

# MSF@IAS 2017

## Abstracts



# ABSTRACTS MSF@IAS2017

ORAL ABSTRACT: Feasibility of using Determine-TB LAM test in HIV infected adults in programmatic conditions .....	4
ORAL ABSTRACT: Self-testing: an effective means of increasing HIV-testing and status awareness .....	5
Availability of antiretroviral medicines and characteristics of stockouts in public facilities in Kinshasa, Democratic Republic of Congo.....	6
“Because my life is more important”: Findings from a qualitative study on adherence to second and third-line antiretroviral therapy regimens in rural Malawi and Kenya. ....	7
Community-based testing strategies among sex workers in the transport corridor in Mozambique .....	8
Eight weeks safety results of high-dose Rifampicin in HIV-Tuberculosis co-infected patients in Uganda: RIFAVIRENZ-ANRS 12292 Trial.....	9
Fishermen and Fishing communities in East Africa: Most-at-Risk population of acquiring HIV infection. Results from a population-based survey.....	10
Gender and age disparities in achieving each of the 90-90-90 UNAIDS goals in three sub-Saharan countries.....	12
High mortality among HIV positive patients with MDR-TB and second-line drug resistance reflects the urgent need for new drug regimens.....	15
High proportion of virological failure and drug resistance among adolescents on first-line ART in Chiradzulu District, Malawi. ....	16
HIV and tuberculosis in Malawian prisons: a comprehensive prevention, screening and management programme .....	17
“If I’m not in the club, I have to move from one chair to another.” A qualitative evaluation of patient experiences of adherence clubs in Khayelitsha and Gugulethu, South Africa.....	19
Implementing Test & Start program in a rural conflict affected area of South Sudan, the experience of MSF.....	20
Is hospital care an outdated approach in HIV and TB programmes? A pre-implementation assessment of admissions to a rural district hospital in Malawi .....	21

Mycobacterium Tuberculosis Lateral Flow Urine Lipoarabinomannan assay (TB-LAM) and Cryptococcal Antigen Lateral Flow Assay (CrAg LFA) as screening among patients with advanced HIV-disease in Conakry, Guinea .....	22
Performance of The Point of Care Cepheid GeneXpert HIV Qual For Early Infant Diagnosis – Field experience in Kenya .....	23
Plugging the Leaks; Strengthening Relay and Documentation of Viral Load Results and Quality of Paediatric Care Necessary to Achieve the Last 90.....	24
Potential impact of implementing pre-exposure prophylaxis (PrEP) among young women in combination with scaling-up antiretroviral therapy and male circumcision on HIV incidence in Shiselweni region, Swaziland: a modelling study.....	25
Pregnant and Breastfeeding Women Healthcare Seeking in a high HIV prevalence Area, Ndhiwa Sub-County, Kenya: A qualitative study .....	26
Prevalence of diabetes and hyper cholesterolemia among adults on ART for >10 years in Malawi.....	27
Retention and viral suppression outcomes of patients enrolled in family ART adherence clubs in Cape Town, South Africa .....	29
Scaling up and reaching the 3rd 90 with community testing and counselors support .....	31
Stock outs cause catastrophic expenditure and further impoverishment of ART patients in South Africa .....	33
Understanding treatment failure amongst patients on second-line antiretroviral therapy regimens: A mixed methods study in Médecins sans Frontières-supported HIV programmes in rural Malawi and Kenya .....	34
Viral load monitoring with SAMBA-1, a semi-quantitative nearly point-of-care method in Arua, a rural district, Uganda .....	36
Why do people delay seeking health-care for advanced HIV? A qualitative study from a low-coverage setting in Kinshasa, Democratic Republic of Congo (DRC).....	38

## ORAL ABSTRACT: FEASIBILITY OF USING DETERMINE-TB LAM TEST IN HIV INFECTED ADULTS IN PROGRAMMATIC CONDITIONS

### Authors:

Mathabire SC<sup>1,2</sup>, Cossa L<sup>3</sup>, Mpunga J<sup>4</sup>, Manhica I<sup>5</sup>, Amoros Quiles I<sup>6</sup>, Molfino L<sup>3</sup>, Szumilin E<sup>7</sup>, Telnov A<sup>8</sup>, Huerga H<sup>1</sup>,

<sup>1</sup> Clinical Research Department Epicentre, Paris France

<sup>2</sup> Médecins Sans Frontières, Chiradzulu Malawi

<sup>3</sup> Médecins Sans Frontières, Maputo Mozambique

<sup>4</sup> National TB Control Program Malawi

<sup>5</sup> National TB Control Program, Mozambique

<sup>6</sup> Médecins Sans Frontières, Lilongwe Malawi

<sup>7</sup> Médecins Sans Frontières, Maputo Mozambique

<sup>8</sup> Médecins Sans Frontières Paris France

<sup>9</sup> Médecins Sans Frontières, Geneva Switzerland

### Background:

We assessed the feasibility and described the operational aspects of using the Determine-TB LAM (LAM) test for diagnosis of tuberculosis (TB) in adult HIV infected patients.

### Methods:

This multi-centric study was conducted in Malawi and Mozambique from 2014 to 2016. LAM was used as a rule in screening tool for hospitalized adult HIV infected patients (Malawi) and for ambulatory patients with CD4 <100 / $\mu$ l (Mozambique), and as an additional diagnostic tool for adult HIV infected TB suspects with CD4 <200 / $\mu$ l (Malawi and Mozambique). Standard questionnaires were used to assess user acceptability of LAM; electronic databases used to calculate reader agreement between LAM users, and health centre registers to calculate workload. Supervision notes, minutes of meetings, training reports, and personal observations were used to assess training required, patient flow changes after LAM introduction, strengths and challenges of using the LAM test.

### Results:

Training of LAM users was performed in approximately 1.5 hours in Malawi and 4 hours in Mozambique. All users found the test easy to perform. Reader agreement for test interpretation was excellent: 98.9%, kappa=0.97, and 98.3%, kappa=0.94 for Malawi and Mozambique respectively. Time to results when LAM was performed in the consultation room was 2 to 7 times lower than when performed in the laboratory. LAM positive patients were started on TB treatment on same day. Introduction of LAM did not require additional space or staff. Strength of LAM was that overall, 98.7% and 99.6% of patients received a LAM result compared to 69.5% and 67.2% receiving a sputum result, and 31.7% and 46.0% receiving a chest X ray result in Malawi and Mozambique respectively. A challenge in Mozambique was the need for CD4 prior to the LAM test to identify LAM eligible patients.

### Conclusion:

Using the LAM test to diagnose TB among hospitalized or severely immune-suppressed ambulatory HIV patients was feasible, well accepted, and required minimal training. The LAM was a useful additional test for TB in this group because of the ease of providing the urine sample and the rapidity of the results which allowed immediate TB treatment for LAM positive patients.

## ORAL ABSTRACT: SELF-TESTING: AN EFFECTIVE MEANS OF INCREASING HIV-TESTING AND STATUS AWARENESS

### Authors:

A. Moore, T. Cassidy, S.J. Steele, A. Shroufi, N. Ntuli, L. Ndani, C. Metcalf, T. Ellman, E. Goemare, L. Trivino Duran

Institution(s): MSF, Cape Town, South Africa

### Background:

HIV self-testing (HST) could potentially improve HIV testing uptake and awareness of serostatus, especially if targeted towards patients who refuse routinely-offered facility-based HIV counselling and testing (HCT) due to privacy concerns. We conducted a pilot study of HST at two health facilities in Khayelitsha, South Africa, among patients who refused HCT, and assessed their HST uptake and linkage to care.

### Methods:

Patients who refused HCT were offered HST using OraQuick ADVANCE HIV1/2. Participants were asked to report their HST result by pre-paid text message (SMS), or by returning to the facility. Participants who did not report their result within 7 days were contacted telephonically.

### Results:

From 1 March 2016 to 31 October 2016, 537 patients were offered HST, of whom 422 (78%) accepted. Those who accepted HST, had a median age of 28 years; 409 (97%) were female; and 313 (74%) reported their HST result. Of the 422 participants, 245 (58%) reported their result within 7 days, and the median time to reporting the result was 1 day. Of those who reported their result, 269 (86%) reported by SMS. Reporting of results varied by facility, being 60% at the facility where many patients did not carry a cell phone due to security concerns, compared to 83% at the other facility. Among participants who reported their HST result, 19 (6%) were positive, compared to 7% HCT at same facilities. Of the 19 participants reporting a positive HST result, 10 (53%) returned for confirmatory testing. Of the 294 participants who reported a negative HST result, 53 (18%) returned for confirmatory testing. All confirmatory tests agreed with the reported HST results.

### Conclusions:

Offering HST in public-sector clinics is an effective way of increasing HIV testing uptake among those who refuse HCT, but ensuring that those with positive HST results return for confirmatory testing is challenging. As the majority of patients attending clinics are female, the effectiveness of providing HST in other settings needs to be assessed as a means of increasing HIV testing uptake among males.

## AVAILABILITY OF ANTIRETROVIRAL MEDICINES AND CHARACTERISTICS OF STOCKOUTS IN PUBLIC FACILITIES IN KINSHASA, DEMOCRATIC REPUBLIC OF CONGO

### Authors:

T. Gils<sup>1</sup>, C. Bossard<sup>1</sup>, A. Acma<sup>2</sup>, A. Mbala Seki<sup>2</sup>, M. Mashako<sup>2</sup>, F. Biayi<sup>3</sup>, I. Casteels<sup>2</sup>, G. Van Cutsem<sup>1</sup>

<sup>1</sup> Médecins Sans Frontières, Southern Africa Medical Unit, Cape Town, South Africa,

<sup>2</sup> Médecins Sans Frontières, Kinshasa, Congo, Democratic Republic of the,

<sup>3</sup> Programme National d'Approvisionnement de Médicaments, Kinshasa, Congo, Democratic Republic of the

### Background:

Stockouts of antiretroviral medicines (ARVs) are early warning indicators for HIV resistance. This study aimed at analyzing the availability of ARVs in public pharmacies and characterizing the stockouts in Kinshasa, Democratic Republic of Congo.

### Methods:

Data for this cross sectional study were collected on a questionnaire during physical visits to antiretroviral treatment (ART) facilities and warehouses in Kinshasa between October and December 2016. All facilities in charge of over 200 patients on ARVs were selected, as well as one facility with 100 to 200 and one with less than 100 patients per health zone. All warehouses in the corresponding health zones were selected. Stockouts of ARVs were determined by physical verification during the visit and through verification on stock cards for a three month period before the visit. For those items for which a stock card was available, the stockout duration was collected. For four ARVs, stock cards were compared with physical stocks and considered as correct if the difference between the quantities was less than 10%. For all ARVs stockouts, the pharmacy responsible reported coping mechanisms used.

### Results:

The survey included 94 facilities, covering 73% of people on ART in Kinshasa. Among facilities visited, there were 107 stockouts of ARVs counted on day of visit and 92 reported in the preceding three month period, of which 36% were not recorded on a stock card (33 facilities). Stock cards were correct for less than 75% of facilities and less than 50% of zonal warehouses; 50% of facilities had stockouts of at least one ARV on visit day, with a median duration of 61 days [IQR = 2382]. Second line and pediatric ARVs were most frequently out of stock. In 31% of stockout cases on visit day and in 38% of stockouts in the previous three months patients had been sent away without ART. In 44% of stockouts on visit day and 72% of stockouts in the previous three months, the ARVs were available in the zonal warehouse in the same period.

### Conclusions:

This study shows that urgent action is needed to reduce stockouts, focusing on the last mile delivery and on specific ART regimens.

## **“BECAUSE MY LIFE IS MORE IMPORTANT”: FINDINGS FROM A QUALITATIVE STUDY ON ADHERENCE TO SECOND AND THIRD-LINE ANTIRETROVIRAL THERAPY REGIMENS IN RURAL MALAWI AND KENYA.**

### **Authors:**

Rose Burns, Philippe Blasco, Michael Kibogo, Alexandra Vandenbulcke, Elisabeth Szumilin, Irene Mukui, Denview Magalasi, Birgit Schramm, Thokozani Kalua, Estelle Pasquier, Alison Wringe.

### **Background:**

Little is known about treatment adherence behaviours amongst second- and third-line patients who may have unique experiences associated with reaching ‘the end’ of their treatment options. We explored influences on adherence to second- and third-line regimens among patients enrolled in HIV programmes supported by Médecins sans Frontières in rural Malawi and Kenya.

### **Methods:**

Repeated in-depth interviews were conducted with 29 HIV patients on second- or third-line antiretroviral therapy and 10 HIV health workers with different roles in Chiradzulu, Malawi and Homa Bay, Kenya. Patients were purposively sampled from second and third-line patients receiving their current regimen for 6 months minimum, and ensuring maximum diversity in terms of age, sex, residence, virological outcomes and regimen type. Observations took place in clinics including group education sessions. Interviews were audio-recorded, transcribed and translated into English. Following coding, themes were derived deductively and inductively.

### **Results:**

In both settings, many patients’ engagement with second and third-line treatment was shaped by experiencing life-threatening illnesses prior to switching regimens and fearing they had reached ‘the end’ of treatment options, before being given “a final chance at life”. These events often catalyzed changes in patients’ attitudes to treatment-taking and prompted feelings of responsibility for managing their disease. Transformations reported by patients included giving up drinking, reducing sexual encounters, changing jobs that interfered with treatment-taking, becoming involved in leadership positions in the community and overcoming stigma. This was more evident in the Kenyan programme where counsellors seemed better skilled at working with patients after regimen changes. Despite this, many patients reported the persistence of multiple and interrelated social, economic and health systems challenges that had undermined their adherence to first-line treatments.

### **Conclusions:**

While well-established barriers to adherence remain for many second- and third line patients, others experienced a resurgence of hope as they overcame debilitating HIV-related illness associated with prior treatment failure. Although this can initially encourage renewed efforts to adhere, the effects may wane over time. Regular, patient-centred counseling or peer-led mentoring interventions following regimen change may help promote and sustain these life transformations and build resilience among patients, supporting adherence and thereby prolonging the life-span of second and third-line regimens.

## COMMUNITY-BASED TESTING STRATEGIES AMONG SEX WORKERS IN THE TRANSPORT CORRIDOR IN MOZAMBIQUE

### Authors:

E. Simons<sup>1</sup>, T. Ellman<sup>2</sup>, R. Giuliani<sup>3</sup>, C. Bimansha<sup>1</sup>, L. O'Connell<sup>1</sup>, E. Venables<sup>2</sup>, H. Jassitene<sup>1</sup>, C. das Dores T.P. Mosse Lázaro<sup>4</sup>, M. Jose Simango<sup>4</sup>

<sup>1</sup> Medecins Sans Frontieres, Tete, Mozambique,

<sup>2</sup> Medecins Sans Frontieres, Southern Africa Medical Unit, Cape Town, South Africa,

<sup>3</sup> Medecins Sans Frontieres, Maputo, Mozambique,

<sup>4</sup> Ministry of Health, Tete, Mozambique

### Background:

The MSF Corridor project aims to implement a comprehensive intervention for sex workers (SW) along the transport corridor in Mozambique and Malawi. The community-based model incorporates outreach services, HIV testing and counseling, condom distribution, retesting for HIV-negative SWs, and access to STI and HIV care. Sex worker peer educators (SWPE) play an important role in supporting outreach activities, health education and linkage to care. This analysis describes testing, retesting and seroconversion among SWs in Tete and Sofala, Mozambique and explores SWPE perspectives on their role.

### Methods:

Retrospective analysis of routinely collected data included SWs enrolled in the outreach program between January 2014 and June 2015. The proportion HIV-positive among SWs who initially tested between January 2014 and June 2015 and the proportion of those initially negative who retested within 6 months were assessed. Seroconversion was determined among those who retested within 6 months. Participant and non-participant observations were conducted during SWPE outreach activities in four project sites, along with nine in-depth interviews and two focus group discussions.

### Results:

1810 female SWs enrolled, with a median age at first contact of 28 years [23-32]. Among 1207 SWs tested, HIV positivity at initial test was 44%. Overall HIV positivity rate, including 371 additional SWs who self-reported positive, was 57%; 32%, 42%, 61% & 78% among SWs < 18, 18-24, 25-34 and ≥35 years, respectively. 42% of SWs initially HIV-negative retested within 6 months and 14 (5%) seroconverted (median time: 114 days). SWPEs described their ability to reach out to their peers, to engage new and 'informal' SWs with health-care services, including HIV testing. Challenges included experiencing prejudice and undervaluation by non-SW colleagues.

### Conclusions:

Despite stigma and mobility challenges, most SWs contacted agreed to test. Among those negative, almost half retested within 6 months. However retention for retesting remains a major challenge. HIV prevalence and apparent incidence demonstrate the extreme risk among this group and importance of community strategies to access testing, treatment and prevention, including PrEP. SWPEs have a key role in developing trust among their peers and supported uptake of testing and re-testing. Greater efforts are needed to develop their role in SW programs.

## EIGHT WEEKS SAFETY RESULTS OF HIGH-DOSE RIFAMPICIN IN HIV-TUBERCULOSIS CO-INFECTED PATIENTS IN UGANDA: RIFAVIRENZ-ANRS 12292 TRIAL

### Authors:

Daniel Atwine<sup>1</sup>, Elisabeth Baudin<sup>5</sup>, Winnie Muyindike<sup>3,6</sup>, Kenneth Kananura<sup>1</sup>, Dan Nyehangane<sup>1</sup>, Patrick Orikiriza<sup>1</sup>, Deborah Nanjebbe<sup>1</sup>, Suzan Logoose<sup>1</sup>, Arinaitwe Rinah<sup>1</sup>, Juliet Mwanga-Amumpaire<sup>1,6</sup>, Anne-Marie Taburet<sup>4</sup>, Maryline Bonnet<sup>1,2</sup>.

<sup>1</sup> Epicentre Mbarara Research Centre, PO box 1956, Mbarara, Uganda

<sup>2</sup> IRD UMI233 TransVIHMI-UM-INSERM U1175, Montpellier, France

<sup>3</sup> Mbarara Regional Referral Hospital

<sup>4</sup> Bicetre hospital

<sup>5</sup> Epicentre, Paris, France

<sup>6</sup> Mbarara University of Science and Technology

### Background:

Despite the reported safety of high-dose Rifampicin (R) among HIV negative tuberculosis (TB) patients, no data exists among HIV-TB co-infected patients. We report the safety results from a high-dose rifampicin (20mg/kg) and efavirenz (EFV)-based ART (600 and 800mg) drug interaction study in HIV-TB co-infected patients by week-8 of TB treatment.

### Methods:

In a phase-2, randomized, open-label therapeutic trial (NCT01986543), newly diagnosed, XpertMTB/RIF positive and rifampicin-susceptible active pulmonary TB, HIV positive, ART-naïve, adult patients were enrolled and randomized to 3-study regimens (SR): SR1: 8 weeks R20mg/Kg + Isoniazid(H) + pyrazinamide(Z) + ethambutol(E) and EFV600mg/J; SR2: 8 weeks R20mg/Kg + H+Z+E and EFV800mg/J; Control regimen (CR): 8 weeks R10mg/Kg + H+Z+E and EFV600mg/J. EFV was given with tenofovir-lamivudine for all patients 2 weeks after starting anti-TB treatment(ATT). At 8 weeks, all patients were switched to standard R and EFV doses. Treatment was observed at home by a domiciliary treatment monitor. Weekly clinical assessments and bi-weekly biochemistry and full blood count monitoring was done.

### Results:

We enrolled 98 patients (SR1: 33, SR2: 32 and CR: 33), median age 33.6 years, 26.5% were females. Baseline median BMI, CD4 count and ALT were 19.5kg/m<sup>2</sup>, 142 cells/L and 19.5IU/L respectively. One and four patients were co-infected with hepatitis B and C respectively. Six patients; 2 from each arm had grade 3 or 4 increases in ALT or AST within the first 8 weeks: 1 during ATT alone vs 1 during ATT+ART for both SR1 and CR, and 2 during ATT alone vs 0 during ATT+ART for SR2. Only 4 patients (CR: 1, SR1: 1, SR2: 2, p = 0.780) had grade 2 neuropsychiatric AEs. No grade 3 or 4 neuropsychiatric AEs were noted. Fifteen patients, 5 from each arm had SAEs, with 2 of which resulting in death unrelated to treatment and 2 with their treatment arm changed from 20mg/kg-10mg/kg of R dose due to increase in hepatic transaminases.

### Conclusion:

Co-administration of a double-dose of rifampicin with efavirenz (600 or 800mg) among HIV/TB co-infected patients was well tolerated with very few severe transaminitis and no severe neuropsychiatric disorders

## FISHERMEN AND FISHING COMMUNITIES IN EAST AFRICA: MOST-AT-RISK POPULATION OF ACQUIRING HIV INFECTION. RESULTS FROM A POPULATION-BASED SURVEY

### Authors:

Burgos-Soto J<sup>1</sup>; Alley I<sup>1</sup>, Ojuka P<sup>2</sup>, Mulogo E<sup>3</sup>, Bamulekise T<sup>4</sup>, Bouhenia M<sup>1</sup>, Salumu L<sup>4</sup>, Mendiharat P<sup>4</sup>, Mathela, R<sup>5</sup>, Langendorf C<sup>1</sup>, Cohuet S<sup>1</sup>, Hueriga H<sup>1</sup>

<sup>1</sup>Epicentre, Paris, France

<sup>2</sup>Epicentre, Mbarara, Uganda

<sup>3</sup>Mbarara University of science and technology, Uganda

<sup>4</sup>Médecins sans Frontières, Paris

<sup>5</sup>Medecins sans Frontières, Coordination Desk, Kampala, Uganda

<sup>6</sup>Ministry of Health of Uganda

### Background:

In East-Africa, fishermen and fishing communities are considered most-at-risk population of acquiring HIV but knowledge about the epidemic in these contexts is scarce. Objective: To estimate the HIV-prevalence rate among adults and children in 12 fishing communities surrounding Lake George and Edward, Uganda and; to assess the HIV cascade of care in these settings.

### Methods:

We conducted a cross-sectional household-based survey. Following an exhaustive household enumeration using GPS, trained-nurses visited 890 randomly-selected households during two months, interviewing 15-69 years' old men and women. All HIV-positive individuals were asked to provide a blood sample for viral load measures. Children <15 years old were eligible for testing only if their parents were HIV-positive. Logistic regression models, adjusted on sociodemographic-behavioral variables were used to identify factors associated with HIV testing and being HIV-positive and, factors associated with HIV-status unawareness and viral suppression among HIV-positive adults.

### Results:

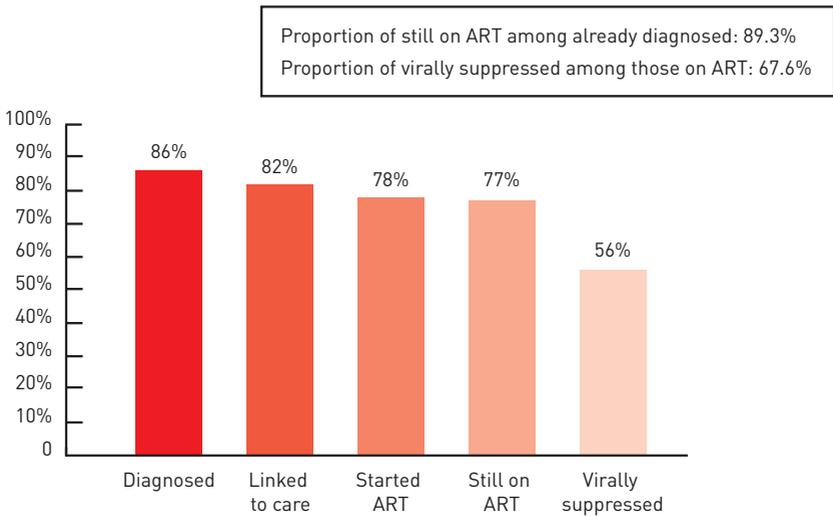
Overall, 1738 adults and 148 children were included. The HIV-prevalence rate among adults was of 17.5%(95%CI:15.8-19.4) and among HIV-exposed children 6.1%(95%CI:3.1-11.4). HIV-Prevalence rate was higher among women (20.9%;95%CI:18.4-23.5) than among men (13.5%;95%CI:11.3-16.1). According to occupation and sex, farmers had the highest HIV-prevalence rate among women (27.6%) and fishermen among men (18.7%). After adjustment, only fishermen remained with a 4-times higher risk of being HIV-positive (aOR: 3.9; 95%CI [1.6-9.4]), compared to men of other occupations. Among HIV-negatives, 81.0% declared had a test <=12 months ago. Among HIV-positives, 86.0% declared HIV-status awareness, 78.0% on ART and 56.0% had a viral load <20cp/ml (On ART: 67.6%) (Figure1). Men had a higher risk of being untested (aOR: 2.2;95%CI:1.4-3.7) and virally detectable (aOR:6.6; 95%CI:1.9-22.0) than women. Fishermen did not have a higher risk of being untested or virally unsuppressed.

### Conclusions:

In Uganda, HIV-prevalence rate in fishing communities is high, particularly among women and fishermen. Although HIV testing and ART initiation rates are high, viral suppression rate remains poor, especially among men. Nevertheless, fishermen do not seem to have a lower



►► access to care than other men. More HIV preventive interventions are needed in these settings, particularly targeting women and fishermen. Strengthen ART-retention, particularly among men, should be a priority in these settings.



## GENDER AND AGE DISPARITIES IN ACHIEVING EACH OF THE 90-90-90 UNAIDS GOALS IN THREE SUB-SAHARAN COUNTRIES

### Authors:

Huerga H, Ben Farhat J, Wanjala S, Salumu L, author from South Africa, Maman D, Etard JF.

### Background:

Understanding gender and age disparities in the HIV cascade of care can help to focus adequately HIV strategies to achieve the 90-90-90 UNAIDS goals. We aimed to assess the effect of gender and age at each step of the HIV cascade of care in 3 sub-Saharan African countries.

### Methods:

Three population-based cross-sectional surveys were conducted in Ndhwi (Kenya), KwaZulu-Natal (South Africa) and Chiradzulu (Malawi). Persons aged 15-59 years were eligible. Individuals were interviewed and tested for HIV at home. Those positive had a viral load (VL). Multivariable logistic regression models were used to assess factors associated with being unaware of the HIV status among all HIV-positive, untreated among those aware, and virally unsuppressed ( $VL \geq 1000$ cp/mL) among those on ART.

### Results:

In total 9,802 houses were visited, 21,782 individuals were eligible and 19,006 (87.5%) included. In total, 1457 (24.1%) individuals were HIV positive in Kenya, 1423 (25.2%) in South Africa and 1234 (17.0%) in Malawi. Overall 90-90-90 UNAIDS goals were achieved at 59.6%-68.2%-82.5% in Kenya, 75.2%-66.9%-89.8% in South Africa, and 76.8%-82.9%-90.8% in Malawi with VL suppression among HIV-positive being 39.9%, 57.1% and 61.7% respectively. HIV awareness was lower in men (62.2%, 95%CI: 59.0-65.2) compared to women (73.4%, 95%CI: 71.5-75.2). This difference persisted in the multivariable model (aOR: 2.1, 95%CI: 1.8-2.5). VL suppression among HIV-positive was lower in men (46.9%, 95%CI: 43.6-50.2) compared to women (54.8%, 95%CI: 52.9-56.6). However, men aware and on ART did not have a higher risk of being untreated or virally unsuppressed (Table). Individuals aged 15-24 years had a 4 to 7 times increased risk of attrition all along the cascade compared to those aged 45-59 years (unaware aOR: 4.9, 95%CI:3.7-6.4; untreated aOR: 5.1, 95%CI:3.7-7.3; unsuppressed aOR: 6.9, 95%CI:3.9-12.0). See Figure.

### Conclusion:

In these 3 settings, men had higher viral loads compared to women due to their lower HIV status awareness. However men did not have a higher risk of being untreated or virally unsuppressed once they were aware. The effect of age persisted all along the HIV cascade of care and individuals aged 15-24 year had a higher risk of not achieving the UNAIDS 90-90-90 goals.

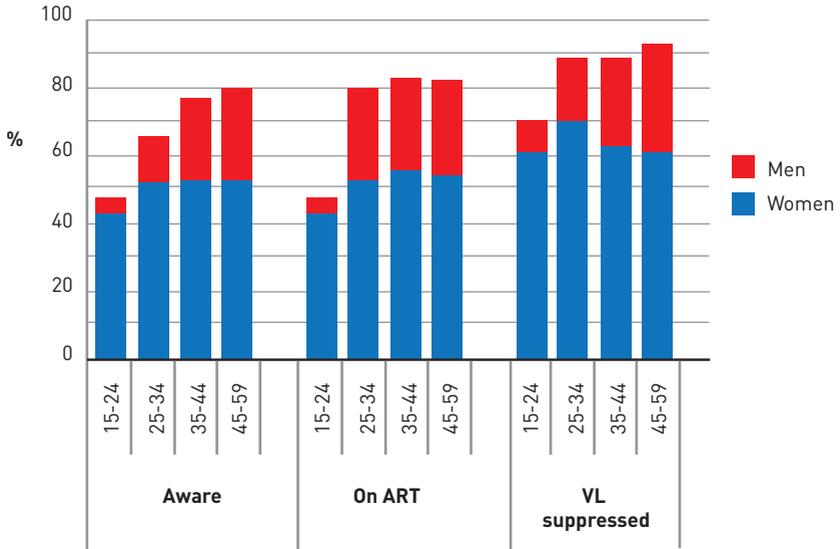


►► **Table:** multivariable logistic models for being unaware (among all HIV-positive), being untreated with ART (among HIV-positive aware), and being virally unsuppressed (among HIV-positive on ART) in Kenya, South Africa and Malawi sites.

	<b>Unaware N=4053 aOR (95%CI)</b>	<b>Untreated with ART N=2845 aOR (95%CI)</b>	<b>Virally unsuppressed N=2038 aOR (95%CI)</b>
<b>Age</b>			
45-59 years	1	1	1
35-44 years	1.2 (1.0-1.5)	1.3 (1.0-1.7)	1.7 (1.1-2.5)
25-34 years	2.2 (1.8-2.7)	2.8 (2.2-3.6)	2.7 (1.8-4.1)
15-24 years	4.9 (3.7-6.4)	5.1 (3.7-7.3)	6.9 (3.9-12.0)
<b>Sex</b>			
Women	1	1	1
Men	2.1 (1.8-2.5)	1.1 (0.9-1.4)	1.2 (0.8-1.7)
<b>Marital status</b>			
Single	1	1	1
Married/living together	0.7 (0.5-0.9)	1.0 (0.8-1.3)	1.2 (0.7-2.0)
Divorced/Separated	0.8 (0.5-1.1)	1.4 (0.9-2.1)	1.6 (0.8-3.2)
Widowed	0.6 (0.4-0.8)	1.1 (0.7-1.6)	1.5 (0.8-2.9)
<b>Education</b>			
Primary or less	1	1	1
Secondary or more	1.0 (0.8-1.2)	0.8 (0.7-1.0)	0.8 (0.6-1.1)
<b>Mobility</b>			
Not mobile	1	1	1
Mobile*	0.9 (0.7-1.1)	1.0 (0.8-1.3)	1.0 (0.7-1.6)
<b>Site</b>			
Malawi	1	1	1
South Africa	0.5 (0.4-0.6)	0.5 (0.4-0.6)	0.5 (0.3-0.7)
Kenya	0.4 (0.3-0.5)	1.1 (0.9-1.5)	0.6 (0.4-1.0)

\*Mobile individuals: those who had changed their residency in the previous 10 years.

►► **Figure:** Achievement of 90-90-90 UNAIDS goals per age group: awareness (among all HIV-positive), ART coverage (among HIV-positive aware) and virally suppression rate (among HIV-positive on ART) in Kenya, South Africa and Malawi sites.



## HIGH MORTALITY AMONG HIV POSITIVE PATIENTS WITH MDR-TB AND SECOND-LINE DRUG RESISTANCE REFLECTS THE URGENT NEED FOR NEW DRUG REGIMENS

### Authors:

Erika Mohr, Jennifer Hughes, Laura Trivino Duran, Johnny Daniels, Bongani Chabalala, Sarah Jane Steele, Gabriella Ferlazzo, Amir Shroufi, Eric Goemaere, Virginia de Azevedo, Helen Cox

### Background:

Treatment success rates for MDR-TB patients with resistance to second-line (SL) injectable agents and/or fluoroquinolones are approximately 15-40%, with high rates of mortality.

### Methods:

Mortality and patient outcomes from a treatment programme in Khayelitsha, South Africa were assessed 24-months after MDR-TB diagnosis, among patients with SL-resistance detected at diagnosis or during SL-treatment.

### Results:

From 2008-2013, 167 patients, 71% HIV-positive, were diagnosed with MDR-TB with resistance to either ofloxacin (n=52,31%) or amikacin (n=59,35%) or both (XDR-TB, n=56,34%). Fifteen percent (25/167) of patients never started treatment; 88% were HIV-positive. Another 39 (n=28, 72% HIV-positive) MDR-TB patients, had SL-resistance detected during treatment.

Overall, 24-month mortality was 47% (97/206); 54%(79/146) among HIV-positive and 30%(18/60) among HIV-negative patients(p<0.01). Of those that died, 22%(21/97) died before treatment initiation within a median of 21-days (IQR 13-35); 84%(21/25) that never started treatment died. Mortality was 37% compared to 46% for MDR-TB with ofloxacin resistance only or amikacin resistance only at diagnosis, respectively (p=0.32). Patients diagnosed with XDR-TB had high mortality at 64% (36/53) (p<0.01 compared to resistance to only one SL-drug). Mortality among MDR-TB patients with SL- resistance detected during SL-treatment was 39% (15/39). Mortality was 70% (30/43) among HIV-positive patients with XDR-TB. Overall, 12% (25/206) were successfully treated.

### Conclusions:

Mortality was extremely high 24-months following diagnosis of MDR-TB with SL-resistance detected at diagnosis or during treatment. The presence of resistance to ofloxacin or amikacin had similar impacts on mortality. HIV-infection contributed substantially to mortality, but mortality remains high among HIV-negative patients, particularly those with XDR-TB. There is a pressing need for urgent treatment initiation and more effective regimens at initial diagnosis of SL-resistance.

## HIGH PROPORTION OF VIROLOGICAL FAILURE AND DRUG RESISTANCE AMONG ADOLESCENTS ON FIRST-LINE ART IN CHIRADZULU DISTRICT, MALAWI

### Authors:

B. Schramm<sup>1</sup>, Amelie Dublineau<sup>1</sup>, A. Rakesh<sup>2</sup>, Tamika Munyenembe<sup>2</sup>; S. Nicholas<sup>1</sup>, James Kandulu, Leon Salumu<sup>3</sup>, Estelle Pasquier<sup>5</sup>, Robert N. Keango<sup>2</sup>, Elisabeth Poulet<sup>1</sup>, L. Serrano<sup>4</sup>, M. Peeters<sup>4</sup>, E.Szumilin<sup>5</sup>.

<sup>1</sup> Epicentre, Paris,

<sup>2</sup> Médecins sans frontières, Malawi

<sup>3</sup> Ministry of Health, Malawi

<sup>4</sup> UMI 233 Institut de recherche pour le développement-University of Montpellier

<sup>5</sup> Médecins sans frontières, France.

### Background:

Adolescent are a growing proportion of the HIV-infected population in sub-Saharan Africa, mostly comprised of perinatally infected children who survived on ART. Nonadherence and drug resistance development are considered a particular challenge to this patient-group. We assessed virological response to first-line ART and drug resistance among adolescents receiving treatment in a decentralized HIV-programme supported by Médecins Sans Frontières in rural Chiradzulu District, Malawi. Routine VL monitoring was implemented in this programme by end of 2013.

### Methods:

Between May-November 2016 a cross-sectional assessment was conducted among HIV+ patients (10-19 years) receiving standard first-line ART for  $\geq 6$  months. Participants were recruited from five decentralized health centers and the district hospital outpatient-clinic. Plasma viral load (VL) was assessed with SAMBA-VL test (semi-quantitative, 1000 HIV RNA copies/ml) and by quantitative VL-method (Biocentric). Resistance-genotyping was performed if VL  $\geq 500$  copies/ml, and sequences interpreted by Stanford algorithms for drug resistance mutations.

### Results:

409 adolescents (median age 13 years, 57% females) were included after a median time of 6.7 years (IQR: 3, 14.3) on ART (85% AZT/3TC/NVP, 10% TDF/3TC/EFV). One-hundred-and-twenty-nine (31.5%) had SAMBA VL detectable ( $\geq 1000$  copies/ml), with a median CD4 of 552 cells/ml (IQR: 350, 785) among virological failures and 776 (IQR: 636, 1029) among non-failures ( $p < 0.001$ ), and 98% current clinical stage 1. Currently available resistance results (46/129) revealed 87% (40/46) dual drug-class resistance, 87% 3TC, 96% NVP and 76% EFV resistance (all major). Seventy-six percent remained susceptible to TDF, and 63% to AZT. Complete VL and resistance data will be presented.

### Conclusions:

Nearly one-third of adolescents on first-line ART had virological failure. Overall clinical condition was good, though CD4 counts were significantly lower among failures. Currently available resistance data indicate that most were on a failing regimen equivalent to a monotherapy, requiring prompt switch to second-line. Early and regular VL-monitoring and a robust once-per-day first-line should be considered to prevent major resistance accumulation in children and adolescents.

## HIV AND TUBERCULOSIS IN MALAWIAN PRISONS: A COMPREHENSIVE PREVENTION, SCREENING AND MANAGEMENT PROGRAMME

### Authors:

Simon Mendelsohn, Caroline Aluda, Reinaldo Ortuno, Altnay Shigayeva, Katherine Hilderband, Eric Goemaere

### Background:

Maula and Chichiri maximum security prisons in Malawi currently hold 2757 and 1936 inmates respectively, over 240% of their intended capacities. Congested cells, lack of infection control, and prevalent malnutrition result in a high transmission setting for tuberculosis (TB). Prior to any interventions, a limited antiretroviral therapy (ART) programme was the only healthcare service provided. A 2011 study estimated HIV (41%) and TB (4.4%) point prevalence in central Malawian prisons. In 2014 Médecins Sans Frontières' (MSF) introduced a comprehensive package of interventions to prevent, screen, treat, and monitor HIV and TB in these prisons according to the Southern African Development Community minimum standards for prisons. Auxiliary care includes a nutrition programme, hepatitis B vaccination, mental health screening, outpatient care and referral, health promotion, and advocacy. This research outlines the unique programmatic tools and structural interventions implemented by MSF, and the impact of these interventions on HIV care and TB transmission in the prisons.

### Methods:

An overview of the programmatic interventions introduced by MSF between June 2014 and December 2016 in Maula and Chichiri. Data were captured in TIER.Net, analysed using Stata 12.1, and results reported until 31/12/2016.

### Results:

The HIV point prevalence at Maula and Chichiri prisons was 13.7% [95% CI: 12.4–15.1%] and 20.6% [18.8–22.5%] respectively. There have been no confirmed cases of HIV transmission in the prisons. The UNAIDS 90-90-90 HIV cascade indicators are summarized.

### In the table below:

The number of inmates with active TB on treatment was 33 (1.2%; 95% CI: 0.8–1.7%) in Maula and 22 (1.1%; 0.7–1.7%) in Chichiri with HIV-TB co-infection of 24.2% (8/33) and 59.1% (13/22) respectively.

	Maula Prison	Chichiri Prison
Prisoners screened for HIV in past 6 months	2334/2359 (98.9%; 95% CI:98.4–99.3%)	1780/1807 (98.5%; 95% CI: 97.8–99%)
HIV positive on ART	363/378 (96.0%; 95% CI: 93.5–97.8%)	397/399 (99.5%; 95% CI: 98.2–99.9%)
On ART eligible for viral load with viral load taken	180/241 (74.7%; 95% CI: 68.7–80.1%)	244/281 (86.8%; 95% CI: 82.3–90.6%)
Viral load <1000 copies/ml	165/180 (91.7%; 95% CI: 86.6–96.2%)	229/244 (93.9%; 95% CI: 90.1–96.5%)



▶▶ **Conclusions:**

The model of care implemented in this challenging setting has been effective in helping to achieve the UNAIDS 90-90-90 goal and can be replicated in similar prison contexts. Active TB case finding and infection control efforts (including isoniazid preventative therapy) need to be intensified to curb transmission.

**“IF I’M NOT IN THE CLUB, I HAVE TO MOVE FROM ONE CHAIR TO ANOTHER.”  
A QUALITATIVE EVALUATION OF PATIENT EXPERIENCES OF ADHERENCE CLUBS  
IN KHAYELITSHA AND GUGULETHU, SOUTH AFRICA**

**Authors:**

Emilie Venables, Catriona Towriss, Zanele Rini, Xoliswa Nxiba, Suhair Solomon, Tali Cassidy, Anna Grimsrud, Landon Myer, Lynne Wilkinson

**Background:**

Quantitative outcomes of ART adherence clubs (ACs), an ART delivery model differentiating care for stable adults, have been well described for pilot and scaled implementation in South Africa. ACs are comprised of 15-30 stable ART patients, meet five times per year at their clinic/ community location and are facilitated by a lay health-care worker who distributes pre-packed ART. To date, there has been no qualitative evaluation of the ACs. We explored the experiences of AC members and non-members.

**Methods:**

Eleven focus group discussions with 85 participants and 43 in-depth interviews were conducted in Khayelitsha and Gugulethu, Cape Town, South Africa. FGD participants were current AC members and interview participants were stable patients who had never joined an AC and AC members referred back to clinician-led facility-based ‘routine’ care due to missed appointments or viral rebound. Both were conducted in isiXhosa, translated and transcribed into English, entered into NVivo, coded and thematically analysed.

**Results:**

ACs saved patients time and money and created peer-support networks. Perceived benefits included fewer clinic visits, longer drug refills and allowing refill collection up to 5 days late or by a ‘buddy’. Perceived disadvantages included reduced regular access to a clinician. Patients talked about membership as an achievement and considered being returned to routine care a ‘failure’. AC removal for missed appointments or viral rebound were acceptable rules to those in ACs, but perceived as unfair by those referred-out. Patients viewed little value in increased clinical support provided after losing AC benefits. Moving between ACs and routine care created frustration and broke down trust in the health-care system and relationships with health-care providers, especially when referral criteria weren’t fully understood. Stable patients not in ACs had heard of clubs, but did not feel sufficiently empowered to request enrolment if not directly offered by their clinician, or if offered, did not fully understand the enrolment process.

**Conclusions:**

The AC model was considered acceptable by patients, with specific appreciation for refill collection flexibilities. Improved patient understanding of enrolment processes, eligibility and referral criteria and the role of clinical oversight is essential for building relationships with health-care workers and trust in the overall health-care system.

## IMPLEMENTING TEST & START PROGRAM IN A RURAL CONFLICT AFFECTED AREA OF SOUTH SUDAN, THE EXPERIENCE OF MSF

### Authors:

M.C. FERREYRA ARELLANO<sup>1</sup>, Victoria Achut<sup>2</sup>, Richard Loku Lino<sup>2</sup>, Brenda Oulo<sup>3</sup>, E. Grandio<sup>4</sup>

<sup>1</sup> MEDECINS SAN FRONTIERES, MEDICAL DEPARTMENT, BARCELONA, Spain

<sup>2</sup> Ministry of Health, Republic of South Sudan, HIV/AIDS/STI, Juba, South Sudan

<sup>3</sup> Médecins sans Frontières Spain, barcelona, Spain,

<sup>4</sup> Médecins sans Frontières, Juba, South Sudan,

### Background:

Community-based HIV counselling and testing (CB-HCT) and early initiation of antiretroviral therapy (ART) reduce HIV transmission and mortality. Access to HIV care in settings with low ART coverage and/or affected by conflict is low; innovative strategies are needed to increase HIV care and ensure continuation of ART in case of instability. A pilot test and start project was implemented in rural areas of Yambio South Sudan, a chronically conflict-affected area aiming to determine feasibility and acceptability of this intervention.

### Methods:

Data from July 2015 to December 2016 was analysed. The project involved five mobile teams offering HCT and same day ART initiation at community level. Contingency plan included delivery of key messages on "what to do in case of conflict" during counselling sessions and coordination with community health workers (CHWs) to distribute "run-away bags" with 3 months of ART. Several episodes of acute instability occurred during this period which needed to activate the plan to ensure that patients would not interrupt their treatment.

### Results:

During this period 13,872 people were tested; 442 (3.2%) was found to be HIV positive and 344 (77.8%) started on ART. 224 (54.4%) were women with a mean age of 33 years, 207 (60.2%) had CD4 count below 500cells/ $\mu$ l. By December 2016, 67 (19.5%) patients were loss of follow up, 8 (2.3 %) died. Retention in care at 6 and 12 months of follow up was respectively 291(84%) and 277(81%) patients. 114 patients with available viral load results (85.7%) had VL less than 1000 copies/ml after 6 months of ART. At 17 months 251 (73%) patients are still under follow up and on ART.

### Conclusions:

Our program shows a high level of acceptance to HCT and early ART initiation despite rural context and security situation. Early results shows retention in care and virological suppression outcomes comparable with HIV programs at clinic level and without security issues. We believe this strategy could be extrapolated to other contexts with low access to ART and instability.

## IS HOSPITAL CARE AN OUTDATED APPROACH IN HIV AND TB PROGRAMMES? A PRE-IMPLEMENTATION ASSESSMENT OF ADMISSIONS TO A RURAL DISTRICT HOSPITAL IN MALAWI

### Authors:

Antonio Flores<sup>1</sup>, Patricia Mazuru<sup>1</sup>, Alexander Chijuwu<sup>2</sup>, Altyney Shigayeva<sup>3</sup>, Reinaldo Ortuno<sup>3</sup>

<sup>1</sup> Médecins Sans Frontières, Nsanje, Malawi

<sup>2</sup> District Health Office, Ministry of Health, Nsanje, Malawi

<sup>3</sup> Médecins Sans Frontières, Blantyre, Malawi

### Introduction:

Médecins Sans Frontières (MSF) has supported the Ministry of Health (MoH) in Nsanje District since 2011 in an effort to deliver improved HIV and TB services to the population. In 2016, a decision was made to extend support to the District Hospital (NDH) because of an observed high mortality rate among patients admitted due to advanced HIV disease and TB. In order to set priorities, we undertook a review of admissions and deaths.

### Methods:

All adult HIV- and TB-related admissions as well as all-cause adult deaths at NDH from May to December 2016 were reviewed.

### Results:

There were 1183 adult admissions altogether. HIV-related admissions amounted to 25.6% of all admissions ( $n = 303$ ), among which 65 (21% of all HIV-related admissions) were due to HIV/TB co-infection. Forty-one individuals of HIV-negative ( $n = 35$ ) or unknown ( $n = 5$ ) status were admitted due to severe tuberculosis. Overall, there were 149 deaths (death rate, 12.5%). The pooled risk of death from HIV-related causes or TB, regardless of HIV status, was 27.3% (94/344) vs 6.6% (55/839) in patients admitted for all causes other than HIV or TB ( $p < 0.0001$ ). In addition, at death, HIV-infected patients were younger than their peers of negative or unknown status (median age, 40 years vs 51 years,  $p < 0.001$ ). Among the HIV-related admissions, 90.7% of the patients had a known positive status upon arrival and 76.9% were ART-experienced. Among the HIV-infected patients, CD4 count was done in 102 patients. Median CD4 count was 142 cells/mm<sup>3</sup> (IQR, 56-315) and 79.4% of these patients had a CD4 count lower than 350 cells/mm<sup>3</sup>, whereas 18.6% presented with a CD4 count lower than 50 cells/mm<sup>3</sup>. A targeted viral load was ordered in 47 admissions, but no results were available at the time of outcome because of exceedingly long turnaround time.

### Conclusion:

HIV and TB are the main drivers of in-hospital mortality in Nsanje, Malawi and affect younger patients disproportionately. Despite treatment, advanced HIV disease was a frequent presentation to hospital. Investments in hospital care are needed to reduce mortality among defaulting and failing patients and thus put them back into the 90-90-90 loop.

## MYCOBACTERIUM TUBERCULOSIS LATERAL FLOW URINE LIPOARABINOMANNAN ASSAY (TB-LAM) AND CRYPTOCOCCAL ANTIGEN LATERAL FLOW ASSAY (CRAG LFA) AS SCREENING AMONG PATIENTS WITH ADVANCED HIV-DISEASE IN CONAKRY, GUINEA

### Authors:

Leonard NDAYISENGA<sup>1</sup>, Joseph-Désiré YUMA<sup>1</sup>, Ousseni W TIEMTORE<sup>2</sup>, Abdourahimi DIALLO<sup>1</sup>, BOUTOUABA C. Samy<sup>1</sup>, Ismael ADJAHO<sup>1</sup>, Fabien KABONGO<sup>1</sup>, Ellman TOM<sup>2</sup>, Petros Isaakadis<sup>2</sup>, Pr. Cissé MOHAMED<sup>3</sup>.

<sup>1</sup> Médecins sans Frontières (MSF), Conakry

<sup>2</sup> Southern Africa Medical Unit (SAMU), Cape Town

<sup>3</sup> Donka University Teaching Hospital, Dermatology Department, Outpatients HIV Clinic, Guinea.

### Background:

Guinea is a low HIV prevalence country (1.7%) with a high number of documented AIDS-related deaths in 2015 [4600 (3700-5600) <http://aidsinfo.unaids.org>]. Routine hospital morbidity and mortality data from tertiary hospitals consistently highlight tuberculosis and cryptococcal meningitis to be commonly leading causes of mortality and frequently diagnosed among advanced HIV-infected patients. Médecins sans Frontières (MSF) started systematically screening for tuberculosis and Cryptococcus infection advanced HIV- infected patients using point-of-care technologies to foster early detection and treatment. The aim of this study was to document this screening strategy at an MSF HIV-clinic in Conakry, Guinea.

### Methods:

Retrospective analysis of routine data collected in laboratory registers. TB-LAM and CrAg LFA tests were used to screen HIV-infected patients >15 years presented to care with CD4 count < 100 cells/ul, irrespective of antiretroviral treatment (ART) status, between 1st January 2015 to 30th June 2016. We estimated screening up-take and the yield of TB and cryptococcal antigenemia among patients screened.

### Result:

Among 616 HIV- infected patients with CD4 count < 100 cells/ml, mean age was 37 years [Inter Quartile Range (IQR): 15-86], median CD4-count was 28 cells/ml (IQR: 1-100), female were 66%, and 15 (2%), 47(7%), 388 (62%), 74 (12%) were on stage I, II, III & IV respectively. Up-take of screening was: 366/616 (59%) for CRAG test and 174/616 (28 %) for TB-LAM. Respectively, 32 % of patients were TB-LAM Positive and 4% of patients screened using lateral flow assay for CrAg were positive. According to the ART status, the prevalence of TB-LAM positive tests was 37% in post ART, 26% in pre ART patients and 4%, the same in pre ART and post ART patients, for CRAG test.

### Conclusion:

Uptake of a screening strategy using point-of-care tests for TB and cryptococcal infection among patients with advanced HIV disease in Guinea was low, especially for TB. The yield was high for TB and relatively low for cryptococcal disease. The implementation of a systematic screening strategy in settings with high advanced HIV disease burden is challenging but remains essential.

## PERFORMANCE OF THE POINT OF CARE CEPHEID GENEXPERT HIV QUAL FOR EARLY INFANT DIAGNOSIS – FIELD EXPERIENCE IN KENYA

### Authors:

Valarie Opollo<sup>1</sup>, Alliance Nikuze<sup>2</sup>, Emily Anyango<sup>1</sup>, Felix Humwa<sup>1</sup>, Boaz Oyaró<sup>1</sup>, Stephen Wanjala<sup>2</sup>, Willis Omwoyo<sup>3</sup>, Maxwell Majiwa<sup>1</sup>, David Maman<sup>2</sup>

<sup>1</sup> KEMRI/CDC, Kisumu

<sup>2</sup> MSF EPICENTRE, France

<sup>3</sup> Ministry of Health, Ndhiwa

### Background:

Access to testing services at the patient clinic can reduce loss to follow-up and result turn-around times hence minimizing barriers to early linkage to care and treatment among HIV infected children. Currently samples for HIV diagnosis are sent to centralized testing facilities which are located only at specific regions in Kenya. However, there are Point of Care (POC) early infant diagnosis (EID) technologies elsewhere, but none has been evaluated in Kenya despite the urgent need for data to inform policy formulation regarding EID. The Cepheid Xpert technology for POC EID, offers a great opportunity to minimize the HIV associated high morbidity and mortality rates through decentralization of early HIV testing. This technology also allows for same-day results thus facilitating prompt linkage to care. We evaluated the GeneXpert HIV Qual EID POC in Homabay County against the standard of care platform, Roche CAP/CTM HIV-1 qualitative PCR, using dried blood spots (DBS).

### Methods:

Between January - July 2016, DBS samples were collected from HIV exposed children <18 months of age enrolled in a cross-sectional study. Samples were collected by qualified nurse counselors, and were tested by trained technicians using field based GeneXpert and conventional laboratory based Roche CAP/CTM HIV-1 qualitative PCR. Sensitivity and specificity were determined.

### Results:

3814 mother/baby pairs were included in the study, out of which 968 babies were HIV exposed as per the mothers' HIV status. A total of 34 (3.5%) children were concordantly positive using both platforms. GeneXpert yielded a sensitivity of 97.1% and specificity of 100% with an overall error rate of 0.9%. The PPV and NPV were 100% and 99.9% respectively.

### Conclusion:

Our findings show that the POC GeneXpert performs comparable to the conventional CAP/CTM using DBS, suggesting that this technology may be adopted in the laboratory near POC and used in quick diagnosis of HIV and its result used to inform linkage to care of children who are found to be HIV exposed at the same time supplementing the progress of EID in the region.

## PLUGGING THE LEAKS; STRENGTHENING RELAY AND DOCUMENTATION OF VIRAL LOAD RESULTS AND QUALITY OF PAEDIATRIC CARE NECESSARY TO ACHIEVE THE LAST 90

### Authors:

Wanjala Sitima<sup>1</sup>, Vandenbulcke Alexandra<sup>1</sup>, Pasquier Estelle<sup>2</sup>, Hennequin William<sup>2</sup>, Anyiko Victor<sup>3</sup>, Masiku Charlie<sup>3</sup>, Orege Michael<sup>3</sup>, Szulmiłn Elisabeth<sup>2</sup>, David Maman<sup>4</sup>, Owiti Thadeus<sup>5</sup>, Omoyo Willis<sup>5</sup>

<sup>1</sup>MSF France Nairobi, Kenya

<sup>2</sup>MSF France Paris, France

<sup>3</sup>MSF France Homabay, Kenya

<sup>4</sup>Epicentre - Intervention epidemiology and training department Southern Africa Medical Unit (SAMU) - Médecins Sans Frontières Cape Town, South Africa

<sup>5</sup>Ministry of Health, Homabay County, Kenya

### Background:

Ongoing review of the quality of care and treatment programs is necessary to achieve the last two of the 90-90-90 targets. In a quality of care review, we sought to assess retention on HAART and 12-month viral suppression among patients enrolled for care in decentralized ART sites in Ndihiwa Sub-County, Kenya.

### Methods:

In December 2016, as part of routine program quality improvement, we conducted file reviews for 879 patients drawn from 26 facilities (1 hospital, 2 clinics, 20 dispensaries, 3 health centres) in a rural sub-county. Patients started on ART between June to November 2015 were included. Summary statistics were used to describe the cohort and chi-square test to assess association between various determinants and viral suppression at 12 months.

### Results:

Of 878 patients, 68.4% (602) were female, the median age at ART initiation was 28 years (IQR 22 – 36) and 10.4% (91/873) were aged 14 years or below. Viral load results were documented in the files of 42% [95% CI, 38.9% - 45.6%] and were less likely to be documented in the hospital (8/113, 7.1%) and health centres (29/124, 23.4%) compared to dispensaries (328/630, 56.1%),  $p < 0.05$ . Viral suppression varied with age from 65%, 50% and 55.5% among those aged 0-4, 5-9 and 10-14 up to 89.7% and 91.6% among those aged 15-24 and 25+, respectively. There were no gender differences in viral suppression; males 86.2% vs females 87.9%,  $p = 0.63$ . Viral suppression among individual facilities ranged between 60% and 100% with 9 of the 26 facilities having a 12-month viral suppression above 90%. Overall at 12 months, 81.9% [95% CI, 79.1% - 84.4%] were alive and on ART; clinics 81.2% [95% CI, 48.2% - 97.7%], dispensaries 84.1% [95% CI, 81.0% - 87.0%], health centres 76.5% [95% CI, 67.8% - 83.8%] and the hospital 75.2% [95% CI, 66.2% - 82.9%].

### Conclusions:

Coverage of viral load was very low. To reliably assess progress towards achieving the 90-90-90 goals, there is need to strengthen relay, file documentation and utilization of viral load results. A focus on improving quality of care for children is necessary to achieve the 90% viral suppression target.

# POTENTIAL IMPACT OF IMPLEMENTING PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG YOUNG WOMEN IN COMBINATION WITH SCALING-UP ANTIRETROVIRAL THERAPY AND MALE CIRCUMCISION ON HIV INCIDENCE IN SHISELWENI REGION, SWAZILAND: A MODELLING STUDY

## Authors:

S. Blaizot<sup>1,4\*</sup>, B. Riche<sup>1-4</sup>, R. Teck<sup>5</sup>, I. Ciglenecki<sup>5</sup>, B. Kerschberger<sup>6</sup>, M. Pasipamire<sup>7</sup>, N. Lukhele<sup>7</sup>, C. Jamet<sup>5</sup>, D. Maman<sup>8</sup>, R. Ecochard<sup>1,4</sup>

<sup>1</sup> Service de Biostatistique, Hospices Civils de Lyon, Lyon, France

<sup>2</sup> Université de Lyon, Lyon, France

<sup>3</sup> Université Lyon 1, Villeurbanne, France

<sup>4</sup> CNRS UMR 5558, Equipe Biostatistique-Santé, Laboratoire de Biométrie et Biologie Evolutive, Villeurbanne, France

<sup>5</sup> Médecins Sans Frontières, Geneva, Switzerland

<sup>6</sup> Médecins Sans Frontières, Mbabane, Swaziland

<sup>7</sup> Swaziland National AIDS Program (SNAP), Mbabane, Swaziland

<sup>8</sup> Epicentre, Médecins Sans Frontières, Paris, France

## Background:

Swaziland is one of the countries most affected by HIV. The HIV prevalence and incidence in Shiselweni region (south of Swaziland) were estimated respectively at 31% and 2.8 per 100 person-years among adults in 2011. Young women continue to be at high risk of HIV infection, with incidence levels estimated at 3.7 per 100 person-years among 18-24 years. Our aim was to assess the potential impact of pre-exposure prophylaxis (PrEP) use among young HIV-uninfected women, in combination with antiretroviral therapy (ART) and voluntary medical male circumcision (VMMC), on HIV spreading over four years in this region.

## Methods:

A mathematical model was used to compare the impacts on the HIV incidence rate of extending ART eligibility to all HIV-infected individuals, increasing VMMC, and implementing PrEP use among HIV-uninfected women. This model used sex- and age-specific data on adults (18-49 years) from the 2011 Swaziland HIV Incidence Measurement Survey. Baseline ART coverage among all HIV-infected individuals was 36%. Baseline VMMC coverage among HIV-uninfected men was 12%. Circumcision was assumed to reduce female-male transmission by 60% and PrEP to reduce male-female transmission by 65%.

## Results:

With no additional interventions (i.e. ART at CD4<350 and baseline VMMC), incidence would decrease by 24% over 4 years compared to the baseline level. Reaching 65% ART coverage, the decrease in incidence would be 38% over 4 years. The decrease under PrEP among 18-29-year-old HIV-uninfected women at 60% coverage or VMMC at 35% coverage would be close to this level. However, increasing ART coverage in accordance with the 90-90-90 UNAIDS target would be the most effective intervention in reducing overall and sex-specific incidence rates. Combining ART at 65% coverage with the VMMC and PrEP interventions would be even more impactful: the incidence rate would be halved after 4 years compared to the baseline rate.

## Conclusion:

Extending ART eligibility to all HIV-infected individuals was adopted in Swaziland in 2016; achieving high levels of ART coverage could lead to high decrease in HIV incidence. However, in this hyper-endemic setting, combining these guidelines and PrEP among young women (and VMMC) could be an effective strategy in reducing the incidence to low levels.

## **PREGNANT AND BREASTFEEDING WOMEN HEALTHCARE SEEKING IN A HIGH HIV PREVALENCE AREA, NDHIWA SUB-COUNTY, KENYA: A QUALITATIVE STUDY**

### **Authors:**

K. Ondeng'e<sup>1</sup>, V. Akelo<sup>1</sup>, W. Hennequin<sup>2</sup>, S. Wanjala<sup>2</sup>, A. VandenBulcke<sup>2</sup>, W. Omwoyo<sup>3</sup>, A. Nikuze<sup>4</sup>, V. Opollo<sup>1</sup>, D. Maman<sup>4</sup>

<sup>1</sup> Kenya Medical Research Institute, HIV Research Branch, Kisumu, Kenya

<sup>2</sup> Médecins Sans Frontières, Nairobi, Kenya

<sup>3</sup> Ministry of Health, Government of Kenya, Homabay, Kenya

<sup>4</sup> Epicentre, Intervention epidemiology and training department Southern Africa Medical Unit (SAMU) - Médecins Sans Frontières, Cape Town, South Africa

### **Background:**

The number of newly infected children per year in Kenya is still high at 13,000 despite increased provision and uptake of prevention of mother to child (PMTCT). Better understanding of health seeking is critical to improve and design PMTCT programs. We assessed women's healthcare seeking during pregnancy and breastfeeding.

### **Methods:**

Individual in-depth interviews were conducted with 40 pregnant and breastfeeding women and 20 men. Key informant interviews were conducted with 20 healthcare workers across antenatal care facilities in Ndhiwa sub-county. This qualitative data collected between March and June 2016 was managed using Nvivo 8.0. A descriptive, exploratory and explanatory approach was used in the analysis of healthcare seeking behavior.

### **Results:**

Main sources of healthcare included both alternative (trusted traditional birth attendants (TBA), faith healers, herbalists and traditional healers) and modern (public and private hospitals, chemists, shops and market pill vendors). TBA was consulted mainly because they were trusted and allowed convenient modes of payments not necessarily monetary. Alternative sources of healthcare were preferred for conditions that were believed to be not understood by modern medicine. Hospitals was preferred for monitoring the safety of the baby, health education, availability of complications and emergency resources (e.g. blood) and to acquire the antenatal care card as proof of compliance and symbol of a being a good patient in case of future need. Barriers to seeking facility care included distance to the facility, transport costs, costs of facility care, long queues, time spent waiting, poor provider's attitude, perception of the illness, and fear of HIV test.

### **Conclusions:**

It may be useful for health providers to appreciate the full reality of medical pluralism and its implications on healthcare utilization. Involving alternative care providers through education and training programs can be used for prevention, referral and linkages to requisite skilled care.

## PREVALENCE OF DIABETES AND HYPER CHOLESTEROLEMIA AMONG ADULTS ON ART FOR >10 YEARS IN MALAWI.

### Authors:

Sekai C Mathabire, Alia Tayea, Joseph Bitilinyu-Bangoh, Elkin Bermudez, Leon Salumu, Isabel Amoros, Elisabeth Szumilin, Zengani Chirwa, Fernanda Rick, David Maman

### Background:

Data on cardio-vascular disease (CVD) risk among patients receiving long term ART are critically needed in sub-Saharan Africa. We assessed prevalence of diabetes, hypertension, hypercholesterolemia and other CVD risk among those on ART for more than 10 years in Chiradzulu, Malawi.

### Methods:

HIV positive patients receiving ART for more than 10 years (patients) and HIV-negative people living around the selected health centers (controls) were invited to participate. Following informed consent, a standardized questionnaire, clinical, and laboratory exams (HbA1C, and LDL Cholesterol) were performed and the Framingham Risk Score (FRS) calculated for each participant. Two multivariate logistic regressions were used to assess the association between high HbA1C level (>6%) or hyperlipidemia and ART status.

### Results:

A total of 379 ART patients and 356 controls were included in the study. Median age was 48 years [IQR 42-57] and 73.2% [95%CI 69.9-76.3] were female. The median time on ART for patients was 11.6 years [IQR 10.6-12.4].

The prevalence of HbA1c  $\geq 6.0\%$  in the 30-44, 45-59, and  $\geq 60$  year's age groups was 5.0%, 6.4%, and 13.2% among patients, and 3.4%, 4.2%, and 1.7% among controls respectively. Using the multivariate model with variables; type of participant, age group, gender, education, and BMI, patients were more likely than controls to have a HbA1C >6.0% (aOR 1.9; 95%CI 1.1-3.2,  $p=0.02$ ). Prevalence of LDL Cholesterol >130mg/dl % in the 30-44, 45-59, and  $\geq 60$  year's age groups was 8.0%, 15.4% and 23.7% among patients and 1.8%, 12.5% and 11.8% among controls respectively. Using the multivariate model with same variables as above, difference of having LDL >130mg/dl between patients and controls was only marginally significant (aOR 1.6; 95%CI 0.9-2.7;  $p=0.1$ ).

FRS increased with age and male gender, up to 41.2% and 53.9% of male patients and controls age >60 having a FRS  $\geq 20\%$ , respectively. However, no significant differences in FRS were identified between patients and controls.

### Conclusions:

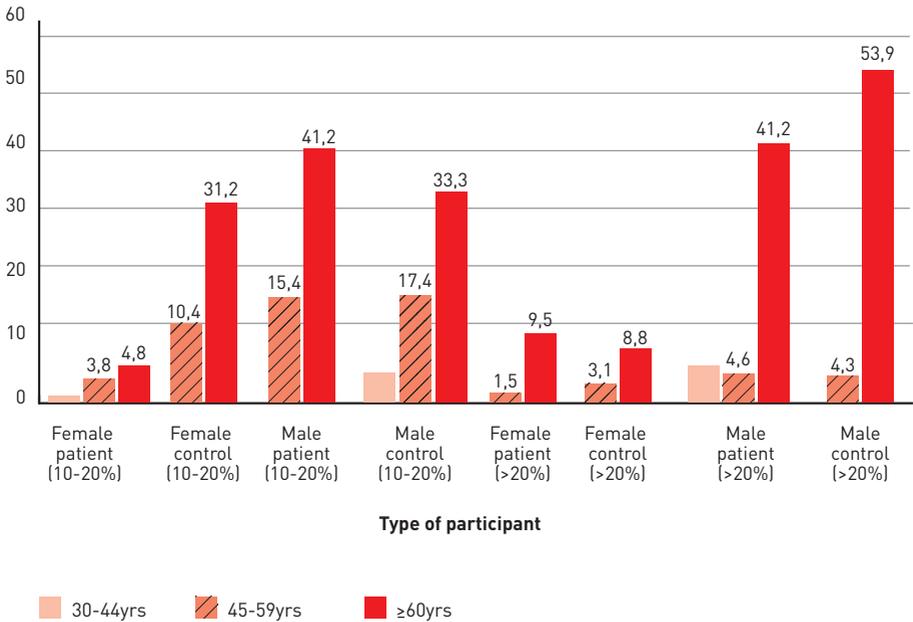
The prevalence of diabetes and hypercholesterolemia were significantly higher for patients on ART >10 years compared to controls. However, FRS was high for elder HIV-negative controls, suggesting that an approach focusing on decreasing CVD risk should target both HIV-positive and at high risk HIV negative.



►► **Figure:** Framingham risk score according to age group for patients who have been on ART for more than 10 years and among controls in Chiradzulu District, Malawi

**Proportion of patients and controls with FRS 10-20% and  $\geq 20\%$  stratified by age and sex**

Proportion



## RETENTION AND VIRAL SUPPRESSION OUTCOMES OF PATIENTS ENROLLED IN FAMILY ART ADHERENCE CLUBS IN CAPE TOWN, SOUTH AFRICA

### Authors:

Priscilla Tsondai<sup>1</sup>, Lynne Wilkinson<sup>1,2</sup>, Ruth Henwood<sup>2</sup>, Angelica Ullauri<sup>1</sup>, Tali Cassidy<sup>2</sup>, Sindiso Tutu<sup>3</sup>, Mary-Ann Davies<sup>1</sup>

<sup>1</sup> Centre for Infectious Diseases Epidemiology and Research, School of Public Health and Family Medicine, University of Cape Town, Cape Town, South Africa

<sup>2</sup> Médecins Sans Frontières, Khayelitsha, Cape Town, South Africa

<sup>3</sup> Department of Health, Provincial Government of the Western Cape, Cape Town, South Africa

### Background:

Design and implementation of differentiated antiretroviral therapy (ART) delivery models are important for children as well as adults. Since 2011, HIV positive children (stable on ART) and their caregivers (stable or not on ART) were offered the option to enrol in family ART adherence clubs (FCs) - a healthcare worker managed group model of ART delivery for families with five visits per year. Patients that require more frequent adherence or clinical follow-up are referred back to clinician-led individual care. We describe retention and viral suppression outcomes of patients enrolled in FCs.

### Methods:

We conducted a retrospective cohort analysis of children and caregivers on ART enrolled in FCs between March 2011 and December 2014. We linked patients to service access data to validate retention and virologic outcomes and using Kaplan-Meier methods estimated the outcomes: retention, loss to follow up (LTFU), transfers (TFO), mortality and viral load completion and suppression ( $\leq 400$  copies/mL).

### Results:

163 children and 84 caregivers on ART were included in this analysis, contributing 733 person-years of follow up (88% in FC, median 3.7 years). At enrolment, 45% of children were female, median age 8.7 (Interquartile range (IQR), 6.3-11.1) years; and 95% of caregivers were female, median age 37.7 (IQR, 33.5-41.8) years. Cumulatively retention remained high from 12 to 36 months among both children (94-86%) and caregivers (94-90%) (Table 1). After 36 months, 86% [95% confidence interval (CI), 78-92] of children and 95% [95% CI, 83-99] of caregivers were virally suppressed, with viral load completion in 98% and 89% of patients respectively.

### Conclusion:

The FC model ensured simplified, family-centred HIV care and ART refill access for children and their caregivers, supporting high rates of retention and viral suppression. These findings provide evidence that differentiated ART delivery models can safely be provided to stable children and family-centred management is feasible within such group models.



►► **Table 1:** Kaplan-Meier estimates of loss to follow up, transfer out and retention by duration of follow up

<b>Duration of follow up</b>	<b>n (%)</b>	<b>LTFU % (95% CI)</b>	<b>TFO % (95% CI)</b>	<b>Retention % (95% CI)</b>
<b>Children</b>	<b>163</b>			
12 months	148	2.5 (0.9 – 6.5)	3.8 (1.7 – 8.3)	93.7 (88.7 – 96.6)
24 months	139	4.5 (2.2 – 9.3)	3.8 (1.7 – 8.3)	91.8 (86.3 – 95.2)
36 months	112	9.0 (5.3 – 15.1)	5.3 (2.7 – 10.3)	86.1 (79.5 – 90.8)
<b>Caregivers</b>	<b>84</b>			
12 months	74	5.0 (1.9 – 12.7)	1.2 (0.2 – 8.2)	93.9 (85.9 – 97.4)
24 months	59	7.6 (3.5 – 16.2)	1.2 (0.2 – 8.2)	91.3 (82.6 – 95.8)
36 months	45	7.6 (3.5 – 16.2)	2.9 (0.7 – 11.3)	89.7 (80.4 – 94.8)

*LTFU – loss to follow up; TFO – transfer out; CI – confidence interval*

## SCALING UP AND REACHING THE 3RD 90 WITH COMMUNITY TESTING AND COUNSELORS SUPPORT

### Authors:

Bernadette Gergonne, Amir Shroufi, Viwe , Liesbet, Rina, Sarah Jane, Gilles.

### Background:

In Kwazulu-Natal (KZN), South Africa (SA), HIV prevalence is 25% in adults and up to 50% in women at 35 years. Since 2011 MSF, in collaboration with the department of health of KZN has implemented community interventions (rural population of 114000) aimed at reducing HIV incidence and reinforcing the HIV cascade of care. Community testing includes mobile and fixed-testing units, and door-to-door testing. Activities focusing on the 3rd 90 include initiation and adherence counseling, and clinical mentoring.

### Method:

Twelve month retention in care (RIC), Viral Load (VL) completion (9 to 18 months after initiation) and suppression (VL <400cp/ml) were calculated for all patients treated  $\geq$  6 months initiated between 2010 and 2015.

### Results:

The total number of active ART patients increased from 3601 to 12150.

In 2010, 1157 patient were initiated, 54% of them with a CD4<200. Only 53% of initiated were suppressed after one year. In 2012, community testing was introduced and initiations doubled. Retention in care decreased to 80% without decrease of the overall cohort. VL completion increased from 45% up to 73%. In 2014, 90% (1671/1869) of patients were suppressed after one year of treatment. Among those initiated <200 CD4/ml, the proportion suppressed increased to 83%. Among all active patients on ART  $\geq$ 6 months at the end of 2015, 85% (9390/10995) had a viral load done in time and among those, 90% (8498/9390) were suppressed. In the overall cohort, 5.75% patients (699/12150) were on 2nd line regimen.

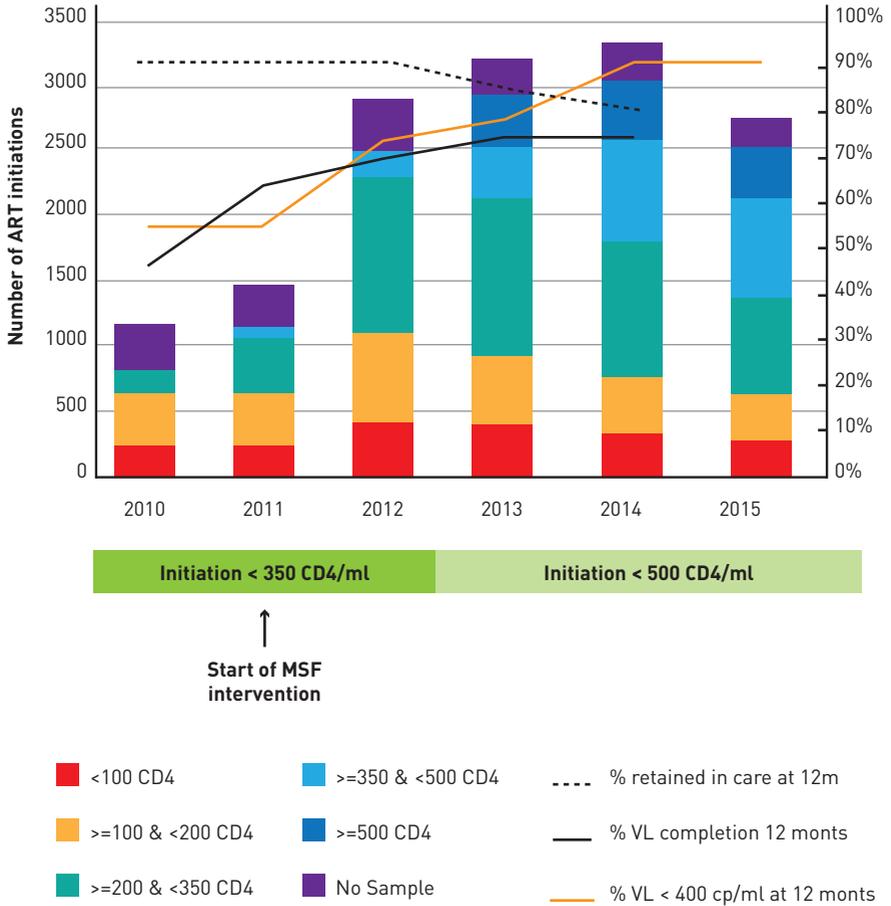
### Conclusion:

With "Test and Treat" introduced in SA in 2016, these results show that, with focused interventions on testing, adherence and support to the quality of care, it is possible to scale up initiation and increase VL completion and suppression. Such strategies have supported achievement of the 3r 90, and will support the achievement of the first two 90's.





**Number of ART initiations with CD4 level, 12 month RIC, VL completion and suppression (< 400 cp/ml), in 9 clinics in KZN from 2010 to 2015.**



## STOCK OUTS CAUSE CATASTROPHIC EXPENDITURE AND FURTHER IMPOVERISHMENT OF ART PATIENTS IN SOUTH AFRICA

### Author:

Quentin Baglione - Médecins Sans Frontières – AEDES

### Background:

The Republic of South Africa (RSA) has the largest ART cohort with over 3.3 Million clients. However, the country faces substantial ARV stock-outs at point of service, with 20% of public health facilities reporting at least one ARV out of stock the day of the survey<sup>1</sup>. This economic analysis aims at estimating the economic impact of ARV stock-outs on patients.

### Methods:

We use a modelling approach resorting on already-existing data, combining the stock-out national survey database with data from literature review of ART services in South Africa. Prevalence and duration of ARV stock-outs are combined with unit costs and patients characteristics. Analyses are run by category of ARVs at provincial level using 2015 data.

### Results:

In 2015, 709 stock-outs of ARV were reported nationwide, resulting in 33,189 ART clients leaving their facility with no medicines, a shortened supply or an incomplete regimen. Our findings further suggest that 80,440 ART clients would have been affected if facilities had not managed to (informally) borrow ARVs from each other's and change patient regimen. A patient affected by an ARV stock-out therefore bore the financial burden of an extra visit, estimated to an average ZAR 68 (USD 5.62). This cost can be considered as a catastrophic expenditure for at least 50% of ART clients (median income of ZAR 972), and as an impoverishing expenditure for at least 40% of ART clients (already facing financial distress for monthly ART services).

### Conclusions:

Extra cost resulting from stock outs of ARVs significantly increase financial distress on thousands of ART clients in South Africa, further impoverishing the poorest and jeopardizing their access to care. The 90/90/90 objective will soon result in a dramatic increase in the number of ART clients, and therefore in the number of patients potentially affected. In addition, the RSA spent ZAR 8.9 Billion (USD 850.3 Million<sup>3</sup>) in 2013/14 on HIV treatment activities. Addressing stock-outs and ensuring ARV availability at point of service should therefore be a priority.

1 Stock-out national survey 2015, Stop Stock-out Project (SSP)

2 1 USD = 12.1 ZAR, June 2015, INFOREURO

3 1 USD = 10.4 ZAR, January 2014, INFOREURO

## UNDERSTANDING TREATMENT FAILURE AMONGST PATIENTS ON SECOND-LINE ANTIRETROVIRAL THERAPY REGIMENS: A MIXED METHODS STUDY IN MÉDECINS SANS FRONTIÈRES-SUPPORTED HIV PROGRAMMES IN RURAL MALAWI AND KENYA

### Authors:

Birgit Schramm, Rose Burns, Philippe Blasco, Jecinta Oruko, Alexandra Vandenbulcke, Elisabeth Szumilin, Irene Mukui, Estelle Pasquier, Valentina Carnimeo, Ankur Rakesh, Denis Ardiét, Thandikile Zimba, Thokozani Kalua, Alison Wringe.

### Background:

Patients' understanding of the relationship between viral load and antiretroviral therapy may influence their adherence to treatment, particularly among those who have experienced treatment failure. We investigated second-line patients' understanding of HIV, treatment and viral load and its association with viral load suppression.

### Methods:

**Quantitative:** Adult patients receiving second-line antiretroviral therapy regimens for at least 6 months in Médecins sans Frontières-supported programmes in Chiradzulu (Malawi) and Homa Bay (Kenya) underwent viral load testing and were interviewed to assess knowledge about HIV, treatment and viral load. A knowledge score was calculated by summing the number of correct answers to 9 true/false questions on antiretroviral therapy.

**Qualitative:** In each site, repeated in-depth interviews were conducted with a purposive sample from the survey participants (Kenya:n=16) and (Malawi:n=13) and 5 health workers to explore experiences and understanding of second-line medication. Interview data were transcribed, translated and coded. Content analysis identified emerging themes from the data.

### Results:

Quantitative: In Kenya, 299 (51% female) and in Malawi 212 (59% female) were surveyed. Knowledge about antiretroviral therapy was high in both sites, whereas understanding of viral load was more limited, with some differences by site (table 1).

	KENYA					MALAWI				
	VL < 1000 copies/ml		VL ≥ 1000 copies/ml		p value	VL < 1000 copies/ml		VL ≥ 1000 copies/ml		p value
	n	(%)	n	(%)		n	(%)	n	(%)	
<b>Total surveyed n (%)</b>	256	(86)	43	(14)	n/a	188	(89)	24	(11)	n/a
Good ART knowledge: (8/9 questions correct)	192	(75)	31	(72)	0.67	186	(99)	24	(100)	0.61
Doesn't know if ever had VL test	39	(15)	9	(20)	0.56	9	(5)	1	(4)	0.64
Doesn't know what VL test is for	43	(17)	15	(35)	0.006	28	(15)	4	(17)	0.76
Knows that VL test can check if ART is working	57	(22)	7	(16)	0.37	122	(65)	17	(71)	0.56
Knows that VL test can monitor adherence	11	(4)	0	()		72	(38)	9	(36)	0.94



▶▶ Qualitative data revealed that moralistic messages from health workers in both settings meant that some patients believed that high viral load results and treatment failure were due to unprotected sex, use of traditional medicine or witchcraft, particularly in Malawi. Many patients did not explicitly link viral load results to their own pill-taking or the effectiveness of their treatment.

**Conclusions:**

Despite excellent knowledge about antiretroviral therapy, many second-line patients have limited understanding of viral load and its relationship to adherence and treatment failure. Counselling sessions should address the missed opportunity to explain this relationship which may promote regular pill-taking. Supportive counselling approaches should be favoured rather than blaming patients' sexual behavior or use of traditional medicine for treatment failure.

## VIRAL LOAD MONITORING WITH SAMBA-1, A SEMI-QUANTITATIVE NEARLY POINT-OF-CARE METHOD IN ARUA, A RURAL DISTRICT, UGANDA

### Authors:

S. Nicholas<sup>2</sup>, E. Poulet<sup>2</sup>, B. Schramm<sup>2</sup>, E. Ajule<sup>1</sup>, P Adroa<sup>1</sup>, H Candiru<sup>1</sup>, M. Gueguen<sup>3</sup>, S. Balkan<sup>3</sup>

<sup>1</sup> Médecins sans frontières, Uganda,

<sup>2</sup> Epicentre, Paris,

<sup>3</sup> Médecins sans frontières, Paris

### Background:

Point-of-care (POC) systems for viral load (VL) monitoring have considerable potential but evidence from 'real-life' use is limited. In September 2013, Médecins sans frontières, with UNITAID funding implemented SAMBA-1, a semi-quantitative (1000 copies threshold) nearly point-of-care VL test system in the Regional Referral Hospital of Arua, a rural district, Uganda. The objective was to provide access to routine VL testing to approximately 7000 ART patients followed by Ministry of Health (MOH). We describe the VL cascade to highlight successes and challenges in the first 3 years of implementation.

### Methods:

We performed a retrospective observational cohort analysis using routine patient monitoring data. We describe the sequence of VL tests performed between September 2013 and November 2016 for patients followed with at least 6 months on ART (eligible for VL), and outcomes up-to 1 year after an initial VL $\geq$ 1000 copies/ml.

### Results:

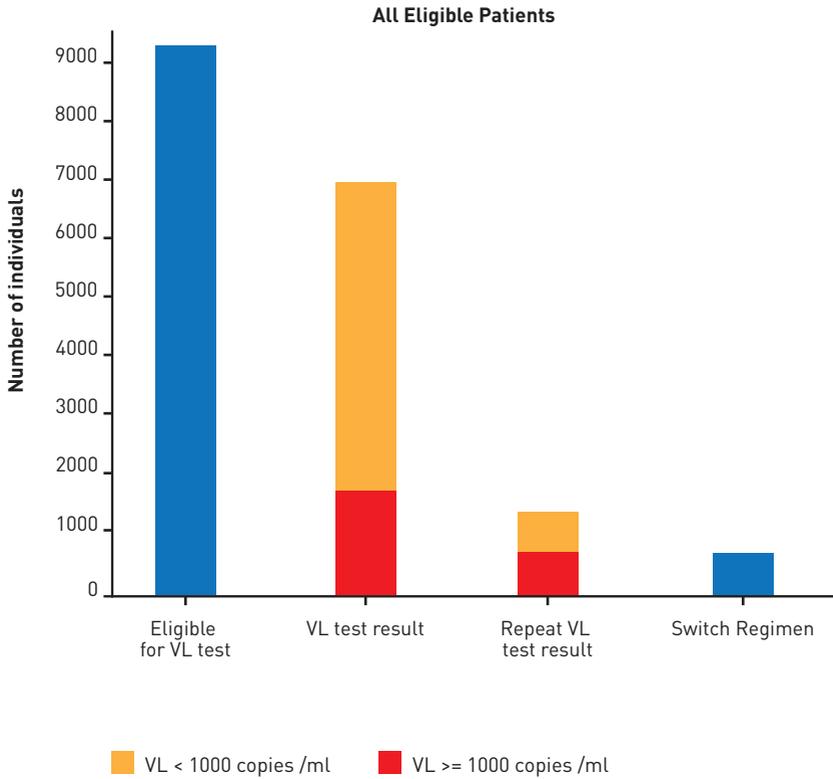
Over the study period, 9,305 patients were eligible for VL and coverage was 78.1%. Of the patients tested, 1748 (24.1%) had a VL  $\geq$ 1000 copies/ml, and of these, 1221 (69.9%) received a repeat VL test. Median time to repeat VL was 6 months (following MOH protocol), at which 457 (37.5%) suppressed, 763 (62.5%) remained with a VL $\geq$ 1000 copies/ml. Of the 763 patients with two consecutive VLs  $\geq$ 1000 copies/ml, 59 (7.7%) were switched to the next ARV line. Clinical review was same day for 92% of tests. National VL testing protocol was incomplete for 3265 (35.1%) eligible patients, of whom 45.3% were lost-to-follow-up, 1.5% died and 13.2% transferred-out by date analysis censorship.

### Conclusions:

POC VL testing achieved good VL-testing coverage, permitted same-day clinical review of results and timely follow-up. However, ensuring every patient gets their VL test remains a challenge in a dynamic cohort. Close program monitoring and support to staff is essential to identify and address gaps in the VL monitoring cascade. Very few treatment failures switched regimen. Key constraint is reluctance, by clinicians to switch patients based on semi-quantitative results and by some patients even after failure confirmation. The issue could be overcome by improving clinicians' knowledge on the validity of the 1000-threshold, patients' education and psychosocial support.



►► **Figure 1:** Number of eligible patients completing each step of the Ugandan MOH VL testing protocol



## WHY DO PEOPLE DELAY SEEKING HEALTH-CARE FOR ADVANCED HIV? A QUALITATIVE STUDY FROM A LOW-COVERAGE SETTING IN KINSHASA, DEMOCRATIC REPUBLIC OF CONGO (DRC)

### Authors:

Emilie Venables, Ilse Casteels, Maria Mashako, Eric Goemaere, Gilles van Cutsem

### Background:

HIV prevalence in DRC is estimated to be 1.2%, and access to HIV testing and treatment remain low across the country. National ART coverage is among the lowest worldwide (23% in 2014). While 64% of the population lives below the poverty line, 43% of health expenditure is made by households. User fees severely limit health-care access, and many people with HIV start ART late or interrupt treatment due to cost. At the Centre Hospitalier Kabinda (CHK) in Kinshasa, median CD4 count at admission was 74 cells/uL and in-patient mortality was 25%; 70% of patients were previously on ART and 50% had interrupted treatment for more than 6 months and 20% were treatment failures not managed accordingly. A qualitative study was conducted to explore why patients arriving at CHK delayed seeking treatment.

### Methods:

24 in-depth interviews were carried out with currently- and previously-hospitalised patients, relatives/care-givers of patients and health-care workers in CHK. Patients included those who were ART-naïve and non-naïve. Participant observation was also conducted. Interviews were conducted in French and Lingala. All interviews were translated into English, entered into NVivo, coded and thematically analysed.

### Results:

Patients, care-givers and health-care workers gave similar reasons for late arrival of patients including lack of training amongst health-care workers on treatment failure management; religious leaders encouraging people not to take ART; poor patient understanding of diagnosis/treatment; stigma and lack of economic resources to pay for consultations. Stigma prevented patients from disclosing and seeking support from their relatives. Health-care workers felt HIV testing was not offered early enough and that adherence support was insufficient. Clinics were described as 'boutiques' where every intervention had an additional – often unaffordable – cost.

### Conclusion:

Cost, stigma, lack of patient and health-care worker knowledge and misinformation by religious leaders causes delays in seeking health-care. These factors jeopardise the assumption that lifelong HIV treatment is feasible in low-coverage settings, and contribute to explain ongoing persistence of advanced HIV disease. Access to free HIV-testing, ART and treatment of opportunistic infections; counselling (disclosure, adherence, treatment failure); training of health-care workers and counsellors; support for care-givers and stigma reduction strategies with churches are urgently needed.





[www.msf.org/IAS2017](http://www.msf.org/IAS2017)

 @MSF\_HIV