican States of Veracruz (4.14 per 100,000 women), Colima (3.82), Campeche (3.70) Tabasco (3.63) and Quintana Roo (3.47) had the highest rates of AIDS mortality in women; and Hidalgo (0.20), Aguascalientes (0.30), Tlaxcala (0.45) and Zacatecas (0.49), the lowest figures. However, the highest mortality rate (Veracruz) is 20 times higher than Hidalgo (Figure 2).

Conclusions: Universal access to HAART has reduced mortality rates for men and women at the country level. However, there are huge gaps between regions. Data highlight the need for enhanced HIV detection and treatment in women with HIV in most affected States. Findings can help to apply interventions to link and retain women in healthcare until they are virologically suppressed. It is urgent to reduce the gaps in AIDS mortality in Mexico.



Abstract P018–Figure 1. HIV/AIDS mortality rates. Mexico, 1990–2015.



Abstract P018–Figure 2. HIV/AIDS mortality amongst women in Mexico by State, 2015.

P019

Gender differences in risk factors and clinical outcomes of patients receiving antiretroviral therapy at an HIV clinic in Guatemala City over a 9-year period

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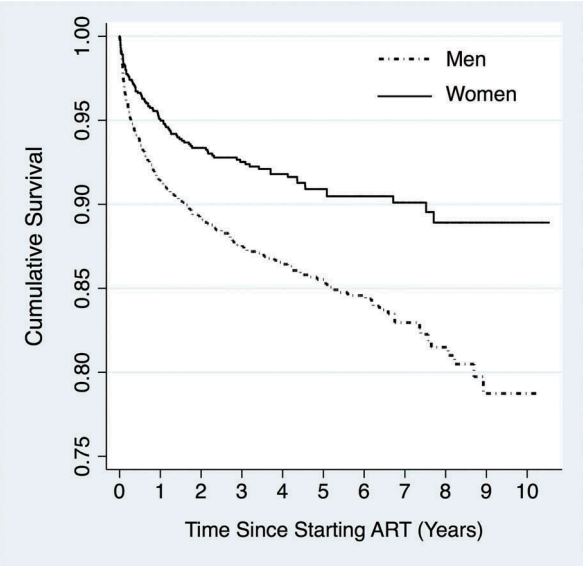
Introduction: There is no consensus on gender differences in clinical outcomes of HIV-infected patients. Immunologic, virologic and survival data for patients receiving antiretroviral therapy (ART) show an inconsistent presence and direction of a gender gap. Gender and sexual behaviour-based outcomes analysis is lacking in Guatemala, which has largely sexual transmission of HIV. We examine outcomes of HIV-positive Guatemalans receiving ART over a 9-year period.

Methods: Retrospective cohort analysis was conducted using a database of treatment-naïve patients offered free ART at the Clinica Familiar Luis Angel Garcia in Guatemala City from 2004 to 2014. Multivariate Cox regression was used to study gender differences in all-cause mortality, immunologic failure (CD4 <100 cells/μL twice or CD4 <baseline) and virologic suppression (viral load <50 HIV-1 RNA copies/mL within one year of starting ART).

Results: 4248 patients were included: 2605 men, 1617 women and 26 transgender patients (analysed separately). Compared to men, women had higher median CD4 counts (198 vs 126 cells/μL, $p < 0.001$) and lower median viral loads (6.48 × 104 copies/mL vs 11.27 × 104 copies/mL, $p < 0.001$) at baseline. KM analysis demonstrated a relationship between gender and survival after initiating ART (Figure 1). In multivariate Cox regression analysis, mortality decreased with female gender (HR: 0.52, 95% CI: 0.29–0.93, $p = 0.029$) while it increased with age (HR: 1.02, 95% CI:



Abstract P019–Figure 1. Kaplan–Meier (KM) estimates of cumulative survival probabilities for men and women receiving antiretroviral therapy (ART).

1.003–1.04, $p = 0.02$) and inconsistent condom use (HR: 9.36, 95% CI: 2.61–33.63, $p = 0.001$). In women alone, these factors did not predict mortality. In men alone, mortality increased with inconsistent condom use (HR: 23.26, 95% CI: 2.89–187.3, $p = 0.003$) and number of sexual partners (HR: 1.02, 95% CI: 1.001–1.039, $p = 0.041$). Gender did not predict immunologic failure. Female gender predicted a lower rate of viral suppression (HR: 0.6, 95% CI: 0.41–0.85, $p = 0.005$).

Conclusions: Women receiving ART have lower mortality than men when adjusted for sociodemographic factors and sexual behaviours. Sexual risk factors affect genders differently and can predict treatment outcomes even in previously infected patients. Further research should characterize the relationship between gender, behavioural risk factors and adherence to treatment.

P020

Monitoring of virological response in HIV-1 seropositive pregnant women in Cuba: 2015–2016

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Introduction: In 2015, Cuba was the first country in the world to eliminate mother-to-child transmission of HIV. Early diagnosis of HIV in pregnant women and the systematic monitoring of virological response to highly active antiretroviral therapy (HAART) during the gestational period are fundamental premises in the prevention of HIV vertical transmission. The objective of the present study was to analyse the behaviour of the virological response in HIV-1 seropositive pregnant women in Cuba during the period 2015–2016.

Methods: The study included 74 HIV-1 seropositive pregnant women during the period 2015–2016, who were assessed for HIV-1 plasma viral load (VL) during the three trimesters of pregnancy using the Cobas Ampliprep/Cobas Taqman 48 technology. The viral RNA was isolated from 28 pregnant women with elevated VL and used as target to amplify the protease and reverse transcriptase regions of the HIV-1 pol gene. PCR products were sequenced and the generated data used to determine the subtype and resistance of HIV-1 to ARV according to HIVdb v6.1.1.

Results: Between three and five months after initiation of HAART, 50% of pregnant women had undetectable VL, 12.2% had values between 100 and 1000 copies/mL and 37.8% pregnant women above 1000 copies/mL. The predominant viral variants in the group of pregnant women who were assigned the HIV-1 resistance profile to antiretrovirals were subtype B (21.4%) and CRF20, 23, 24_BG (17.9%). The 17.8% (5/28) had any mutation associated with ARV resistance; 7.1% (2/28) to nucleoside reverse transcriptase inhibitors and non-nucleoside reverse transcriptase inhibitors (NNRTI) combinations; 3.6% (1/28) to the NNRTI and 7.1% (2/28) to the protease inhibitors. The antiretroviral drugs with high resistance were 3TC, AZT, NVP and EFV.

Conclusions: The systematic monitoring of the virological response in HIV-positive pregnant women allowed the optimization of HAART and contributed to the sustainability of the prevention of mother-to-child transmission of HIV.

HIV AND VULNERABLE POPULATIONS

P021

Switching from TDF to TAF in HIV-infected adults with low BMD: a pooled analysis

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Introduction: Switching from tenofovir disoproxil fumarate (TDF) to tenofovir alafenamide (TAF) represent an important treatment strategy to improve bone health in HIV-infected individuals with low bone mineral density (BMD), but this has not been specifically investigated.

Methods: This analysis consisted of pooled data from two prospective phase 3 studies (studies 109 and 112) of HIV suppressed adults on a TDF-based regimen switching to elvitegravir, cobicistat and emtricitabine (E/C/F) co-formulated with TAF. In adults with clinically significant low BMD by dual energy X-ray absorptiometry (*T*-score ≤ −2.0 at the lumbar spine, femoral neck, or total hip) at baseline (BL), we assessed percentage change in BMD and *T*-score at the lumbar spine and total hip and change in proportion with osteoporosis (*T*-score ≤−2.5 at any site) at weeks (W) 96. Logistic regression was used to determine BL predictors of a clinically significant improvement (≥ 5% increase) in lumbar spine and total hip BMD, adjusted for age, race, sex and BL BMD.

Results: Of the 1117 enrolled who switched from TDF to TAF, 214 (19%) had clinically significant low BMD at BL (median age 46 years, 85% male, 63% White, 26% smokers) with 43% (93/214) osteoporosis. The BL median (interquartile range: Q1, Q3) *T*-score (lowest of any 3 sites) was −2.4 (−2.8, −2.2). At the spine, the median (Q1, Q3) % BMD change at W96 was 2.53% (0.22%, 5.31%) and *T*-score change was 0.19 (0.02, 0.42) ($p < 0.001$). At total hip, BMD change at W96 was 2.39% (0.72%, 4.18%) and *T*-score change was 0.14 (0.04, 0.24) (all $p < 0.001$). Of the 86 with BL osteoporosis and W96 BMD data, 23% no longer met criteria for osteoporosis at W96. Of 214 with low BMD, 24% and 15% had a clinically significant BMD increase at the spine and total hip, respectively. In multivariable analysis, BL factors associated with clinically significant BMD increase at W96 were higher fraction excretion of phosphate (FEPO4 ≥ 10%) for the hip and higher BMI (≥30 kg/m^2) and procollagen type 1 N-terminal propeptide (P1NP >1.85 log10 ng/mL) levels for spine.

Conclusions: HIV-infected individuals with clinically significant low BMD on a TDF-based regimen who switched to E/C/F/TAF experience a ~2.5% BMD increase over 96 weeks and a reversion from osteoporosis in approximately 1/4 of patients. Baseline urinary phosphate wasting and high bone turnover may identify TDF-treated HIV-infected patients with low BMD who may benefit the most from a switch to TAF.

P022

HIV care cascade in transgender women: Mexico facing the challenge

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Introduction: Transgender women (TGW) are a vulnerable group for HIV infection and are 34–49 times more likely to be infected than the general population. Furthermore they receive little to no care at health services which makes it difficult for them to receive an early or timely diagnosis [1,2]. It is estimated that TGW with HIV have higher ART treatment failure rates than other groups due to poor adherence. HIV prevalence in TGW is approximately 19.1% globally [3], even though there are very few studies published. A few studies report that 77% of TGW with HIV receive medical care, only 65% receive ART and 44% have an undetectable viral load [4]. The Condesa Specialized Clinic has a health service tailored for transgender persons since 2009, offering free mental health assessments, hormone therapy and HIV/STI diagnosis and treatment.
Methods: Describe the HIV care cascade of TGW. An administrative and care database of the Center for Transgender Services was used to obtain follow-up information and the viral load information was obtained from SALVAR, the national HIV treatment database.
Results: There are 1669 patients registered at the Center for Transgender Services from September 2009 through January 2017. Of these 1358 (81.3%) are TGW and 311 (18.6%) are Transgender men. All patients receive sex reassignment counselling and are offered voluntary HIV, syphilis, hepatitis B and C tests, but not all patients agree to the tests. 78% (*n* = 1069) of TGW agreed to get tested for HIV, of which 32.8% (*n* = 351) received a positive result and 87% (*n* = 304) of these receive ART. Only 274 (78%) receive HIV care at our clinic, the rest receive HIV care in other health institutions. Of the 274 patients, 86% (*n* = 235) receive ART and 83% (*n* = 227) have an undetectable viral load (Figure 1).
Conclusions: HIV prevalence in TGW that receive care in our clinic is much higher than the reported in the international literature since the Center for Transgender Services is located inside the HIV clinic. Unfortunately not all patients agree to HIV testing thus it is not possible to diagnose everyone. Is probable that the retention and virologic suppression in our patients id higher compared to other provides due to the fact that the hormone therapy services may very well be an incentive for controlling the HIV epidemic in this population group.

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P023

Disparities in sexual transmitted infections amongst transgender populations in the Dominican Republic

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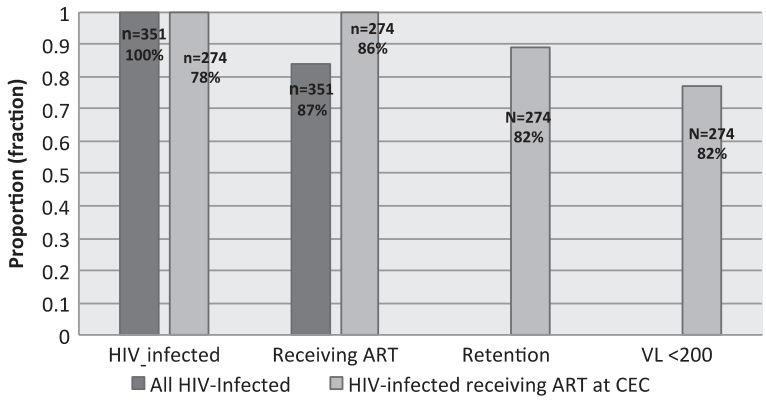
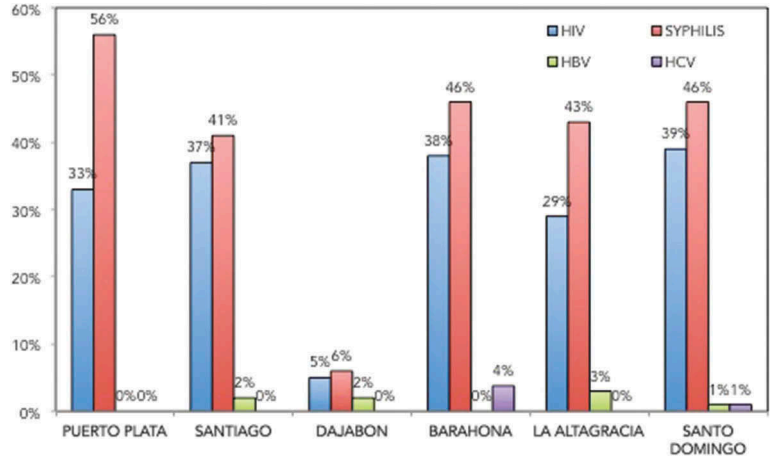
Introduction: The Caribbean region still represents the higher incidence on HIV and other STIs infections in the western hemisphere [1]. HIV transmission in the Dominican Republic appears to be concentrated amongst key populations, especially transgender women [2,3]. The objective of this study was to evaluate the prevalence of HIV, syphilis, hepatitis B and hepatitis C infections amongst transgender women in the Dominican Republic.
Methods: From the PEPFAR's prioritized provinces for the HIV response we selected six provinces in the Dominican Republic to conduct a survey and blood sampling in Transgender women population. We used a respondent-driven sampling methodology to identify hard-to-reach populations [4]. After informed consent



Abstract P022–Figure 1. Continuum of care for HIV-infected TGW receiving care at CSC.



Abstract P023–Figure 1. HIV/STIs frequencies in transpopulation in the Dominican Republic.

we collected peripheral blood samples for HIV, syphilis, hepatitis B and C.

Results: A total of 311 samples and epidemiological data were collected. Compared with the general population (−1%) the HIV frequency in trans-populations was 17.8–38.5%; syphilis was 23.5–55.5%; hepatitis B was 1.6–5.8%; and for hepatitis C was 0.03–3.8% (Figure 1) Early sexual intercourse, risk behaviours and violence were detected in higher levels.

Conclusions: Despite many efforts in the fight against HIV, disparities in STIs frequencies are still observed amongst trans-populations. This is influenced by a poor access to formal employment, illiteracy, lower access to health services and provision of population-specific services. Integrated services and comprehensive care for trans-populations will impact the reduction of HIV/STIs infections.

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P024

Analysis of a large Colombian cohort of HIV-infected patients over 50 years of age during 2013–2015

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Introduction: The HIV Colombian group (VIHCOL) comprises 17 HIV care centres located in 10 Colombian cities, which provide outpatient medical care to people living with HIV/AIDS. Here, we aimed to analyse the features of clinical presentation, diagnosis, treatment and virologic success amongst patients 50 years and older.

Methods: We conducted a multicentre retrospective study between 2013 and 2015 in 17 HIV care centres from 10 Colombian cities. HIV-infected patients over 15 years of age receiving medical care in the participating institutions were included. We compared two patient groups: those ≥50 yo and those 15–49 yo, in terms of immune status at admission, first antiretroviral treatment (fART) and virologic success (viral load <50 copies/mL) at one year.

Results: A total of 128 (11.5%), 251 (14.4%) and 372 (13.4%) patients ≥50 yo were diagnosed with HIV in 2013, 2014 and 2015, respectively. The proportion of patients ≥50 yo with a baseline CD4 count <200 and <350 cells/µL were 32.8% and 63.3% in 2013, 42.2% and 63.7% in 2014 and 36% and 59.7% in 2015, respectively. Frequency of EFV as part of fART in patients ≥50 yo progressively increased: 45.5% in 2013, 60.2% in 2014 and 69.6% in 2015. ZDV/3TC was the most frequent NRTI-based combination ART in 2013 (36.4%) and 2015 (57.5%), in contrast to TDF/XTC in 2014 (39.1%). Virologic success rates for patients ≥50 yo on ART were 80.5%, 80.2% and 80.4% in each study year, respectively ($p < 0.001$ when compared to patients <50 yo) In contrast to patients <50 yo, patients ≥50 yo had more frequently a late immune presentation but achieved a significantly higher virologic suppression ($p < 0.05$).

Conclusions: HIV diagnosis and access to ART occurred later in HIV population ≥50 yo, but this patient group had a better treatment response. Strategies for an early identification of this age group are encouraged.

P025

Continuum of HIV care in patients deprived of their freedom in Mexico City during three years (2014–2016)

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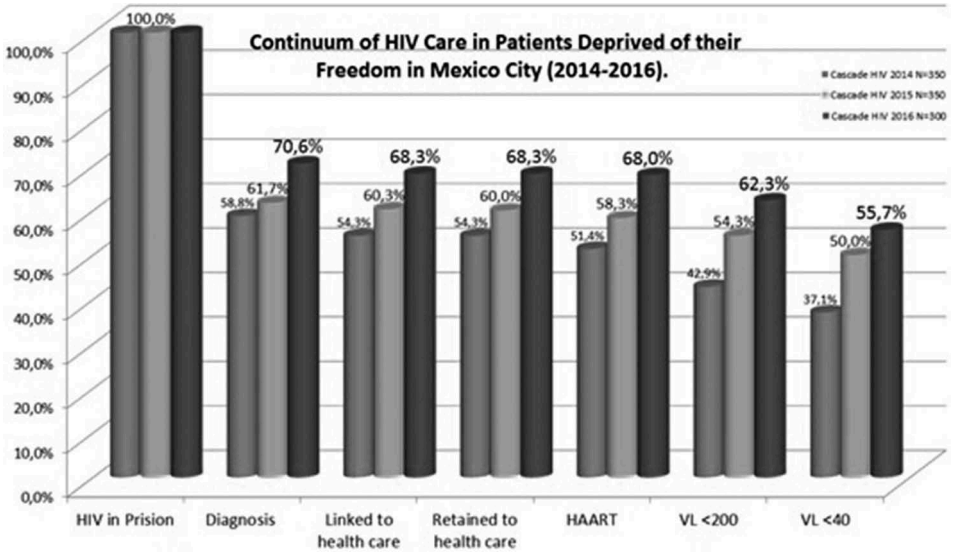
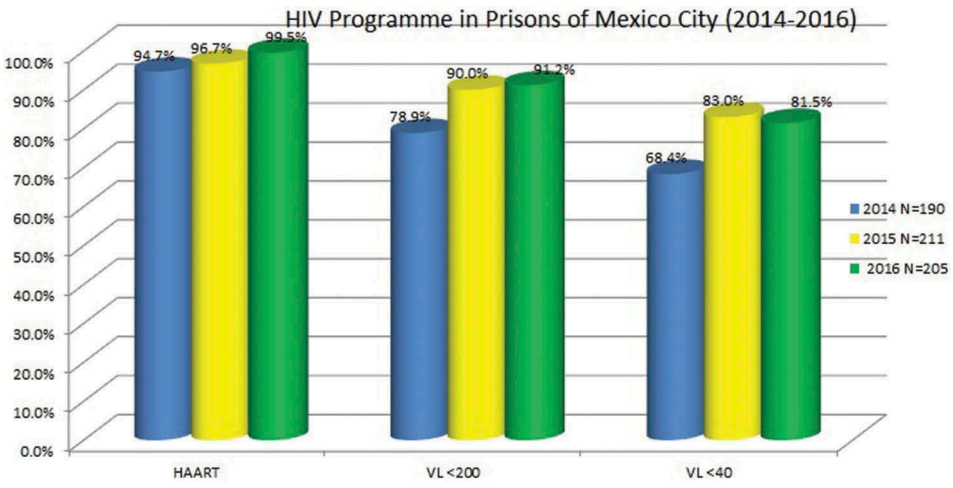
Introduction: In 2016, Mexico City about 30,000 men are in prison distributed throughout eight centres with an HIV prevalence of 1.0% [1]. Prison inmates that are diagnosed with HIV are then transferred to the Santa Martha Acatitla (SMA) Prison, where they are offered HAART and specialized medical care since 2009.

Methods: Retrospective cohort study. We used data from the national System for Logistics Administration and Surveillance of ARV in Mexico (SALVAR in Spanish) up to the 31 of December, 2016 and the database of the HIV Programme in Prisons of Mexico City. Criteria for inclusion: Incarcerated male patients with HIV infection in Mexico City during 2014–2016.

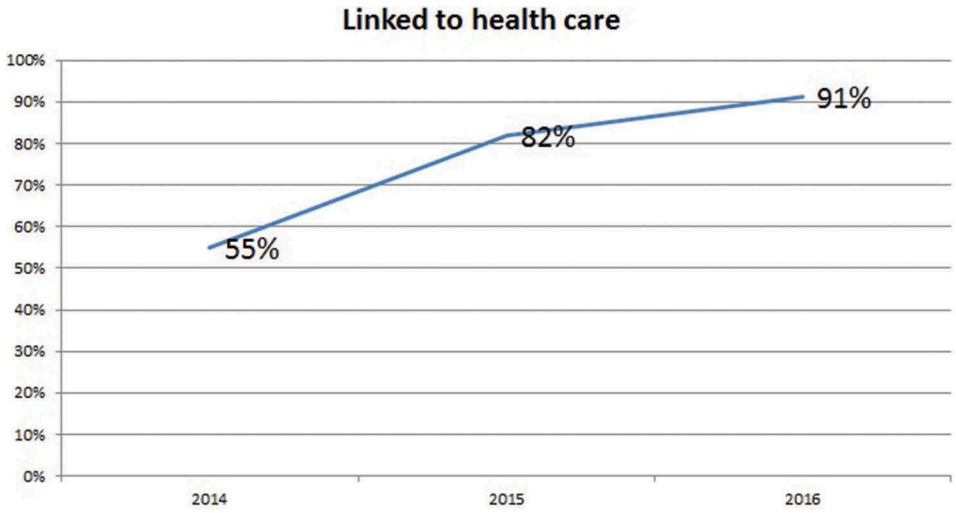
Results: During 2014–2016, there was a gradual increase in all percentages of the components of the HIV care cascade, the percentage of patients diagnosed in 2014 was 58.8%, in 2015 61.7% and in 2016 70.6%, the vast majority of patients linked and retained in medical care receive HAART, from 51.4% in 2014 to 68% in 2016. Currently, 55.7% of patients maintain undetectable viral load compared to 37.1% in 2014 and 50% in 2015 (Figure 1). For internal purposes of the "HIV Programme in Prisons of Mexico City," 99.5% of patients linked to medical care receive HAART and of these, 81.5% remain with undetectable viral load (Figure 2). The percentage of patients linked to



Abstract P025–Figure 1. Continuum of HIV care in patients deprived of their freedom in Mexico City (2014–2016).



Abstract P025–Figure 2. Internal evaluation of HIV programme in prisons of Mexico City (2014–2016).



Abstract P025–Figure 3. Patients linked to healthcare when obtain their freedom (2014–2016).

medical care who obtained their freedom increased from 55% in 2014 to 91% in 2016 (Figure 3).

Conclusions: It is necessary to strengthen the diagnosis of HIV in prison settings to achieve the goals set by the WHO 90-90-90 initiative. Linkage and retention in medical care is covered in this model (HIV Programme in Prisons), alongside working with improving adherence to HAART in order to increase the levels of undetectability. The model of supervised daily dosage has given partial effective results given that the ARV is provided daily but it does not guarantee that the patients swallow the pills. With the implementation of new strategies (accompaniment and timely information) we are overcoming the problem of how to link 100% of patients to ambulatory care once they obtain their freedom. The HIV Programme in Prisons of Mexico City is effective and can be replicated in different penitentiary systems in other states and countries, but not in the general population.

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P026

Prevalence of HIV infections between incarcerated men in Brazil: cross-sectional study at the Paraná State penitentiary system

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Introduction: Brazil has the fourth biggest penitentiary population in the world, with an average occupation rate of 161% at the facilities. The registered growth in the period of 2000–2014 was on average 7% per year, an amount 10 times bigger than the Brazilian population growth, 94% of the quota being male [1,2]. Populations deprived of freedom are considered high-risk for sexually transmitted diseases, due to the favourable conditions encountered in prison for the propagation of diseases [3,4].The State of Paraná presents the fifth biggest jail population in Brazil accounting for 4.61% of that population and has tried over the years to develop health attention policies to the convicted within the National Health Plan at the Penitentiary System (PNSSP) [5]. The main goal of this study was to estimate the predominance of HIV markers within the male jail population at the prison system in the State of Paraná.

Methods: Cross-sectional epidemiologic survey for HIV infection held in nine male prisons in Paraná in the period of May 2015 to December 2016. The State of Paraná presents 23 closed system male correctional facilities, with a jail population of 16,657 men incarcerated in closed system. The stages of the investigation included counselling, information about intervention, orientation about sexually transmitted infections, informed consent for the data gathering and blood sampling for the HIV test performed in a certified laboratory. The ELISA test was used as a criteria for HIV with the confirmation through a positive Western Blot test. The data analysis was based in the predominance with confidence intervals estimates.

Results: In total, 1192 men were addressed, 1133 (95%) were subjected to a diagnosis for the HIV test. The estimated predominance of the infection by HIV from this evaluation onwards was of 1.59% (interval of 95% [CI]: 0.86–2.32%), 18 men infected. The HIV infection in prisons in Paraná varied from 0% (PEF – Francisco Beltrão, PEP I and PEP II in Curitiba) to 3.17% at the Central State Penitentiary in Curitiba (95% CI: 0.86–5.48%). The integrated analysis identified HIV infection and hepatitis C in two men (estimate predominance of 0.18% (95% CI: 0.0–0.42%) and HIV and hepatitis B in one man (estimate predominance of 0.09% (95% CI: 0.0–0.26%)).

Conclusions: Infectious and contagious diseases tracking and investigation in the penitentiary system that promote knowledge, contribute directly to the adoption of effective disease control measures, for diseases such as HIV, in the freedom deprived population, as well as the feasibility maintenance of an egress individual able to work and socially capable of integrating himself in society.

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P027

Correlation between optimal hormonal therapy and viral load amongst transgender women with HIV infection

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Introduction: The pooled HIV prevalence was 19.1% in 11,066 transgender women (TGW) worldwide [1]. It is known as the suboptimal adherence of ART in this group [2]. TWG have lower percentage of ART adherence compared to non-transgender men (78.4% vs 87.4%) and viral suppression (50.8% vs 61.4%). Optimal HT adherence is associated with adherence to ART [3].
Objective: Correlation of the viral load amongst HIV-positive TGW on ART with optimal HT or TWG on ART without HT.
Methods: The information was taken from the clinic data base and the SALVAR database. The viral load and serum hormones were taken before HT and last visit at least three year after initiating HT. Adequate HT is evaluated by serum hormonal concentrations (E2 = 50–200 pg/mL, total testosterone <0.5 ng/mL). In our protocol, the viral load must be undetectable (<40 copies) before HT they were classified in groups for E2 serum concentrations (>200, 200–50 and <50 pg/mL) and for testosterone serum concentrations (>0.5 and <0.5 ng/mL).
Results: A total of 272 TGW with ART, 60.6% of TGW (*n* = 165) with HT and 39.4% (*n* = 107) without HT. Of the TGW with hormonal therapy 90.9% (*n* = 150) have undetectable viral load and 10.1% (*n* = 15) have detectable viral load. 103 TWG without HT were consider for analysis 4 TGW were excluded. TGW without HT 66% (*n* = 68) have undetectable viral load and 34% (*n* = 35) detectable viral load. Of the Group with HT 85 patients had hormonal serum concentrations, 93% (*n* = 79) have undetectable viral loads and 7% (*n* = 6) have detectable viral load. 45.56% TWG (*n* = 36) had optimal HT (E2 50–200 pg/mL) 5.06% (*n* = 4) were above optimal treatment and 49.36% (*n* = 39) were below optimal treatment. The testosterone concentrations 69.4% (*n* = 59) were on optimal hormone concentrations (0.5 ng/mL).
Conclusions: Viral loads are undetectable on the 90.9% TGW on TH versus 66% without HT, in our clinic the HT is free of charge with endocrinologists, this can be encouragement for optimal adherence of ART. The majority E2 concentrations 49.36% were below optimal treatment and testosterone serum 30.5% were suboptimal. This can be explained that in part of previous year the clinic did not have supply of HT. Just 5% were overmedicated. The **A**ttention model of our clinic can be an example of positive influence of incentives on TGW for optimal adherence.

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P028

Reducing HIV risk behaviour after intervention with young leaders of key populations: an experimental analysis

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Introduction: Peer dialogues influence the adoption of behavioural changes to reduce the risk of HIV infection. By intervening experimentally in the community to change risk behaviour patterns, it may be possible to promote widespread reductions in HIV risk practices within a population [1].
Methods: The intervention identified and trained young age range 18–26 people who are reliably identified as leaders amongst one of these key populations – gay men and MSM, transgender people (transvestites and transsexual women), drug users and harm reducers and sex workers – in all five regions of Brazil to act as multipliers of behavioural changes for their peers, in relation to HIV. We also include young people living with HIV, considering that it is important that these young people share the experience of living with HIV with other young people in greater vulnerability and risk [2].
Results: 140 young people from the key populations were trained in the 5 Brazilian regions. The proportions of the key populations trained in this intervention were 41.9% homosexuals and MSM, 14.5% harm reduction or drug users, 8% transgender people, 6% sex workers and 15% young people living with HIV. Approximately 70% of young trained in this intervention have already developed some activity to multiply the information about prevention and behavioural practices to reduce HIV infection in their respective territories and communities, promoting knowledge about combination prevention and changes related to sexual practices and behaviours.
Conclusions: Interventions that empower young to endorse change can produce or accelerate changes in the behaviour and sexual practices of the young population to reduce the risk of HIV infection. These interventions have developed a network of multipliers in a successive chain of HIV information and combination prevention to reduce HIV

infection and risk behaviours through peer-to-peer communication at the community level amongst young key populations in Brazil.

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P029

Disparities in HIV-care retention amongst transgender women and men who have sex with men

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Introduction: Retention in care plays a critical role in achieving viral suppression and has a recognized impact on public health. Men who have sex with men (MSM) and transgender women are key vulnerable populations, however, recent research suggest they constitute a minority of HIV-infected adults in care. We aimed to examine the proportion and factors associated with retention in care in MSM and transgender women newly diagnosed with HIV.
Methods: We performed a retrospective study including all adult patients (≥18 years) self-identified as MSM or transgender with a new HIV diagnosis from 2002 to 2014 in a public hospital in Buenos Aires. We evaluated demographic characteristics, immunological status at diagnosis and proportion of linkage and retention in care for both groups. Individuals who visited at least once a healthcare professional for HIV after diagnosis were considered to be linked. Retention in care was defined as two or more visits separated for ≥90 days in the first year after diagnosis. Logistic regression was used to identify factors associated with retention in care.
Results: A total of 1239 patients were tested positive for HIV during the study period, of whom 314 (25.34%) were self-identified as MSM and 108 (8.71%) as transgender women. Compared with MSM, transgender patients had similar CD4+ counts at diagnosis (364 vs 386 cells/μL) and years of education (10 vs 12 years). Only a minority of subjects (4.5% of transgender women and 17% of MSM) had social insurance. A high proportion of MSM and transgender individuals were linked within three months of diagnosis (94.8% vs 95.2%), however only 40.3% of transgender and 61% of MSM met the retention criteria. The odds of being retained in care were higher for MSM than for transgender patients [OR 2.3; (CI 95%: 1.83–3.20)]. Cocaine abuse, CD4+ cell count at diagnosis, years of education, social insurance, country of origin (Argentina vs others) and place of residence (Buenos Aires city vs others) were not associated with retention in care in this cohort.
Conclusions: Our results suggest that there is a need to improve interventions to retain both of these key populations in care with special emphasis on transgender patients.

P030

HIV prevalence in the Ngäbe Buglé population of Panama

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Introduction: According to the UNAIDS report of 2015, the prevalence of HIV in the general population of Panama is 0.4%. However, in the adult population (>19 years) it is 0.7%, and there are even higher prevalence reports in indigenous populations (Kuna Yala and Ngäbe Buglé) prior to the mentioned report. Therefore, a study on HIV prevalence in the Ngäbe Buglé population from different Panamanian districts was carried out.
Methods: Between 15 February 2016 and 15 August 2016 determinations of anti-HIV antibodies were performed in Ngäbe Buglé individuals from 10 different districts of the Republic of Panama through a rapid test previously validated in panamanian population (Alere Determine™ HIV1/2). Counselling was given to all people and for positive cases established the appropriate referral. The information was collected in an ad hoc database. Chi^2-test, Student's *t*-test or Fisher's exact test and maximum likelihood odds ratio were used as appropriate.
Results: Determinations were made in 698 people. Mean age (±SD): 33.6 (±13.7) years; Gender distribution: female 55.7%, male 44.3%. It was the first HIV test for 509 people (73%). Thirty four out of 309 men (11%) reported having sex with men. No data on injecting drug use were collected. There were 20 HIV positive results. Prevalence: 2.86% (95%CI: 1.81–4.33). Amongst the positive cases, 85% were tested for HIV for the first time. Although the prevalence was higher in men than women, the difference was not significant (3.56% vs 2.31%, $p = 0.14$). No significant differences were found in relation to age. In men who had sex with men, the prevalence was 11.8% (95% CI: 4.7–26.2), showing a significantly greater probability of a positive result with an OR: 5.37 (95% CI: 1.46–16.35; $p = 0.01$).
Conclusions: The HIV prevalence observed in this population was seven times higher than the prevalence reported for the general population of Panama. Cultural or vulnerability issues could explain this finding, and a study assessing these factors should be carried out in order to establish risk reduction strategies in the Ngäbe Buglé population.

P031

HIV treatment cascade in incarcerated men in Ezeiza, Argentina

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Introduction: Approximately 11,000 people are incarcerated in the federal prison system in Argentina. The estimated HIV prevalence in this population is around 3%. It is important to evaluate de cascade of care in this population to maximize virologic control, improve survival rates and quality of life. The Ezeiza prison is the biggest prison in the country with 1800 inmates. Prison inmates that are diagnosed with HIV infection are evaluated monthly with our Infectious Diseases Unit at Hospital Penitenciario Central 1, inside Ezeiza prison.
Methods: Cross-sectional retrospective study of HIV positive prisoners in the Complejo Penitenciario Federal 1 at Ezeiza, Argentina. Criteria for inclusion: all HIV infected prisoners who were receiving medical care at our Infectious Diseases Unit during December 2016 were included in the final analysis. During 2016 several strategies were implemented in order to meet WHO 90-90-90 goals: voluntary HIV testing was offered to inmates when they entered the prison, HAART treatment was initiated at first visit with the ID

specialist, every HIV inmate was evaluated at least once a month, local HIV treatment guidelines were followed. Data were obtained from an electronic database of medical records. All statistical analysis was undertaken using Statistics SPSS.
Results: On 31 December 2016, a total of 62 HIV positive inmates remained incarcerated (>90% of the total estimated cases in this federal prison): 100% male. Median age: 37 (min 21–max 74). Average CD4 count of 427 cell/mL (min 59–max 1120). Eighteen out of 62 inmates (29.03%) were co-infected with hepatitis C, and a total of 5 inmates (8.06%) had TB in the past. Sixty-two inmates (100%) were linked and retained to healthcare, 61 inmates (98.38%) received HAART. There were 48 inmates with more than four months of HAART; amongst them, 43 had viral loads results. 40 (93%) were under virology control with a viral load of <200 copies/mm^3 and 38 (88.37%) were undetectable with VL <40 copies/mm^3. NNRTIs were used in 34 inmates (54.84%), PIs in 25 inmates (40.32%) and INSTIs in 3 inmates (4.84%).
Conclusions: Two of the 90-90-90 goals were meet in this model. It is necessary to strengthen HIV diagnosis in prison settings particularly when entering the prison system. Monthly medical visits and rapid HAART implementation are crucial to meet undetectable viral loads in this population.

P032

Chilean HIV Mapuches ethnic women; the most vulnerable of the vulnerables: the Araucanía, the poorest region in the country with the greatest indigenous population

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Introduction: In Chile the early detection of HIV is still a challenge for healthcare systems, especially in the Mapuche ethnic group. This study aims to investigate the profile of HIV/AIDS treatment for Chilean women according to their ethnicity in the region of La Araucanía-Chile.
Methods: Cross sectional study based on 161 women living with HIV who were attended at the Hospital from 1 January 2006 to 1 August 2016; 38 were Mapuche and 123 non-Mapuche; 78% of women lived with their sexual partner. Median age for the group was 34.8 yo (15–63). 80.1% had less than 12 years of education and their average income was U$98 monthly. Most women were housewives (47.5%) and non-qualified workers (19.8%). We used descriptive analysis to associate clinical variables such CD4, AIDS-related disease and reason for testing to sociocultural variables such as ethnicity (Mapuche, non-Mapuche), education, disclosure HIV status and partner HIV positive. We defined advanced disease with a CD4 <200 cels/mm; and very advanced disease with <100 cells/mm.
Results: Women do not perform the test spontaneously. Reasons for testing HIV are: HIV-positive partner (39.5% Mapuche, 41.1% non Mapuche); diagnosis made in health centres (34.2% Mapuche, 25.8% non-Mapuche), and during pregnancy (21.1% Mapuche, 19.4% non-Mapuche). Fifty per cent of women access first consultation with less than 234 cells/mm. Mapuche access to healthcare system with a very advanced disease 35.1% (CD4 <100 cells/mm and in stage C 39.5%), versus non-Mapuche: 23.6% and 30.1%, respectively (p = 0.52). Mapuche with 12 years of study access to care with more advanced disease (39%) than non-Mapuche (17%) (p = 0.05). 47.8% of Mapuche housewives had very advanced disease compared to non-Mapuche (18.9%) (p = 0.01). Access to care with very advanced disease is independently of family HIV disclosure status. 47.8% of Mapuche women with HIV negative partner consult with very advanced disease versus 24.3% of non-Mapuche women (p = 0.03).
Conclusions: Chilean women behave similar to other Latin American ones: they access to treatment with very advanced disease, the reasons for testing are an HIV positive partner, due to illness detected in health centres, or during pregnancy. We could observe that Mapuche women are diagnosed later, and they access to care with very advanced disease compared to non-Mapuche. The level of education is independent of admission with very advanced disease. Mapuche housewives, with HIV negative partners, access to care with more advanced disease than those not Mapuche. Finally, we point out that Mapuche women are more vulnerable, which requires a culturally relevant health approach.

P033

High HIV prevalence in non-high risk groups in urban Honduras

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Introduction: Honduras' HIV prevalence for adults aged 15–49 is reported as 0.4% with rates of 4% and higher reported for high risk groups, that is gay men, transgendered women, commercial sex workers and minority Garifuna members [1]. Siempre Unidos, the only non-governmental organisation authorized by Honduras' government to provide antiretroviral medications, operates two clinics providing HIV education, testing and treatment. Here, we report a study of HIV prevalence at urban sites frequented by the general population, that is people who are not considered to be in the high-risk groups, in two Honduran cities.
Methods: Using a cross-sectional design we sampled women and men aged 16 and older at 37-day long health fairs in high poverty neighbourhoods (over half were unincorporated slums where residents lacked access to government services) and central/market sites, for example downtown parks and outdoor markets, in the cities of San Pedro Sula (pop. 1 million) and Siguatepeque (pop. 80,000) between October 2014 and September 2016. A physician, nurse, two health educators and one certified HIV testing counsellor staffed the free health fairs offering primary care and HIV health education. The HIV counsellor obtained written consent and then administered the Determine HIV-1/2 rapid test (Alere Medical Co. Ltd., Chiba, Japan). Positive results resulted in administration of the OraQuick HIV-/12 rapid antibody test (OraSure Technologies, Inc., Bethlehem, PA) for further confirmation.
Results: Of the 3471 people who attended the 37 health fairs, 846 requested screening. Of these, 5% (42 people) received positive HIV results. For those testing positive (Table 1), the median age was 32 years with two-thirds male. Thirty-one per cent identified as gay, bisexual or transsexual. 4.8% and 5.3% of people tested at health fairs in high poverty neighbourhoods and commercial sites, respectively, were positive.
Conclusions: Service providers and policy-makers focus HIV screening in Honduras on high-risk groups. Our data demonstrate HIV infection in a significant percentage of people not included in those targeted interventions. They include men and women living in impoverished neighbourhoods with little access to health services. HIV screening within the context of community-based general medical care may facilitate better early detection of HIV infection

Abstract P033–Table 1. Demographic characteristics of participants.

Median age (IQR)	32 (23–39)
Sex	*n* (%)
Male	28 (67)
Female	14 (33)
Sexual orientation	
Heterosexual	29 (69)
Homosexual	11 (26)
Bisexual/transsexual	2 (5)
Education	
Primary	29 (69)
High school	6 (14)
University	5 (12)
Unknown/none	2 (5)
Profession	
Housewife	10 (24)
Unemployed	8 (19)
Carpenter/mechanic	4 (9.5)
Labourer/construction/gardener	4 (9.5)
University student	4 (9.5)
Clerical worker/sales/beautician	4 (9.5)
Factory machine operator	3 (7)
Nurse/engineer	2 (5)
Peddler	2 (5)
Commercial sex worker	1 (2)

and increase acceptance of treatment amongst Hondurans not considered at high risk for HIV.

Reference

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P034

Assessing the acceptability of PrEP amongst HIV high-risk patients and healthcare providers in the Dominican Republic

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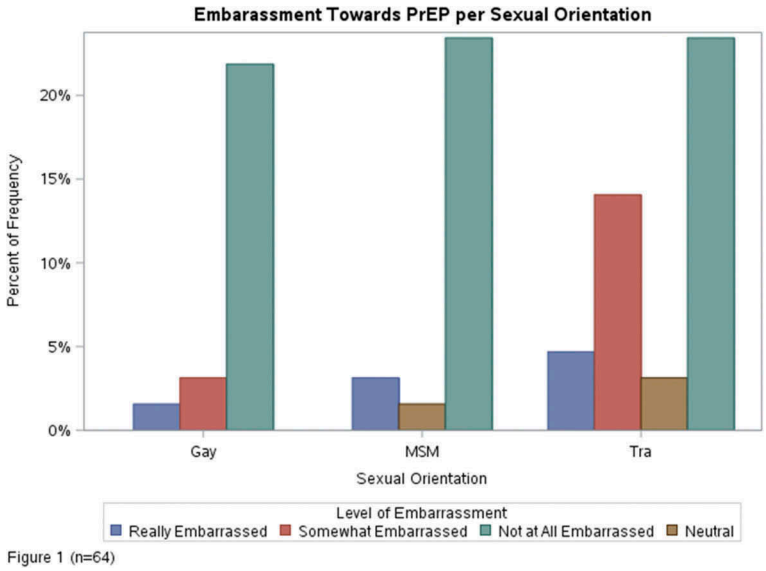
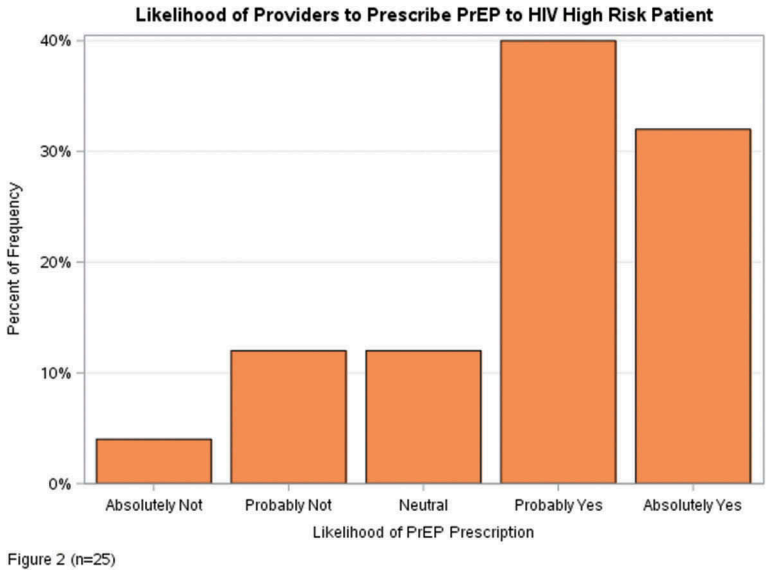
Introduction and objectives: LGBT and Men who have sex with men (MSM) have reported high discrimination in the healthcare setting. This discrimination places them at high risk for HIV. Pre-exposure prophylaxis (PrEP), an approach used in high HIV risk populations, is currently not available in the Dominican Republic. This study aimed to evaluate how HIV high-risk patients perceive PrEP and the likelihood of healthcare providers to prescribe PrEP. To our knowledge, this is the first study to assess the acceptability of PrEP between HIV high risk patients and healthcare providers in the Dominican Republic.
Methods: Convenience sampling and the snowball effect was used to recruit participants who were 18 yo or older, HIV-positive and self-identified as gay, bisexual, transgender, transsexual or MSM. Heterosexual, HIV-positive and individuals under 18 yo were excluded. PrEP perception, the level of embarrassment and the likelihood of prescribing PrEP were measured using a Likert scale survey ranging from, 1 being "Most likely/embarrassed" to 5 being "Least likely/embarrassed." A Chi-square test compared PrEP interest between sexual orientations



Abstract P034–Figure 1. Represents the degree of embarrassment to use PrEP per sexual orientation. MSM and bisexual men were combined as MSM.

Abstract P034–Table 1. Likelihood to Use PrEP per Sexual Orientation, Dominican Republic, 2016.

	Most likely, *n* (column %)	Somewhat likely, *n* (column %)	Probably not, *n* (column %)	Total, *n* (column %)
Gay	14 (25.93%)	3 (33.33%)	0 (0%)	17 (26.15%)
MSM/bisexual	17 (30.48%)	1 (11.11%)	0 (0%)	18 (28.13%)
Transgender/transsexual/transvestite	23 (42.59%)	5 (55.56%)	1 (100%)	29 (45.31%)
Total	55 (84.62%)	9 (14.06%)	1 (1.56%)	64 (100%)
Statistics	DF	Value	Prob	
Chi-square	4	2.8096	0.5902	
Likelihood ratio Chi-square	4	3.4326	0.4882	
Mantel–Haenszel Chi-square	1	0.4866	0.4885	



Abstract P034–Figure 2. The likelihood of a healthcare provider to prescribe PrEP if the patient demonstrates a high risk for HIV.

Results: A total of 64 participants and 25 healthcare providers were interviewed. The sample of participants consisted of 17 gay men, 6 bisexual, 4 transvestites, 4 transsexuals, 21 transgenders and 12 MSM. No statistical difference was found between the groups and their PrEP interest, χ^2 (4, N = 64) = 2.81, p = 0.59 (Table 1).
As shown in Figure 1, more than 20% of gay, MSM, transgender and transsexual participants reported to not feel embarrassed to take PrEP. While less than 5% of all the participants reported to feel really embarrassed to take PrEP. As shown in Figure 2, 40% of the providers reported that they might prescribe PrEP if the patient demonstrates HIV risk, while 4% reported they would not prescribe PrEP at all.
Conclusions and future directions: Negative stigma was not tied to the use of PrEP, meaning potential users would welcome the implementation of PrEP. Despite the small sample size of healthcare providers (n = 25), more than half would consider prescribing PrEP if a patient demonstrates high HIV risk. Gain in-depth perception of the healthcare providers' perception of PrEP. Interview other minority populations, such as Haitian immigrants or HIV+ individuals.

MODELS OF CARE/SCALE UP OF TREATMENT

P035

Reducing the gap: a strategy to strengthen the specialized HIV care clinics to improve detection and linkage to care

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Introduction: It is estimated that 200,000 people live with HIV in México, but only 63% know their diagnosis [1]. The lack of universal detection is one of the main barriers to access to care. This article describes a strategy which objective was to strengthen specialized HIV units to contribute to reduce the diagnostic gap, ensure the linkage of people with HIV to health services as their incorporation into ART.
Methods: Between January and July 2016, "*VIHSITAR strategy*" was implemented in four clinics of HIV care, in four states of Mexico (Tlaxcala, Morelos, Sinaloa, Sonora). This strategy was based on the application of rapid tests for detection of HIV antibodies, syphilis, CD4+ cell counts through point of care kits, viral load as well as the active tuberculosis diagnosis, using a molecular biology test. Each participant was provided of pre-test general information and post-counselling, essential elements to ensure linkage to care services. Sociodemographic and epidemiological variables were collected. We estimated prevalence of HIV, syphilis antibodies and tuberculosis. The time between diagnosis and incorporation of patients to care services were assessed, as well as the time of ART initiation.
Results: 1688 people were screened. HIV prevalence was 12.5% (n = 211) (20.6% in men vs 3.5% in women, p = 0.00). Syphilis antibodies prevalence in people with HIV was 14.7% (n = 31) (16.5% in males, 3.4% in females p = 0.009), while active tuberculosis prevalence was 1.4% (n = 3). 85.4% of the people were linked to care in an average of 11 days (0–36); 68% occurred in the first 30 days after diagnosis, which showed a significant improvement compared with 2015 [2] (49%). 95% of the people linked to care, started ART (Figure 1). The mean of CD4 cells at diagnosis was 344 (156–487), the proportion of late diagnosis (CD4+ <200) was 30%, lower than the national average. No statistically significant differences were found between men and women group.
Conclusions: *"VIHSITAR strategy"* positioned detection as one of the main activities of the specialized units and succeeded in integrating the unit team into a systematized process. The promotion of the strategy contributed to increase the demand for detection. Knowing the immunological status immediately favoured the linkage to care services and to start ART. Definitely, the strategy contributed to improved detection and continuum of care.

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P036

Trends in antiretroviral drugs use in Latin America over three years

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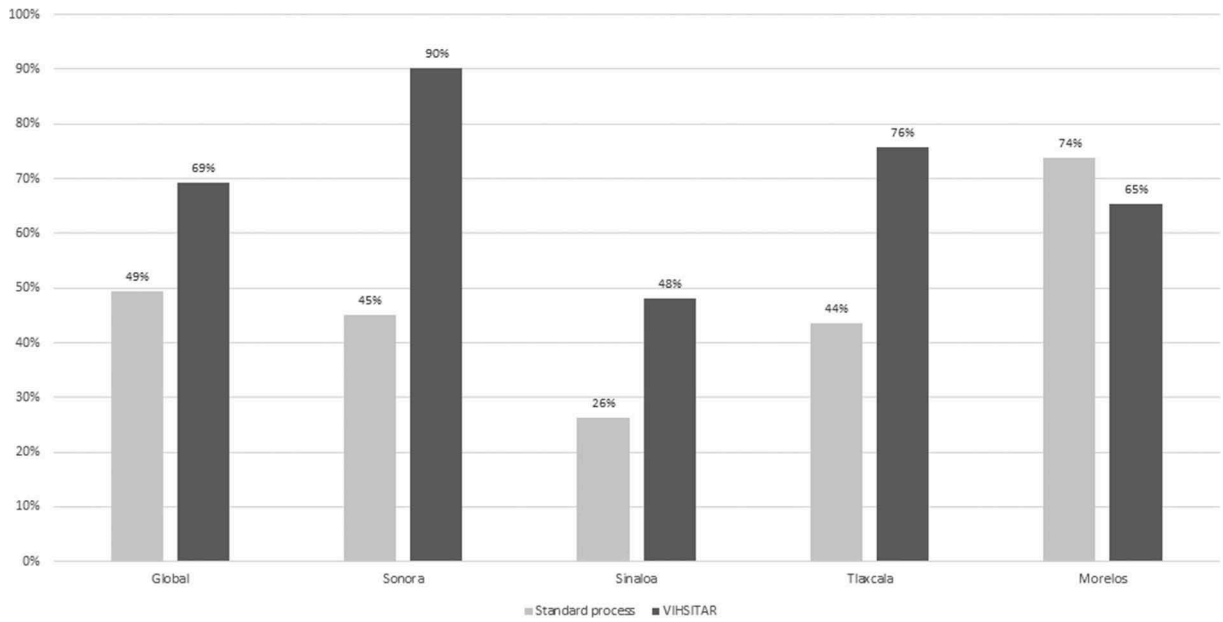
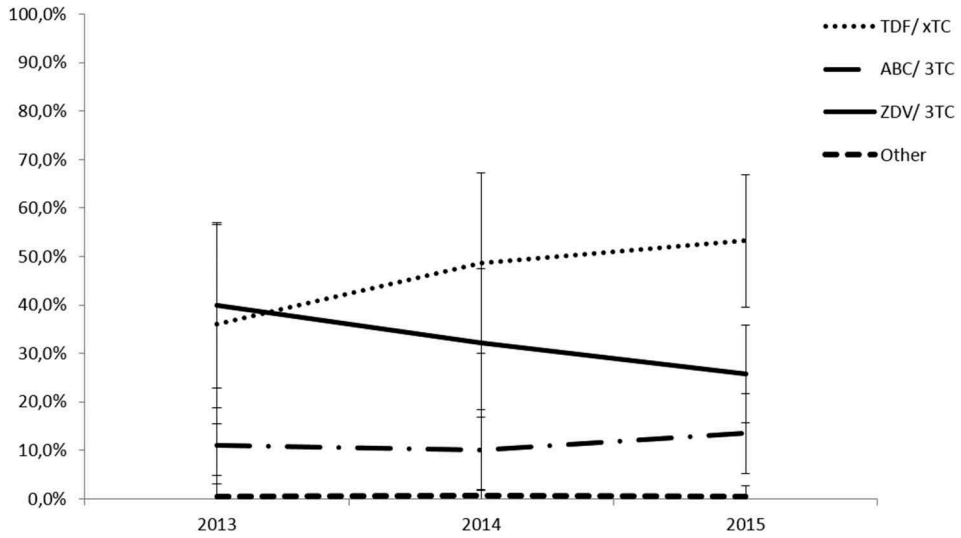
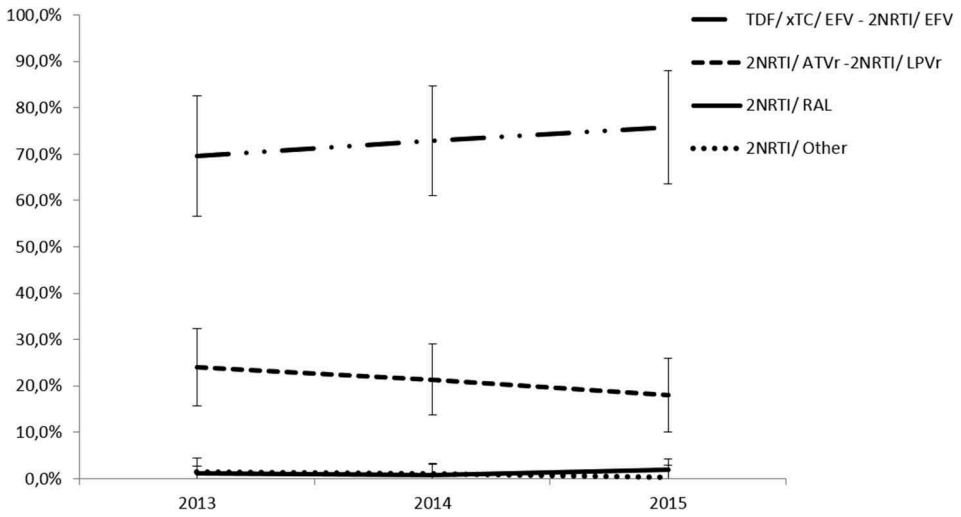
Introduction: WHO Consolidated Guidelines recommend TDF/3TC (FTC)/EFV as the preferred first-line regimen for ART initiation with DTG as alternative regimen while most international guidelines recommend Integrase Inhibitors as preferred drugs. Latin-American countries follow local specific guidelines, each one recommending different



Abstract P035–Figure 1. Connection to care 30 days after diagnosis.



Abstract P036–Figure 1. Trends in backbone use over time.



Abstract P036–Figure 2. Trends in third drug use over time.

approaches. We previously reported that 1/3 of first therapies in Latin America contained Zidovudine and more than 60% were Efavirenz based with large differences between countries. A very low rate of Raltegravir use was highlighted. The aim of this study is to determine the trend in patterns of ARV use in naïve patients of Latin American countries over the last three years.

Methods: The Latin-American Workshop Study Group is an expanding network of 44 HIV Care Centres from 11 countries of South America, Central America, the Caribbean and Mexico with clinical data from 99,639 patients. Between 2013 and 2015, 12,463 naïve patients initiated ART in 29 centres from eight countries. Statistical analysis by binomial regression including random effect by country.

Results: In 2013 ZDV was the preferred backbone (39.9%) slightly over TDF in Latin American selected centres from countries participating in this study. Over time the use of ZDV steadily decreased to 25.8% in 2015. This trend is more pronounced in men (36.2–19.1%) than in women (44.5–36.6%). TDF has been progressively preferred as part of the first regimen reaching 53.3% of patients initiating ART in 2015. Most patients initiating ART are prescribed EFV based regimens (69.6% in 2013 to 75.8% in 2015). There is slight trend to decrease Pi based regimens as first ART. Less than 2% of patients initiates ART with integrase inhibitors based regimens (Figures 1 and 2).

Conclusions: We observed a marked trend to abandon ZDV as part of the backbone in patients initiating ART. Integrase inhibitors are almost non included in first therapies in the region, may be for budgetary reasons on the contrary to the trend observed in developed countries. Standardization of first-line regimens is guaranteed in Latin America.

P037

Implementation model for HIV retention in care in key populations in the Dominican Republic

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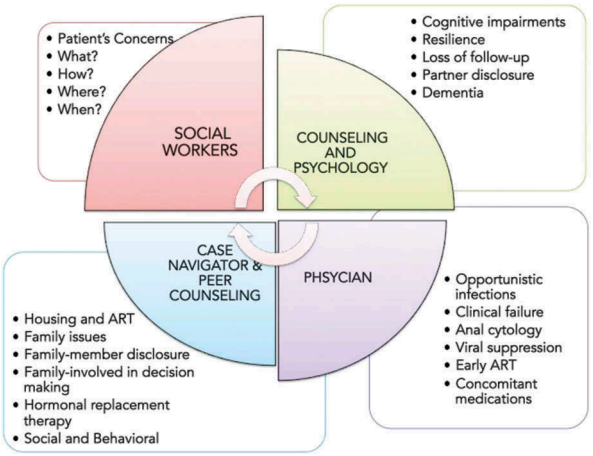
Introduction: HIV epidemic in the Dominican Republic (DR) is concentrated amongst key populations (KP), including MSM, transgender and migrants. Despite progress in development of HIV prevention interventions, still we register newly infections amongst these populations. There is a growing interest to evaluate the cascade of care per each KP, separately from general population (GP) and to monitor effectiveness of each intervention that might modify the continuum in care [1,2]. The aim of this study was to evaluate a model of retention focused in key populations in the DR.
Methods: We selected three outpatients HIV clinics in the country with more than 5000 patients to evaluate three interventions: early testing, opportune ART medication and viral suppression. We initiate KP despite CD4 count or viral load after psychological assessment, and developed a case navigator model for retention in care [3]. The model of retention included: case tracking and linkage to services, community-focused services and opportune provision of services on site (HIV/STIs screening, chemistry and screening for HPV infections). We collected data of testing, ART treatment and viral suppression.
Results: HIV testing coverage was similar between GP and KP, but the number of positive results was greater in MSM, trans, TRSX and migrant populations (Figure 1). Linkage to care was achieved in 100% of positive cases. At the moment of evaluation 1766 patients were retained in care, and a total of 691 new patients were started in ART. Viral suppression was achieved in 80.2% of the patients (Figure 2).



Abstract P037–Figure 2. Integrated approach for key populations.

Conclusions: Implementation of community focused interventions for KP will increased the number of positive unknown results amongst most-at-risk populations by 18% (normal average in concentrated populations 2–5%), and an increased number of early provision of ART, and a sustained viral suppression will substantially reduce HIV transmission.

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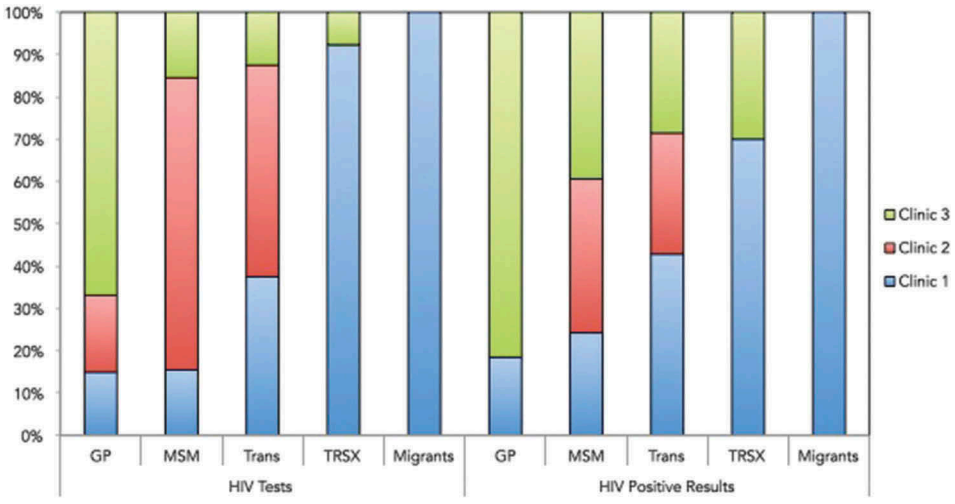

Abstract P037–Figure 1. HIV testing amongst key populations in three outpatient clinics in the Dominican Republic.

P038

Coverage of influenza vaccine (2005–2016) in people living with HIV and receiving care in a tertiary care centre in Mexico City

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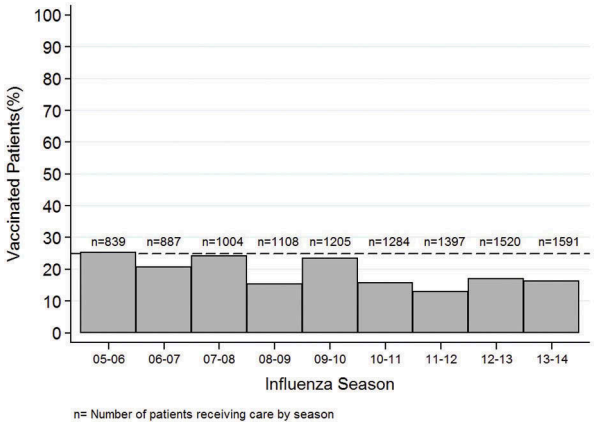
Introduction: Increasing life-expectancy of people living with HIV (PLWH) is leading to a shift in HIV care from a focus on the treatment and prevention of opportunistic infections to the provision of primary care. Vaccines are an essential preventive intervention against diseases that may be more severe amongst PLWH, such as influenza. Vaccine coverage amongst adults in Mexico is low, but no data on PLWH is available [1]. In preliminary studies from our clinic we found that all patients receive prescriptions for influenza vaccines, but we have no data on real coverage. We investigated Influenza-vaccine coverage in PLWH receiving care at our clinic between 2005 and 2014, and factors associated with vaccination by season.
Methods: Our clinic is in a tertiary care centre (INCMNSZ) in Mexico City. The INCMNSZ has an Adults Immunization Unit (AIU), in a separate building, that provides free Influenza vaccines during winter. All PLWH receiving care at the HIV/AIDS Clinic receive referrals to the AIU starting in September of each year. We conducted a cross-sectional study with measurements at each Influenza season starting in 2005 and up to 2014. We measured the proportion of PLWH actively receiving care at each Influenza season that received the Influenza vaccine. Patients were defined as receiving care if had at least one visit during each season. Seasons were defined by the winter season of two-subsequent years. We matched two datasets: one containing HIV-care related data, and other with dates on vaccine application at the AIU. Subjects in the HIV-clinic dataset not registered in the vaccine application dataset were considered as non-vaccinated.
Results: We included 2197 patients (87.7% male). There were 1203.8 (839–1591) mean patients by season actively receiving care. Most patients were receiving ART (*n* = 2058, 93.6%). The median proportion of patients vaccinated by season was 17.03% (IQR = 7.75) (Figure 1). We summarize in Table 1.
Conclusions: The annual coverage of influenza vaccine in PLWH receiving care in our centre is low. Reasons for lack of vaccination are unknown to us, but we can rule out lack of prescription, access or cost. Increasing age, being female and baseline low CD4 are associated to an increased probability of vaccination most seasons. This calls the attention to the need of strengthening primary care for PLWH; in particular, to improve vaccine coverage. Further knowledge about the reasons for lack of vaccination is needed.



Abstract P038–Figure 1. Percentage of vaccinated patients by influenza season.

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P039

An interdisciplinary approach based on instant communications to diagnose and immediately treat acute HIV infection in a tertiary care hospital in Mexico City

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Introduction: Acute HIV-infection poses important challenges to the health systems. The clinical presentation is non-specific and laboratory

Abstract P038–Table 1. Factors associated to influenza vaccination by season

Season	Age OR (95% CI)	Sex OR (95% CI)	ART OR (95% CI)	CD4 OR (95% CI)
05–06	1.01 (1.00,1.03)	0.56 (0.38,0.85)	1.62 (0.46,5.60)	0.99 (0.99,1.00)
06–07	1.01 (1.00,1.03)	0.71 (0.45,1.13)	1.86 (0.53,6.48)	0.99 (0.99,1.00)
07–08	1.01 (1.00,1.02)	0.75 (0.50,1.14)	1.84 (0.61,5.55)	0.99 (0.99,1.00)
08–09	1.01 (0.99,1.02)	1.48 (0.80,2.71)	NI[a]	1.00 (0.99,1.00)
09–10	0.99 (0.98,1.01)	1.02 (0.67,1.56)	0.30 (0.04,2.26)	0.99 (0.99,1.00)
10–11	1.00 (0.98,1.01)	1.63 (0.91,2.91)	0.36 (0.04,2.72)	1.00 (0.99,1.00)
11–12	0.99 (0.98,1.01)	1.92 (1.00,3.69)	0.35 (0.047,2.70)	1.00 (0.99,1.00)
12–13	0.99 (0.97,1.00)	0.86 (0.56,1.31)	0.53 (0.12,2.28)	1.00 (0.99,1.00)
13–14	0.98 (0.97,0.99)	1.38 (0.85,2.26)	1.27 (0.46,3.4)	1.00 (0.99,1.00)

[a]NI: regression analysis for that variable was not convergent.

confirmation may be inaccurate [1]. Timely and optimal identification and treatment of patients during the acute phase of HIV infection impact the long-term outcome of the individual and transmission [2]. Even though universal access to antiretroviral treatment (ART) exists in Mexico [3], entering to care and initiating treatment in public institutions faces important bureaucratic, regulatory and administrative hurdles. These constitute barriers for rapid treatment initiation in patients presenting with acute HIV-infection. Acknowledging these limitations and identifying the bottlenecks in the process of linking patients to care and initiating ARV, a novel enrolment strategy was implemented in 2015 for patients with acute HIV-infection.

Methods: Personnel from the key areas involved in the care of HIV patients in our hospital (infectious disease residents, attending physicians, social workers, nurses, laboratory and administrative personnel) were sensitized in the importance of prompt ART for acute HIV. An encrypted instant-messaging group was created with all the involved staff, with the purpose of eliciting an alert whenever any member participating in the chain of care became aware of a patient with probable acute HIV-infection. Once a probable case is identified in any area of the hospital covered by members of the group, a conversation is initiated to discuss the appropriate immediate steps with the purpose of confirming diagnosis, initiating ART as soon as possible and clearing the paperwork and administrative procedures with a high level of priority in all the steps.

Results: Since 2015, 20 patients with acute HIV-infection have been incorporated to care and initiated ART using this approach. Patients have been followed for 10.21 ± 6.15 months. The median time to ART initiation was less than 24 h, when the median time for chronic patients is 40 days in our centre. At six months of follow-up, there was an 89% retention rate.

Conclusions: By emphasizing instant communication and interdisciplinary approach in all involved personnel, ARV initiation for patients with acute HIV infection is immediate with a high level of retention in care. Longer follow-up is needed to determine the long-term impact of this new approach in these patients.

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P040

HIV in older adults: prevalence and clinical characteristics

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Introduction: HIV in older adults represents a relatively new topic, with a marked increase in incidence and prevalence worldwide [1,2]; this has occurred because HIV diagnosis has increased in older people and on the other hand, HAART [3,4] has helped HIV patients to get older [5]. The aim of this study was to determine the prevalence of older adults amongst the HIV patients in our cohort and to evaluate the clinical characteristics and evolution in comparison with younger patients.

Methods: The study was performed including all the HIV patients enrolled in CAPASITS Leon during the period from 2007 to 2015. CAPASITS Leon is an HIV/AIDS clinic in León, Guanajuato, Mexico that provide attention to around 1200 HIV infected patients. The patients included were categorized into two groups: the younger patients (18–49 yo) and older adults (above 50 years of age). CD4+ count, viral load, clinical stage and the presence of opportunistic infections were analysed at the moment of diagnosis. Additionally, virologic and immunologic responses were evaluated after one year of HAART initiation. The search of the differences amongst categories was performed with the $\chi 2$ test, Student's *t*-test and Fisher's exact test, using IBM SPSS Statistics.

Results: A total of 452 patients were included in the analysis, 47 (10,4%) of them were older adults; 384 (85%) were male and 239 (62,2%) of them were MSM. When comparing the groups, there was no difference in clinical staging or the presence of opportunistic infection at the diagnosis. There was no difference between younger and older patients when mean of CD4+ count was compared at the moment of diagnosis (316.4 vs 276.6 cells/μL; p = 0.868), and at the beginning of HAART (278.22 vs 231.94 cells/μL; p = 0.292). There was no difference in the mean CD4+ count after one year of HAART between younger and older patients (514.44 vs 455.11 cels/μl; $p < 0.841$) with similar increase in the CD4+ count during this time (236.21 vs 223.17 cels/μl; $p < 0.869$). Virologic response after one year of HAART was no different between younger and older patients with similar rates of virologic suppression (86% vs 85%, p = 0.879).

Conclusions: In our study, people aged 50 and over accounted for 10% of the new HIV diagnosis. In contrast with other cohorts our older patients do not have differences in characteristics at diagnosis neither in the immunologic or virologic response when compared with younger patients.

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NON-AIDS MORBIDITY AND MORTALITY AND AGEING

P041

HIV and aging in Latin America: trends over time and clinical characteristics in CCASAnet cohort

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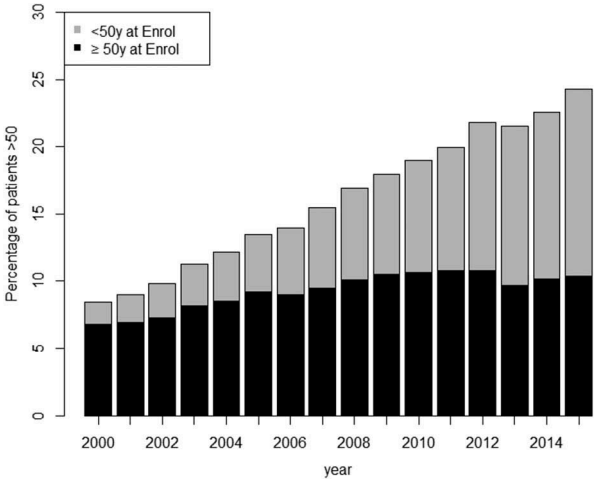
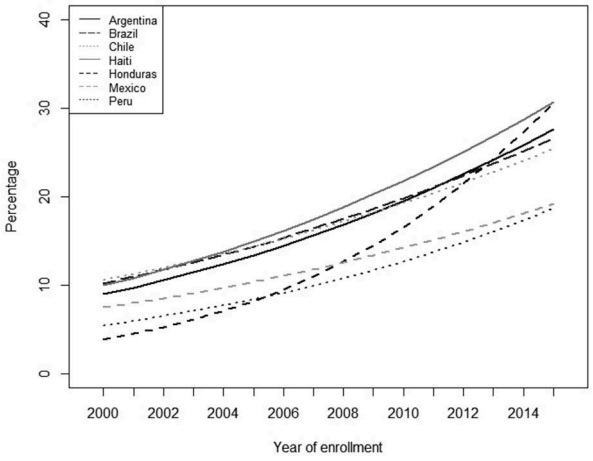


Abstract P041–Figure 1. Trend of percentage of people older than 50 yo by site and year of enrolment.



Abstract P041–Figure 2. Percentage of patients older than 50 in HIV care by year and age at enrolment.

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Introduction: The proportion of people living with HIV (PLWH) older than 50 years is increasing worldwide. This trend presents important challenges to health systems, such as the provision of care for comorbidities resulting from natural aging, effects of chronic inflammation and long-term use of ART. There are no current estimates of the proportion of PLWH older ≥50 years in Latin America (LA). This study aims to quantify the proportion of people ≥50 years receiving care for HIV, to differentiate the contribution of people enrolled before 50 years that age in care and those enrolled after 50 years, and to describe changes in the proportion of these groups over time.

Methods: We estimated the annual proportion of HIV-infected adults that are 50 years and older, actively receiving care over the last 15 years in CCASAnet centres between 2000 and 2015; the annual contribution to this proportion of those who enrolled younger and turned 50 years while in care (aging in care) and the

Abstract P041–Table 1. Sociodemographic and clinical characteristics of 5505 people living with HIV ≥50 years receiving care in CCASAnet centres in seven countries in Latin America enrolled between 2000 and 2015

	Enrolled in HIV-care <50 Years	Enrolled in HIV-care ≥50 Years	
Characteristics	***N* = 2789 (51%)**	***N* = 2716 (49%)**	***p*-Value**
Age at enrolment on care, median (IQR)	46 (42–48)	55 (52–59)	<0.001
Male, *n* (%)	1901 (68%)	1797 (66%)	0.12
Year of enrolment in the 50 years cohort[a], median (IQR)	2011 (2008–2013)	2009 (2005–2011)	<0.001
Follow-up time, median (IQR)	9.5 years (6.19–12.35)	4.1 years (2.2–7.5)	<0.001
Follow-up time after 50 years, median (IQR)	2.82 years (1.2–5.4)	4.1 years (2.2–7.5)	<0.001
Probable route of HIV-infection, *n* (%)			<0.001
Homosexual	547 (20%)	351 (13%)	
Heterosexual	1021 (37%)	952 (35%)	
Unknown	1221 (43%)	1413 (52%)	
AIDS at enrolment on care, *n* (%)	1485 (57%)	1407 (54%)	0.06
NADE before or at enrolment in the 50 years cohort, *n* (%)	1299 (67%)	393 (26%)	<0.001
CD4 <200 cell/μL at enrolment on care, *n* (%)	1157 (52%)	1229 (51%)	0.33
Antiretroviral therapy (ART) initiation, *n* (%)	2736 (98%)	2628 (97%)	0.002
Time from diagnosis to ART initiation in years, median (IQR)	0.62 (0.16–3.15)	0.33 (0.09–1.71)	<0.001

proportion that were enrolled in care after 50 years. We assessed how these proportions changed over time.
Results: There were 5505 patients 50 years or older enrolled in CCASAnet centres in seven countries in Latin America between 2000 and 2015. The proportion of people in care older than 50 years increased annually from 10% to 26% between 2000 and 2015. This proportion increased over time at similar rates in all sites, except Honduras (Figure 1). Most of this growth is explained by the proportional increase of PLWH aging in care (Figure 2). Demographic and clinical characteristics at enrolment in care, and at enrolment in the 50 years cohort are described in Table 1. In summary patients aging in care have a higher prevalence of NADEs before or at enrolment in the 50 years cohort, and longer time since diagnosis to ART initiation than those enrolled after 50 years.
Conclusions: The proportion of PLWH older than 50 years receiving care in CCASAnet in Latin America has been steadily and significantly increasing in the past 15 years and currently composes 26% of our patients. This increase is primarily driven by the increasing population of people enrolled in care <50 years who have remained alive and in care after 50 years. NADEs in this population is highly prevalent at enrolment in the 50 years cohort. Planning for integrated care in this population should be a priority for health systems in the region.

P042

Trends in late presentation to care and presentation with advanced HIV disease in Latin America

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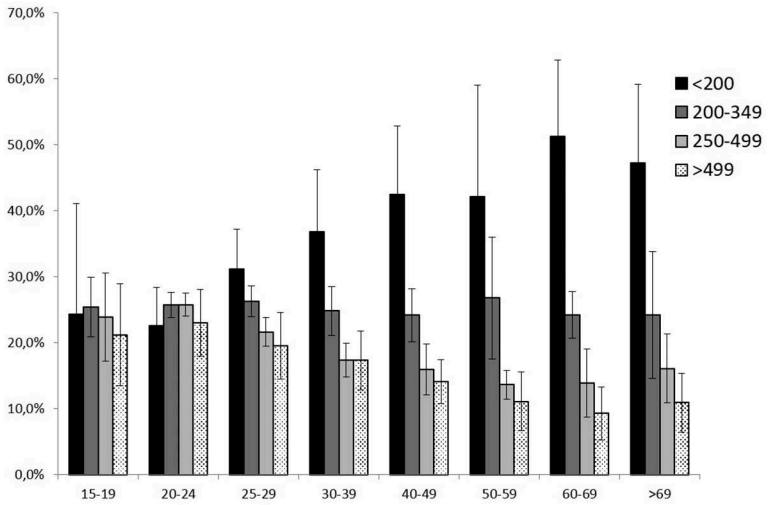
Introduction: Any delay in testing and ART initiation is associated to increased risk of transmission. Late presentation (CD4 <350 cells/µL) and especially presentation to care with advanced HIV disease (CD4 <200 cells/µL) increase risk of disease progression, hospitalization rates, costs and mortality. We previously reported 60% of late presentation amongst more than 6000 new HIV cases with 37% presenting with advanced disease, comparable to rates reported by PAHO and CCASAnet (38–45%).
Methods: The Latin-American Workshop Study Group is an expanding network of 44 HIV care centres from 11 countries of South America, Central America, the Caribbean and Mexico with clinical data from 99,639 patients. Up to April 2016, 17,818 new HIV cases between 2013 and 2015 were reported by 30 centres in 8 countries. Late presentation to care and advanced HIV disease were analysed over time, globally, by gender, age and by participating centres and countries according to the first CD4 count and the clinical stage at the first visit. Statistical analysis by Chi-square test, Odds Ratios and binomial regression including random effect by country.
Results: Amongst new HIV infections presentation to care with advanced disease remains stable over time at 37.2% with a light trend to decrease cases with initial CD4 count below 100 cells/µL. 38.2% of men and 34.7% of women presented with CD4 count below 200 cells/µL (p = 0.07; OR 1.07 [0.99–1.14]). Presentation to care with advanced disease was strongly related to age at presentation ranging from less than 25% in younger than 25 yo to close to 50% in older than 60 yo. On the contrary timely presentation to care decreased with age at diagnosis (Figure 1). Along the 3 observed years presentation to care with more than 500 CD4 does not exceed 20%.
Conclusions: Late presentation to care and presentation with advanced HIV disease remain a big problem in Latin America as a direct consequence of insufficient testing in the region. This is especially the case for elderly people who are at increased risk to present to care very late. Strategies to increase testing are usually



Abstract P042–Figure 1. CD4 count at presentation to care by age.

focused on key populations, adolescents and women included. Nevertheless high rates of late presentation amongst elderly people should be addressed, through policies to increase awareness and testing promotion in non-key populations, to avoid the consequences of late diagnosis.

P043

Assessment and frequency of dyslipidaemia in a hospital HIV antiretroviral therapy programme in Peru

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Introduction: The number of AIDS cases in Peru has decreased by over 47% since the Ministry of Health implemented the HIV antiretroviral therapy (ART) programme in the year 2004 [1]. However, the study of non-AIDS pathologies as cardiovascular disease is unknown despite its rise in countries with older ART programmes. This study aimed to assess the frequency and characteristics of dyslipidaemia in a hospital ART programme in Peru, were an annual lipid profile is required by the National guidelines [2].
Methods: Data was collected from charts of 3015 patients who joined the ART therapy programme at a national reference Hospital in Lima from 2004 to 2014. Patients receiving ART for at least one year and had a lipid profile exam were included. Incomplete exams were excluded. The outcome dyslipidemia was defined by the NCEP-ATP III criteria: triglycerides ≥150 mg/dL, total cholesterol ≥200 mg/dL, HDL <40 mg/dL and LDL ≥130 mg/dL [3]. GLM regression family Poisson link log robust was used for the multivariate analysis.
Results: From 2865 charts reviewed, 477 (17%) had a complete lipid profile exam. The mean age was 41.94 years (SD 10.53), 73.6% were male and the mean time on ART was four years (SD 2.6). 73.55% received antiviral combinations of two nucleoside reverse transcriptase inhibitors (NRTI) plus one non-nucleoside reverse transcriptase inhibitor (NNRTI) and 26.45% received two NRTI plus one protease inhibitor (IP). The frequency of dyslipidaemia was 75.26% (359/477). Hypertriglyceridemia was identified in 277 (58.07%) patients, total hypercholesterolemia in 198 (41.51%), low HDL in 175 (36.69%) and LDL elevation in 102 (21.38%). No association was found with time on ART (p = 0.191). The probability of dyslipidaemia was higher in IP combinations than NNRTI (OR 1.25, p < 0.001) and in patients with age older than 50 (OR 1.21, p = 0.007), adjusted by HIV viral load, CD4 cell count and sex.
Conclusions: Assessment of dyslipidaemia is low despite its high frequency in this population. IP therapy combinations and age older than 50 yo were associated. An active dyslipidaemia screening needs to be promoted.

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OPPORTUNISTIC INFECTIONS

P044

Prevalence of fluconazole resistance in oropharyngeal candidiasis and clinical outcomes in a cohort of patients with HIV infection

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Introduction: Oropharyngeal candidiasis is the most frequent opportunistic infection in patients with HIV. Up to 32% of resistance to fluconazole of *Candida albicans* and emergence of non-albicans species as pathogens are currently described. We aimed to describe the prevalence of fluconazole resistance or susceptible dose-dependent (SDD) oral candidiasis in patients with HIV infection and to describe the clinical evolution of patients who underwent empiric treatment with fluconazole.
Methods: We performed a prospective cohort study. Patients with HIV infection older than 16 years with clinical diagnosis of Oropharyngeal Candidiasis were included. Oral swabs were taken and cultured on Sabouraud dextrose agar. Species identification were performed by Chrome Agar and Api Ib 32 for non-albicans species. The prevalence of resistance or SDD was considered by performing MIC (minimum inhibitory concentration) break points values according to CLSI guidelines: susceptible ≤8 µg/mL; SDD: 16–64 µg/mL and resistant ≥64 µg/mL. The clinical response was assessed at the end of empirical treatment (14 days) and the presence of recurrences were measured at three months of enrolment. Descriptive statistics were calculated and percentages were reported in categorical variables and median with interquartile range (IQR) in numerical variables.
Results: Fifty-three patients were included from February to November 2016: 62.2% were men, mean age was 41 years (SD± 11), with a median CD4+ lymphocyte count of 77 cells/µL (IQR: 23–154). 22.6% of subjects were on HAART. Clinical findings were: 51 pseudomembranous, 1 angular cheilitis and 1 atrophic candidiasis. In 20, 7% (11/53) individuals had already received at least one dose of fluconazole at the time of swabbing and 21 patients had been treated with azoles for previous episodes of candidiasis. Chromogenic identification showed the following: 46 were *C. albicans*, 11 other species (six *C. tropicalis*, three *C. glabrata*, two *C. krusei*). In three patients more than one species were isolated. To date, antifungal susceptibility testing was performed for 15 isolates: 1 had MIC value of 128 µg/mL and another of 16 µg/mL, the remaining 13 had MIC values of 7 patients had persistent oropharyngeal candidiasis, 2 of the isolates were *C. tropicalis* and 5 *C. albicans*. The cumulative incidence of recurrences was 16.9% (9/53). All isolates were *C. albicans*, one of them was considered azole resistant according to MIC value.
Conclusions: In our study, previous exposure to fluconazole was frequent and emerging non-albicans species were common. The preliminary prevalence of resistance or SDD was greater than 10%.

TREATMENT STRATEGIES AND OUTCOMES

P045

Randomized trial of bictegravir or dolutegravir with FTC/TAF for initial HIV therapy

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Introduction: Because of their potency and safety, integrase strand transfer inhibitors (INSTIs) are widely recommended initial HIV-1 treatments in most major treatment guidelines. Bictegravir (BIC, GS-9883) is a novel, unboosted, once-daily INSTI that demonstrated potent activity in a 10-day monotherapy study and has *in vitro* activity against most INSTI-resistant viruses.
Methods: Treatment naïve, HIV-infected adults were randomized 2:1 to receive blinded treatment once daily with BIC 75 mg or dolutegravir (DTG) 50 mg; both were given with open label emtricitabine 200 mg/tenofovir alafenamide 25 mg (FTC/TAF). Treatments were administered without regard for food for 48 weeks. The primary endpoint was the proportion with HIV RNA <50 copies/mL (c/mL) at Week (W) 24 using snapshot analysis. Noninferiority was assessed through 95% confidence intervals (CI) at W24 and W48. Safety (adverse events [AEs] and laboratory results through Week 48) was a secondary endpoint.
Results: Of 98 patients enrolled, 65 were randomized to BIC + FTC/TAF and 33 to DTG + FTC/TAF. Most subjects were male, had asymptomatic HIV infection, with median HIV-1 RNA 4.4–4.5 log10; baseline characteristics were balanced between arms. Virologic success (HIV-1 RNA <50 c/mL) at W24 was 97% for the BIC arm and 94% for the DTG arm, and at W48 was 97% and 91%, respectively (Table 1). One subject in the DTG arm had HIV-1 RNA >50 c/mL at W48. No viral resistance was detected in the BIC + FTC/TAF arm. Mean CD4 count increases at W48 were 258 cells/μL in the BIC arm and 192 cells/μL in the DTG arm. There were no treatment-related serious adverse events and no deaths. The most commonly reported adverse events were diarrhoea (12% in each arm) and nausea (8% BIC, 12% DTG). One subject in the BIC arm discontinued due to an adverse event of urticaria following the W24 visit. Median changes in estimated glomerular filtration by Cockcroft-Gault (GFRCG) at W48 were −7.0 mL/min for BIC and −11.3 mL/min for DTG, with no discontinuations due to renal adverse events.
Conclusions: Bictegravir + FTC/TAF and DTG + FTC/TAF both demonstrated high virologic response rates at W24 that were maintained at W48. No treatment-emergent resistance was detected in the BIC + FTC/TAF arm through W48. Both treatments were well tolerated, and no significant safety signal was detected in either arm. Estimated GFRCG changes were consistent with known inhibition of tubular creatinine transport by BIC and DTG. Further evaluation of BIC for the treatment of HIV infection is warranted.

P046

Epidemiology of HIV infection amongst a large cohort of patients followed in 17 HIV care centres from 10 Colombian cities, 2013–2015

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Abstract P045–Table 1. Virologic Outcomes at Weeks 24 and 48.

	Week 24	Week 24	Week 48	Week 48
N (%)	BIC + FTC/TAF, *n* = 65	DTG + FTC/TAF, *n* = 33	IC + FTC/TAF, *n* = 65	DTG + FTC/TAF, *n* = 33
HIV-1 RNA <50 copies/mL	63 (96.9)	31 (93.9)	63 (96.9)	30 (90.9)
HIV-1 RNA >50 copies/mL	2 (3.1)	2 (6.1)	1 (1.5)	2 (6.1)
HIV-1 RNA ≥50 copies/mL	1 (1.5)	1 (3.0)	0	1 (3.0)
Discontinued due to lack of efficacy	0	0	0	0
Discontinued due to other reason and last HIV-1 RNA ≥50 copies/mL	1 (1.5)	1 (3.0)	1 (1.5)	1 (3.0)
No virologic data in window	0	0	1 (1.5)	1 (3.0)
Discontinued due to AE/death	0	0	1 (1.5)	0
Discontinued due to other reason and last HIV-1 RNA <50 copies/mL	0	0	0	1 (3.0)
Missing data in window but on drug	0	0	0	0

Difference in percentages (BIC + FTC/TAF vs DTG + FTC/TAF) at week 24: 2.9% (−8.5% to 14.2%); $p = 0.50$.
Difference in percentages (BIC + FTC/TAF vs DTG + FTC/TAF) at week 48: 6.4% (−6.0% to 18.8%); $p = 0.17$.

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Introduction: The HIV Colombian group (VIHCOL) comprises 17 HIV care centres located in 10 Colombian cities, which provide outpatient medical care to people living with HIV/AIDS. Here, we aimed to determine the sociodemographic characteristics, clinical presentation, first ART and virologic response amongst a large cohort of HIV-positive patients in Colombia.
Methods: We conducted a multicentre retrospective study between 2013 and 2015 in 17 HIV care centres from 10 Colombian cities. HIV-infected patients over 15 years of age receiving medical care in the participating institutions were included. A professional in each HIV care centre filled out a standardized form containing sociodemographic data, clinical status of HIV infection, ART and virologic response of the patients. Subgroup analyses by age, sex and health system affiliation were performed.
Results: A total of 22,492 HIV-positive patients were assessed in this study; 79.1% of the patients were male. Health affiliation system was contributory, subsidized and special in 64.1%, 34.5% and 1.4% of the patients, respectively. The majority of patients (57%) were followed up in Bogotá. Near 95% of the patients were active on ART. Patients newly diagnosed with HIV were 905, 3880 and 7952 in 2013, 2014 and 2015, respectively. Amongst these patients, 86% were <50 yo and 27% were admitted in CDC stage 3; 28% had a baseline CD4 count <200 cells/µL and 27% had a baseline CD4 count >500 cells/µL. The most frequent NRTI-based combination ART regimens were ZDV/3TC in 45.4% (2013), TDF/XTC in 33.9% (2014) and ZDV/3TC in 43.1% (2015). EFV was the most frequently antiretroviral used as third component of first-line in the three years (46.3%, 63.4% and 70%, respectively) for both sexes except for LPV/r which was the third component preferred in women in 2013. Overall, the use of protease inhibitors decreased while the use of integrase inhibitors did not increase. Virologic suppression (viral load <50 copies/mL) was 73.1%, 72.7% and 72.4% for the three study years; virologic suppression rates were significantly higher for male patients, patients belonging to contributory health plan and patients over 50 yo.
Conclusions: The preponderant use of ZDV/3TC in real-life cohorts is likely related to cost reduction decisions but does not adhere to the Colombian guidelines. Unfortunately, our findings are not close to the worldwide 90-90-90 UNAIDS targets. Further work needs to be done to increase education to healthcare providers on HIV diagnosis and management and improve adherence to the Colombian guidelines.

P047

Survival amongst people living with HIV according to timing of antiretroviral initiation in Mexico 2000–2014

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Introduction: HIV infection and AIDS remain a major public health problem worldwide. Despite highly active antiretroviral therapy (HAART) has dramatically improved the prognosis of people living with HIV (PLHIV); mortality due to AIDS is still an important issue, mostly related to gaps in HIV diagnosis and timing of ART initiation.
Methods: We conducted a retrospective, analytical cohort study with the HIV /AIDS patient database from the HIV /AIDS Epidemiological Surveillance System for the period 2000–2014. The variables included were those obtained from the case epidemiological study, of the notifying units. We calculated KM analysis to estimate survival. We then stratified survival according to CD4+ cell count at ART initiation. Late ART initiation was defined as starting therapy with CD4+ cell counts under 200 cells/mm^3. Timely initiation was described as ART started with CD4+ cell counts over 200 cells/mm^3. KM estimators were compared between the two groups.
Results: A total of 43,125 HIV-positive patients were registered in the database and had useful information for the analysis. Of those, 2494 (5.78%) deaths were registered; the remaining 40,631 (94.22%) patients were still alive. Seventeen per cent (7367) subjects had late ART initiation. 26% of those in the late HAART initiation group had died, versus 2% of patients initiating HAART timely ($p < 0.001$). Late HAART initiation resulted in a relative risk of dying of 15.18 (95% CI: 13.90–16.58, $p < .0.001$), when compared to those initiating in a timely manner. Deaths occurring in the late HAART initiation group were mostly observed within the first four years of the disease (79.63%). The calculated etiologic fraction amongst those with late ART initiation was 0.93; which represents the proportion of preventable deaths with timely ART initiation. Calculated poblational etiologic fraction was 0.70.
Conclusions: Although data presented in this study just confirm those previously found in several studies; our results conclude that an important proportion of mortality due to HIV in Mexico could be prevented with timely diagnosis and shortening of ART initiation periods. Better surveillance systems are urgently needed in our country to improve the quality of these data and optimize diagnosis and treatment initiation amongst PLWH.

P048

Surveillance of HIV-1 subtype and antiretroviral resistance in Cuban individuals failing therapy during 2009–2016

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Introduction: In Cuba, more than 70% of patients are currently under antiretroviral (ARV) therapy. In the year 2009 ARV resistance and subtype surveillance was introduced in routine clinical practice. This work aims to investigate the level and profile of ARV resistance and subtype distribution amongst HIV-1 patients failing therapy.
Methods: The study compiled data of subtype and genotypic resistance analysis performed to 756 samples of HIV-1 patients taken between April 2009 and December 2016 in Cuba (STI Laboratory, Institute of Tropical Medicine "Pedro Kourí"). HIV-1 subtype was determined with Rega Subtyping Tool v.3 and confirmed by manual phylogenetic analysis. Drug resistance interpretation was conducted using the resistance interpretation algorithm Rega v9.1.0. For statistical analysis, the software package SPSS v.19 was used.
Results: The most prevalent HIV-1 genetic forms were subtype B (30.6%), BG recombinants (22.7%) and CRF19_cpx (19.3%). Subtype B was more prevalent in MSM ($p < 0.001$), while Subtypes A, F, G

and H amongst HT ($p < 0.005$). Subtypes A, C, F, G and H prevailed amongst individuals diagnosed with HIV between the years 1986–1990 ($p < 0.05$), while BGs recombinants increased over the other subtypes after the 2000 ($p \leq 0.0001$). Interestingly, viral variant CRF19_cpx, associated with rapid progression to AIDS in Cuba, significantly increased after the year 2011 (14.9% in 2009–2011 to 21.3% in 2012–2016, $p = 0.01$). Conversely, the subtype B decreased during the same period from 35.1% to 30.2% ($p = 0.058$). Overall, 89.6% of patients had at least one resistance mutation (80.0% NRTI, 71.4% NNRTI and 48.5% PI). The average of acquired drug resistance to NRTI, NNRTI and PI was 51.8%, 55.1%, 24.1%, respectively, and increased in patients with ≥48 months of treatment. The highest drug resistance levels against NRTIs, were detected for 3TC/FTC (76.9%); against NNRTIs were for NVP (71.2%) and EFV (70.9%); against PI for NFV (33.2%). Full-class resistance (FCR) to NRTI, NNRTI, PI and MDR was detected in 19.0%, 32.8%, 10.0% and 6.9% of the patients, respectively. When compared the period 2009–2011 with 2012–2014, a significant declining trend of NRTI- FCR (27.0% vs 13.4%), PI-FCR (15.2% vs 2.0%) and MDR (21.1% vs 5.3%) incidence was noticed ($p < 0.05$) Worrisome, during 2016 the incidence of FCR and MDR was increased again (23.2%, 22.3% and 19.6%, respectively).
Conclusions: The genetic diversity of HIV in Cuba is high and the circulation of some local recombinant forms is increasing. The frequency of antiviral drug resistance is high and should be deeply analysed.

VIRAL HEPATITIS

P049

Real world effectiveness of ledipasvir/sofosbuvir (LDV/SOF) in treatment experienced cirrhotic genotype 1 patients with chronic hepatitis C (CHC): a comparative analysis of Gilead sponsored trials with four Real-World Cohorts (RWC)

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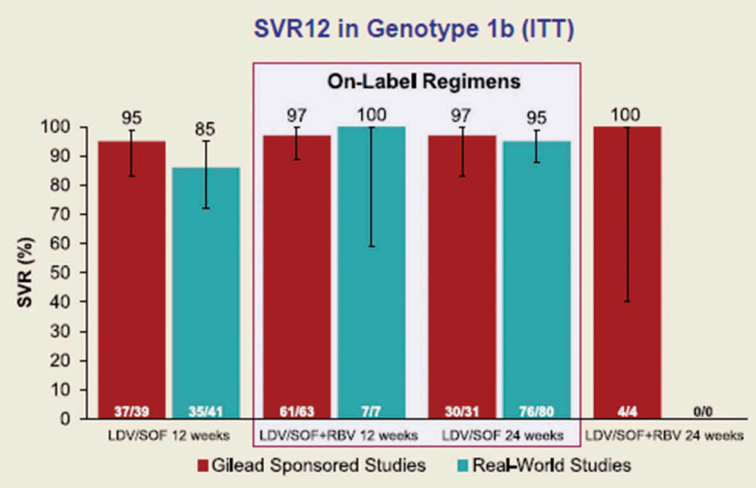
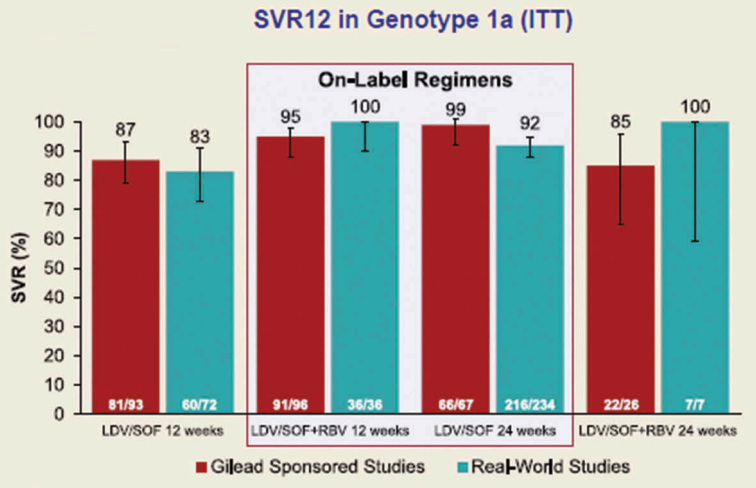
Introduction and Aims: Treatment-experienced (TE) cirrhotic HCV-infected patients are amongst the most difficult to treat. Several single and multicentre cohorts have described treatment in this population. EASL and AASLD/IDSA treatment recommendations for the use of LDV/SOF in this population are based on several Phase 2/3 Gilead sponsored clinical trials (GST). SVR12 results in these TE cirrhotic patients are described by Reddy et al. and range from 90–100%. In addition, ION-4 and study 1118 (NCT01987453) describe LDV/SOF ± RBV in a number of TE cirrhotic patients and are included in the analysis. Our aim is to describe and compare GST to 4 RWC (one large multi-centre – TRIO, two smaller multi-centre and one single centre).
Methods: In this comparative analysis, data from seven phase-2 and phase-3 LDV/SOF studies in TE cirrhotic subjects is compared to four RWC. SVR12, safety and baseline characteristics have been collated and compared. A multivariate regression analysis was used to determine if any baseline factors have an impact on SVR, within the on-label treatment regimens.
Results: SVR results from the phase 2/3 GST, are 118/132 (89%) with LDV/SOF for 12 weeks, 153/160 (96%) with LDV/SOF + RBV for 12 weeks, 97/99 (98%) with LDV/SOF for 24 weeks and 26/30 (87%) with LDV/SOF + RBV for 24 weeks. In the RWC, HCV-TRIO, Pungpapong et al., Kohli et al. and Modi reported combined SVR of 98/116 (85%) with LDV/SOF for 12 weeks, 45/45 (100%) with LDV/SOF + RBV for 12 weeks, 311/334 (93%) with LDV/SOF for 24 weeks, 8/8 (100%) with LDV/SOF + RBV for 24 weeks. There were no baseline predictors of SVR (Figures 1 and 2).
Conclusions: Real-world data in TE cirrhotics correlates closely with data seen in the GST. SVR rates were highest with the on-label



Abstract P049–Figure 1. SVR12 in genotype 1a (ITT).



Abstract P049–Figure 2. SVR12 in genotype 1b (ITT).

treatments of LDV/SOF + RBV for 12 weeks and LDV/SOF ± RBV for 24 weeks. Discontinuations rates were low and the highest relapse rates were seen in those receiving LDV/SOF for 12 weeks. Likelihood of achieving SVR in the RWC was not affected by prior SMV and/or SOF exposure. This data supports current treatment recommendations.

P050

Ledipasvir/edipasvir/sofosbuvir (LDV/SOF) for 8 weeks in genotype 1 (GT1) treatment-naive (TN) noncirrhotic (NC) patients with HCV viral load (VL)

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Introduction and aims: Optimal duration of therapy to achieve SVR depends on multiple factors. Patients treated with LDV/SOF with 8–24 weeks achieved SVR12 from 94% to 100% in the ION phase 3 studies. A decision to shorten therapy to 8 weeks is based on treatment history, cirrhosis status and baseline VL. In a post-hoc analysis of the ION-3 (TN, NC patients) 8 week data, a VL <6M was the best predictor of SVR. RWE is often different from Phase III trials and there is a need to understand real- world 8 week regimens in a broader spectrum of patients.

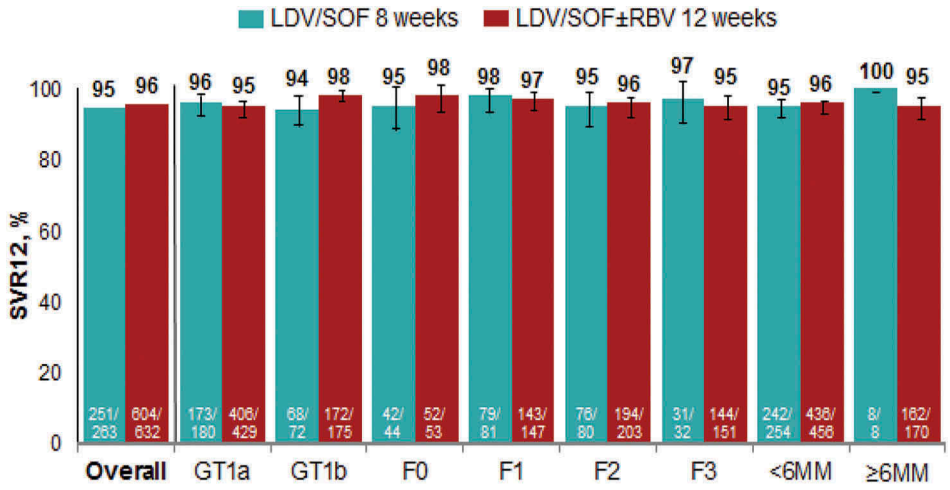
Methods: RWE 8 week LDV/SOF data is emerging from multiple single-centre and multicentre retrospective and prospective cohorts. In this analysis, the phase-3 ION-3 data is compared with data from several diverse real world populations and one post-marketing investigator sponsored HIV/HCV trial. Patient demographics, characteristics, SVR12 and discontinuation data has been collated and compared.

Results: The ION-3 post-hoc analysis reported 123 patients who were TN, NC and VL<6 M and treated with 8 weeks of LDV/SOF. Mean age was 52, 22% black, 72% GT1a; the SVR12 was 97% (119/123) (Table 1). The overall SVR12 rate from six diverse real world and post marketing cohorts was also 98% (1726/1767). There was no significant impact of HCV genotypes or subtypes (GT1a, 1b

Abstract P050–Table 1. Baseline characteristics and SVR rate (n/N).

Study	ION-3	TARGET	TRIO	IFI – Buggisch	Burman's Pharmacy	DHC-R	Kaiser
Total SVR/number of subjects	119/123	150/154	251/263	127/128	331/3338	631/644	236/240
Median age (range)	52 (22–73)[a]	58 (19–84)	57 (18–84)[a]	51 (22–77)	56 (23–82)	50[a]	57 (23–75)[a]
HIV/HCV	0	1	0	5	n/a	0	3
VL >6 million (%)	0	n/a	8	4	0	0 (2.7)	0
Cirrhotics (%)	0	6	0	0	0	0 (2.5)	0
Tx Exp (%)	0	8	0	3	n/a	(8.6)	4 (2)
SVR12 (%)	97%	97%	95%	99%	97%	98%	98%

Two per cent had no data, n/a = not available.
[a]Mean age used.



Abstract P050–Figure 1. TRIO Real-World Cohort: LDV/SOF ± RBV for 8 or 12 Weeks in Treatment-Naïve, Non-Cirrhotic GT 1 HCV.

versus GT4), prior treatment history, presence or absence of cirrhosis, high viral load (HCV VL >6 M), or HIV/HCV co-infection. All response rates are detailed in Figure 1.

Conclusions: LDV/SOF for 8 weeks yielded high SVR rates in ION-3. Analysis of RWE data from several cohorts shows SVR outcomes that were consistent with the phase-3 ION-3 results and supports the use of 8 weeks LDV/SOF in TN, NC GT1 patients with a baseline HCV VL <6 M and possibly in other populations including HIV/HCV co-infected patients. Discontinuation rates were low despite diverse patients and clinical settings. Data from the TARGET and TRIO cohorts also suggests that the 8-week regimen is underutilized.

P051

High effectiveness and clinical safety with daclatasvir in real-life

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Introduction: Real world data is a key issue in chronic hepatitis C (HCV) therapy namely for the evaluation of effectiveness, safety and costs of innovative medicines. We evaluated the effectiveness and safety of daclatasvir-based regimens in the treatment of HCV with direct-acting antivirals (DAAs)-containing regimen.

Methods: Data was obtained from 11 centres in Portugal, representing the three main regions of the country. We included mono and co-infected HIV/HCV patients, naïve and experimented and pre- and post-liver transplanted individuals who initiated daclatasvir + sofosbuvir ± ribavirin (DCV + SOF ± RBV) for 12 or 24 weeks. Data was gathered and summarized using counts and percentages. SVR12 was calculated considering only patients that have completed treatment.

Results: Data from 150 patients who initiated DCV-based regimens was evaluated. They were mainly GT3 – 89% (others: 7% GT1a, 1% GT1b and 3% GT4), HIV/HCV co-infected – 14% and 26% were pre- and post-liver transplanted. From the total, 57% individuals initiated DCV + SOF and 43% DCV + SOF + RBV, 57% and 19% patients had compensated and decompensated cirrhosis, respectively. The global SVR12 was 96% (98/102 of patients who have already finished the treatment). In 12-weeks regimens, in GT3 patients, the global SVR12 was 94% with DCV + SOF and 100% with DCV + SOF + RBV (in co-infected patients SVR12 was 100% with DCV + SOF). In 24-week treatment, in GT3 patients, the global SVR12 was 97% with DCV + SOF ± RBV (in co-infected patients SVR12 was achieved in one of two patients with DCV + SOF and in 100% with DCV + SOF + RBV). SVR12 was 100% in all GT1a patients. SVR12 was 100% in all genotypes pre- and post-liver transplanted patients. SVR12 was achieved in 100% re-treated patients who have already finished the treatment. Four GT3 patients had virologic failure and three died. Amongst all patients, four were hospitalized. In spite of rare, the most frequent adverse events were headache in those without RBV, fatigue in those with RBV.

Conclusions: These real-life results from patients with advanced liver disease, demonstrated that DCV-based regimens for 12 or 24 weeks is highly effective in more than 95% and well tolerated in difficult-to-treat-patients, in pre- and post-liver transplanted and in co-infected individuals.

P053

Hepatic fibrosis measured by transient elastography and access to treatment amongst Argentinean prisoners with chronic HCV

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Introduction: Transient elastography is a rapid, noninvasive and reproducible method to measure liver stiffness. Prisoners are at higher risk of HCV, up to 10 times more than in the general population in Argentina. According to local guidelines only patients with advance fibrosis have access to treatment with direct acting antivirals. The use of transient elastography to monitor liver fibrosis has not been thoroughly evaluated in this group. We describe fibrosis and access to treatment of HCV amongst Argentinean prisoners.
Methods: Between January 2015 and November 2016 we measured hepatic fibrosis by transient elastography (FibroScan 402, Echosens, France) amongst a population of Argentinean inmates in a federal prison of maximum security. Patient fibrosis was studied if they had a prior positive serology for HCV. Inmates were offered treatment with direct acting antivirals if they have F3–F4 in monoinfected HCV and F2–F4 in co-infected HIV/HCV patients in concordance with local Ministery of Health guidelines. HCV RNA levels were measured with Abbott RealTime Assay. Cirrhosis was determined by Fibroscan >12.5 kPa in monoinfected HCV patients and >14 kPA in HCV/HIV co-infected patients.
Results: Fifty-three HCV infected inmates have been recruited, of whom 19 were co-infected with HIV (35.8%). Median age was 45 (range 28–62), 100% were male. Median liver stiffness was 9 kPa (IQR 6.25–19.1). Cirrhosis was diagnosed in 18 patients (33.9%). 11 inmates had liver stiffness >20 kPa, of whom 7 had stiffness >24 kPa. Twenty nine patients have been studied for HCV RNA levels and genotype: 20 patients (69%) had genotype 1 infection (15 Gen 1a, 5 Gen 1b), 1 patients had genotype 4a (3.4%) and 8 patients were PCR negative (27.5%). A total of 16 patients have been prescribed direct acting antivirals during prison stay. As of November 22, 5 inmates completed treatment.
Conclusions: Transient elastography allowed rapid fibrosis measurement in this group, that ultimately leads to access to treatment during prison stay. Advanced fibrosis was common in this sample of Argentinean inmates. The majority of HCV inmates did not received treatment because they did not have advanced fibrosis as local guidelines mandate or were released from prison before completing the HCV diagnostic studies.

VIROLOGY AND IMMUNOLOGY

P054

Need for strategies aimed at defective proviral pool

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Introduction: Latent provirus is the biggest hurdle in HIV sterilizing cure. Breakthrough of latency reversal agents has helped to break this dormant HIV state so that HIV expression can be induced followed by the clearance of that cell by viral cytopathic effects and antiretrovirals. Nicotinamide adenine dinucleotide (NAD) is a cofactor of SIRT1 which is a class III Histone deacetylase while Nicotinamide (NAM) is a SIRT1inhibitor. Where SIRT1 activation by NAD can cause deacetylation of SUV39, a methyl transferase (MT) and can inhibit addition of CH3-group to histones SIRT1 inhibition by NAM can avoid deacetylation of histones and thus chromatin remains accessible to transcription factors. Because NAD and NAM are physiologically interconvertible, we used NAM to inhibit SIRT1 thus acting as an HDAC inhibitor speculating once it converted to NAD can act as MT inhibitor as well. For comparison we used Chaetocin and BIX01294 (MTIs).
Methods: CD8 T cell depleted PBMCs from 42 HIV-infected individuals under long-term antiretroviral therapy (ART) were activated by PHA and treated with either MTIs (25 samples) or NAM (17 samples) for 48 h and then cultivated in RPMI medium supplemented with IL-2 and foetal bovine serum. Virus reactivation was monitored by p24 and viral load (VL). In order to see the morphology of the purged virus electron microscopy was performed.
Results: NAM induced purging in 13/17 samples while MTIs induced in 20/25 samples. Mean purging time for NAM was five days compared to 6.75 days for MTIs (p = 0.7323). Mean VL after NAM stimulation was 4.32 and for MTIs was 3.22 HIV RNA copies/mL (p = 0.004551). Amongst positive samples we observed a blunted HIV recovery in autologous system that probably due to some host restriction showed a decline in VL over time. Eight cultures were thus shifted to allogenic system but the virus showed the same pattern of gradual decline and ultimate extinction giving a suspicion of overwhelming presence of defective virus. Electron microscopy from these 8 subjects showed exclusively anomalous HIV morphology with small size, diffused or unclear matrix and in almost all cases absence of double membrane.
Conclusions: Long-term ART might lead to the accumulation of defective HIV in proviral compartment. Finding of this cryptic defective provirus pool in autologous/allogenic system and defects seen by electron microscopy are directing to design new strategies aimed at eliminating cells harbouring this defective proviral pool in order to decrease the latent reservoir

P055

Phenotypic assay based on V3 region of HIV-1 gp120 envelope for viral tropism determination

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Introduction: Envelope (env) proteins of HIV-1 have prime importance in the complex process of entry into host cells. Determinants of coreceptor tropism relates to disease progression and CCR5 antagonists susceptibility. Different regions of env are responsible for determining co-receptor tropism but third variable loop (V3) is of prime importance. We have developed a new phenotypic assay based on V3-loop of env gp120.
Methods: A vector for mutagenesis was constructed by cloning SalI-BamHI fragment encompassing pNL4.3 envelope into pBlueScript-II-SK(+). Mutagenesis primers were designed and site directed mutagenesis was carried out to insert a NheI site upstream of env C2 domain, which was used to excise C2V3 region (465 bp) from the cloned fragment. SalI-NheIΔC2V3 fragment was transferred back into pNL4.3 to obtain pNL4.3ΔV3 vector. 750 bp fragments were amplified from reference plasmids pNL4.3 and pNLAD8, encompassing deleted C2V3 region with approximately 150 bp extensions on both sides to allow homologous

recombination during transfection. PCR amplified plasmids and Nhe I linearized vector pNL4-3ΔV3 were cotransfected in 293-T cells to get the recombinant viral particles and then allowed to infect Ghost CD4 cell lines expressing either CCR5 or CXCR4 to determine tropism. Infection was confirmed by an approximately. Twenty fold more GFP expression of infected cells over non-infected using a fluorescence microscope. Previously described TRT phenotypic assay with pNL4.3ΔV was also performed [1].
Results: Recombinant viruses containing V3 region from pNL4.3 and pNLAD8 showed GFP expression only in Ghost (3) CXCR4 cells and Ghost (3) Hi5 cells, respectively, consistent with the known coreceptor specificity for these strains. There was no GFP expression in mock cells. TRT assay was also performed with reference strains; pNL4.3, and results were in concordance with our assay.
Conclusions: We have successfully developed a phenotypic assay based on V3 region of gp120 only, further strengthening the tropism prediction capacity of V3 alone. Small fragment size used here, in comparison to standard assays, makes the laboratory amplification more efficient. The assay eliminates the selective bias associated with selection of X4 viruses in cultures and could be validated to use with proviral DNA, providing advantage for tropism testing of patients with undetectable viremia. Validation of this assay with clinical samples compared to gold standard methods is warranted.

Reference

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P056

The pace of co-receptor tropism switch in HIV-1 infected individuals after recent infection

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Introduction: Prediction on switching HIV-1 co-receptor usage over time is uncertain. Here we analyzed timing and predictors for co-receptor evolution amongst HIV-1 recently infected individuals.
Methods: Proviral DNA was longitudinally evaluated in 66 individuals using Geno2Pheno false positive rate (FPR). Demographics, viral load, CD4+ and CD8+ T cell counts, CCR5 Δ32 polymorphisms, GBV-C and HLA profile were evaluated. Samples were analysed at baseline and end of follow up. For individuals with a discordant tropism result at the two time points, intermediate samples were also investigated to confirm tropism switch. Ultradeep sequencing (UDS) was performed at initial samples of 11 selected individuals to identify minor HIV strains, which could relate to tropism switch. Logistic regression analysis was performed to determine the FPR cutoff with tropism prediction potential.
Results: The mean follow up was 59.5 months (range: 3.7–117.4); >71% were followed for more than 48 months. Tropism switches from R5 to CXCR4 using strains were identified in 9/49 (18.4%). Only FPR was retained as the significant predictor of tropism switch. Strains with intermediate FPR were identified during evolution towards CXCR4-use and a consistent trend of FPR decay over time was observed with a mean evolution time of 27.29 (range: 8.90–64.62) months amongst ART naïve subjects. UDS of 4/5 R5/Non-R5 switchers identified no minority CXCR4 using variants in the initial samples. Logistic regression analysis showed that patients with FPR>40.6% presented a stable FPR over time, whereas lower FPRs tend to progressively decay towards to emergence of CXCR4 using strains.
Conclusions: FPR threshold above 40.6% may preclude further tropism determination for prediction of disease progression related to emergence of X4 strains or use of CCR5 antagonists. The detection of variants with intermediate FPRs and the progressive decay of FPRs over time, not only strengths the power of Geno2Pheno in predicting HIV tropism, but also indirectly confirms that a continuous evolution from earlier R5 variants towards CXCR4 using strains is occurring amongst some HIV quasi-species. Larger studies are warranted to confirm the FPR threshold in which tropism will not switch.

P057

Analysis of HIV-1 tropism prediction through deep sequencing genotyping data in patients with treatment failure

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Introduction: The cell fusion inhibitor, C–C chemokine receptor type 5 (CCR5) antagonist Maraviroc, is ineffective against HIV-1 that does not utilize the CCR5 cell co-receptor for viral entry. A viral genotyping test is suggested to indicate the viral tropism, its co-receptor preference for CCR5 or other co-receptors, such as CXCR4, however, standard genotyping is unable to precisely detect minority variants (<20%), capable of impairing clinical treatment. Viral tropism prediction using deep sequencing genotyping data and standard genotyping data were compared to access the tests sensitivity.
Methods: Standard Sanger sequencing and deep sequencing were used to sequence 44 samples of patients experiencing therapeutic failure of the Brazilian National Genotyping Network (RENAGENO), which covered representatives of the most prevalent viral subtypes in the country, subtypes B, C and F. Sequences were submitted to Geno2pheno algorithm to predict viral tropism.
Results: Viral tropism prediction using deep sequencing data detected non-R5 tropism in 19 samples versus 8 with Sanger based sequencing. Tropism predictions were compared demonstrating a concordance of 61.4% between the two sequencing techniques. The majority of discordant predictions (82.3%) occurred in samples with low (2–20%) non-R5 populations, according to deep sequencing data. When compared, subtype B had a lower viral tropism concordance (47.4%) between the different sequencing data used for tropism prediction, than subtypes C (83.3%) and F (66.7%). In addition, a positive correlation was observed between the total number of resistance mutations in the reverse transcriptase, and the presence of non-R5 variants in the samples, especially in subtype B.
Conclusions: The results suggest a higher HIV-1 tropism prediction sensitivity when based on deep sequencing data other than standard Sanger sequencing data. This higher sensitivity is more apparent in subtype B than in subtypes C and F. The use of deep sequencing data to predict viral tropism in spite of standard

Sanger sequencing data could be relevant in the choosing of antiretroviral regimens and its success.

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Genetic variability of HIV-1 in treated and untreated Cuban patients during 2016

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Introduction: Knowledge of the genetic diversity of HIV-1 is a fundamental premise in epidemiological surveillance due to the presence and transmission of multiple subtypes and recombinant forms and their possible implications for highly active antiretroviral therapy (HAART). The objective of the present study was to determine the genetic variability of HIV-1 in a group of treated and untreated Cuban patients during the 2016.
Methods: 86 HIV-1 infected patients who attended outpatient department during 2016 were included in this study. Of the total, 34 patients were receiving HAART and 52 patients were diagnosed during 2016 and did not receive HAART. Viral RNA was isolated from plasma and used to amplify the protease and reverse transcriptase regions of the HIV-1 pol gene by RT-nested PCR. PCR products were sequenced and generated data used to determine the subtype by phylogenetic analysis. The resistance to antiretroviral drugs was evaluated according to HIVdb v6.1.1.
Results: The 79.1% of the patients were male and 73.2% of the infections were acquired by homosexual transmission. In the group of treated patients, the predominant viral variants were subtype B (38.2%) and CRF20_BG (29.4%) and 20.6% of the samples presented multiresistant viruses and resistant virus to the combinations of nucleoside reverse transcriptase (NRTI) and non-nucleoside reverse transcriptase (NNRTI) families. In the group of untreated patients, CRF19_cpx (23.1%) and URF (23.1%) were the predominant viral variants and at least one mutation associated with transmitted resistance was detected in 13.5% of samples, which were associated with the antiretrovirals used in the first therapeutic line in Cuba.
Conclusions: The study showed high genetic variability of HIV-1 in treated and untreated Cuban patients. Continuous monitoring of HIV-1 resistance to antiretroviral drugs makes it possible to implement appropriate therapies for seropositive patients.