



## 5th NATIONAL AIDS CONFERENCE

18 – 19 SEPTEMBER 2026 · BANGI AVENUE CONVENTION CENTRE, MALAYSIA



# ABSTRACT BOOK

**INNOVATING PREVENTION, STRENGTHENING CARE**

**NO ONE GETS LEFT BEHIND**





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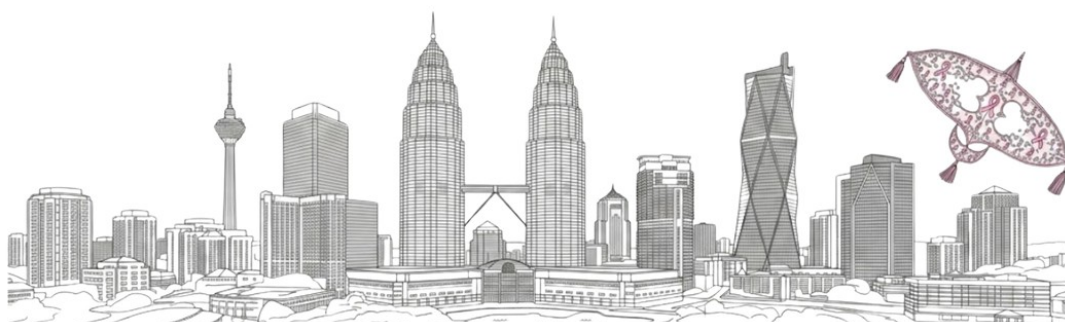
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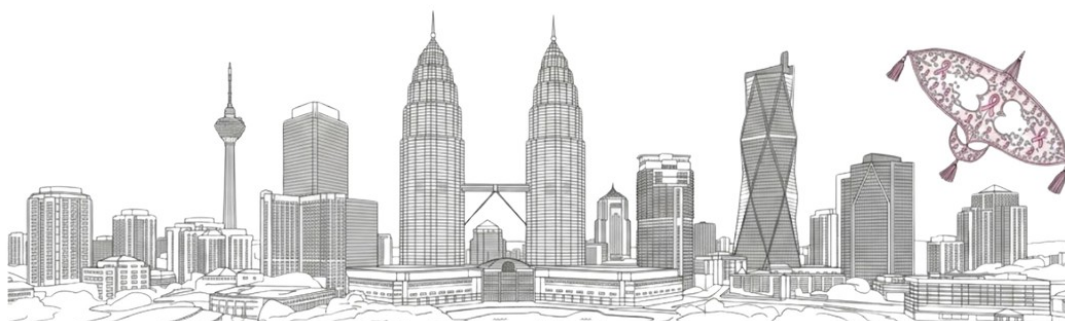


# TRACK A

## CLINICAL

*Clinical research, case reports and service-delivery studies in HIV care and management.*

**55 ABSTRACTS**





NAC26EP004

## Pott's Disease with Iliopsoas Abscess as a Manifestation of Disseminated Tuberculosis in Newly Diagnosed AIDS

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**Background:** Spinal tuberculosis (Pott's disease) is an uncommon but serious form of extrapulmonary tuberculosis that may cause vertebral destruction, abscess formation, and neurological complications. We report a case of Pott's disease with iliopsoas abscess in a patient with advanced HIV infection.

**Case Presentation:** A 31-year-old man with newly diagnosed advanced HIV infection presented with a two-month history of intermittent fever, lethargy, weight loss, and poor appetite. Chest radiography showed bilateral interstitial opacities, while arterial blood gas analysis revealed type 1 respiratory failure. HIV testing was positive, with a CD4 count of 77 cells/ $\mu$ L. He was treated empirically for *Pneumocystis jirovecii* pneumonia (PCP) with co-trimoxazole and corticosteroids, and sputum PCP polymerase chain reaction later confirmed the diagnosis. Persistent fever prompted further investigations, with sputum GeneXpert MTB and culture confirming pulmonary tuberculosis.

During hospitalization, he developed persistent back pain without neurological deficits. Magnetic resonance imaging demonstrated L3/L4 spondylitis with a large right iliopsoas collection. Drainage of the abscess was performed, and GeneXpert MTB from the aspirate confirmed *Mycobacterium tuberculosis*, establishing the diagnosis of Pott's disease with iliopsoas abscess.

Treatment was complicated by severe transaminitis. Co-trimoxazole was replaced with primaquine and clindamycin for PCP, while anti-tuberculosis therapy was temporarily modified to streptomycin, ethambutol, and levofloxacin before continuation with isoniazid, rifampicin, and ethambutol for nine months. Antiretroviral therapy was initiated two weeks after tuberculosis treatment. The patient achieved clinical recovery, with resolution of back pain, normalization of liver function, and virological suppression after four months.

**Conclusion:** Pott's disease should be considered in patients with advanced HIV infection presenting with persistent back pain, even without neurological deficits. Early imaging, microbiological confirmation, and multidisciplinary management are essential for favorable outcomes.



NAC26EP006

## Development and Validation of Risk Assessment Tool in Predicting HIV Treatment Failure

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Although antiretroviral therapy (ART) has substantially improved viral suppression and immune recovery in people living with HIV, treatment failure remains a major clinical challenge. Early identification of individuals at risk of treatment failure is crucial to enable targeted interventions, optimize treatment outcomes and improve resource allocation. Objectives: This study aimed to develop and internally validate a risk assessment tool (RAT) for predicting HIV treatment failure among patients receiving ART. Methodology: A dual-centre retrospective cohort study was conducted at Hospital Sungai Buloh, Selangor and Hospital Tuanku Ja'afar, Negeri Sembilan. Adult patients ( $\geq 18$  years) initiated on ART between January 2010 and December 2020 were selected using simple random sampling. Demographic, clinical, and treatment-related data were extracted from medical records. Predictors were identified using multivariable logistic regression. A weighted scoring system was developed using beta coefficient. Internal validation was performed using a split-sample approach, with one-third of the dataset reserved for validation. Model performance was assessed by discrimination, calibration, positive predictive value (PPV), negative predictive value (NPV), sensitivity, specificity, and the area under the receiver operating characteristic curve (AUC-ROC). Results: Four independent predictors of HIV treatment failure were identified: history of non-adherence, history of opportunistic infections, poor social support, and lack of medication reminders. Following internal validation, the RAT demonstrated good discrimination and calibration, with acceptable predictive performance reflected by reliable PPV and NPV, moderate sensitivity and specificity, and satisfactory clinical utility. Conclusions: The developed RAT provides a practical approach for identifying patients at increased risk of HIV treatment failure, facilitating early targeted interventions. External validation in larger and more diverse populations is warranted before routine implementation in clinical practice.



NAC26EP014

## Unmasking the Next Threat: Disseminated Cytomegalovirus Infection Following ART-Induced Immune Reconstitution in a Patient with Talaromycosis

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Immune reconstitution inflammatory syndrome (IRIS) occurs in up to 30% of Human Immunodeficiency Virus (HIV) patients after anti-retroviral therapy (ART) initiation and can present as unmasking IRIS or paradoxical IRIS. We report a case of unmasking IRIS of disseminated CMV infection in a 47 year-old gentleman with newly diagnosed HIV infection presented with talaromycosis diagnosed from colonic histopathological examination (HPE) and blood culture which isolates *talaromyces marneffe*i. Baseline CECT abdomen shows subcentimeter lymph node and colonic HPE demonstrates intracellular yeast-like fungal highlighted by PAS and GMS stains. His baseline CD4 is 11 cells/ul and HIV viral load is 2610000 copies/ml. He responds well to IV amphotericin B then switched to oral itraconazole and also started on Tenofovir/Lamivudine/Dolutegravir after 1 week of antifungal therapy. 3 weeks post ART commencement, he complains of fever associated with vomiting and diarrhoea, associated with liver impairment and acute kidney injury. He undergoes repeated CECT abdomen and colonoscopy. The new changes on imaging are increasing size of abdominal lymphadenopathy and thickening of caecum wall. There is multiple shallow ulcer noted at the caecum, its HPE reveals intranuclear and basophilic intracytoplasmic inclusions plus positive cytomegalovirus (CMV) immunohistochemistry. His serum CMV PCR is 88700 IU/ml. He treated with IV ganciclovir and oral valganciclovir followed by resolved clinical symptom. IRIS is associated with an increased risk of death with reported overall mortality rate about 4.5%, occurs commonly during first 3 months post ART initiation and up to 4 years. Attributable risk factors for IRIS development encompass low CD4 count, short interval between the initiation of ART and treatment for OI. CMV IRIS has incidence rate of 15% with common manifestation as ocular features such as vitreitis. Our case depicts an unmasking CMV IRIS with colitis in absence of retinitis which responds well to antiviral.



NAC26EP016

## Delayed-Onset Movement Disorder Associated with Efavirenz Therapy in HIV: A Case Report

**Ku Nor Ezzati Tuan Long Seng**, Anilawati Mat Jelani, Noridah Nordin, Rose Izura Abdul Hamid

HRPZ II

Efavirenz, a non-nucleoside reverse transcriptase inhibitor (NNRTI), is widely used in antiretroviral therapy (ART) for HIV infection. Early neuropsychiatric adverse effects are common and usually transient. However, movement disorders are rarely reported, and delayed neurological manifestations after prolonged efavirenz exposure are uncommon and may present diagnostic challenges. **Case Report:** We report a 43-year-old man with HIV infection, who was virologically suppressed with a CD4 count of 315 cells/mm<sup>3</sup> while receiving ART consisting of tenofovir/emtricitabine and efavirenz 600 mg ON for one year, presenting with a five-day history of intermittent involuntary jerky movements involving the right eye, face, neck, and right upper limb. Each episode lasted approximately 10 seconds, recurred every few minutes, and occurred with preserved consciousness. Computed tomography (CT) of the brain was unremarkable. He required intravenous diazepam for symptom control and was initially treated with antiepileptic agents due to suspected focal seizures, before being discharged on oral clonazepam. As the abnormal movements persisted, he was re-evaluated, cerebrospinal fluid analysis, routine laboratory investigations, and urine toxicology screening were normal. Neurological assessment suggested a choreiform movement disorder, and after exclusion of structural, infectious, and metabolic causes, efavirenz-induced movement disorder was suspected. Following cessation of efavirenz and modification of ART, the abnormal movements resolved completely. **Conclusions:** Efavirenz-induced movement disorders are rare and may occur even after prolonged exposure to therapy. This case highlights an unusual, delayed presentation of efavirenz-associated hemichorea mimicking focal seizures. Clinicians should consider medication-induced neurological adverse effects in patients with HIV presenting with new-onset abnormal movements, even in those on long-term efavirenz therapy, after exclusion of opportunistic infections and structural brain pathology.



NAC26EP019

## Effectiveness and Implementation of Patient-Centred, Pharmacist-Led CARE-TB Versus Standard DOT for Intensive-Phase Adherence Among Adults With Tuberculosis in Malaysia: A Hybrid Type 2 Randomized Study

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**Introduction:** Tuberculosis care in Malaysia relies on directly observed therapy (DOT), but adherence and follow-up challenges persist. CARE-TB evaluated a pharmacist-led digital adherence package combining asynchronous video-observed therapy with reminders, motivational tele-counselling, and e-learning.

**Objectives:** To evaluate observed dose adherence, safety, and implementation outcomes of CARE-TB versus standard care (SOC) during intensive treatment phase.

**Methods:** This hybrid Type-2 randomized study was conducted at Hospital Sungai Buloh, following stakeholder-informed exploration and preparation. Adults with confirmed TB were enrolled between April and November 2025. SOC comprised daily DOT by nurses or family members. The intention-to-treat population included 80 participants (40 CARE-TB; 40 SOC), including nine living with HIV. The primary endpoint was achieving  $\geq 80\%$  of observed doses over 8 weeks. Risk ratios (RR) were estimated using modified Poisson regression with robust standard errors, adjusting for age and HIV status.

**Results:** Adherence data were available for 77 participants. CARE-TB improved achievement of  $\geq 80\%$  observed doses compared with SOC (34/40, 85.0% versus 20/37, 54.1%; adjusted RR 1.55, 95% CI 1.12–2.15;  $p=0.008$ ; NNT=4). Reported adverse drug reactions were higher in CARE-TB (45.0% vs 10.0%; RR 4.50, 95% CI 1.67–12.12;  $p<0.001$ ), consistent with enhanced detection. Study arm-adjusted ADR occurrence was associated with increased hospitalisation risk (aRR 4.61, 95% CI 1.91–11.12;  $p<0.001$ ). Dermatological ADRs were more frequent with CARE-TB (11 vs 3), but only 1 of 11 required hospitalisation. Patient acceptability remained high from week-2 to week-8 (AIM: 4.10 to 4.17;  $p=0.590$ ), while appropriateness (IAM: 4.00 to 4.28;  $p=0.015$ ) and feasibility (FIM: 4.03 to 4.30;  $p=0.007$ ) improved. More than 95% of videos were reviewed within the predefined timeframe, with providers giving favourable acceptability and appropriateness scores but a lower feasibility score.

**Conclusion:** CARE-TB improved early TB treatment adherence compared with SOC, was acceptable and feasible to implement with high fidelity, and strengthened ADR surveillance.



NAC26EP021

## Prevalence of Liver Fibrosis Based on FIB-4 Index and Transient Elastography in HIV Mono-infected Patients and its Associated Risk Factors

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**Background and Objectives:** Liver disease has become an important non-AIDS-related comorbidity among people living with HIV (PLWH) in the modern antiretroviral therapy (ART) era. However, data on liver fibrosis and non-alcoholic fatty liver disease (NAFLD) among HIV mono-infected patients in Malaysia remain limited. This study determined the prevalence of liver fibrosis using the FIB-4 index and transient elastography (TE), the prevalence of NAFLD using TE, associated risk factors, and the relationship between liver fibrosis and atherosclerotic cardiovascular disease (ASCVD).

**Methods:** A cross-sectional study was conducted between 2024 and 2025 at a teaching hospital in Kuala Lumpur, Malaysia. Adult HIV mono-infected patients underwent clinical assessment, laboratory testing, FIB-4 calculation, and TE. Significant fibrosis was defined as a FIB-4 index  $>1.3$  or liver stiffness measurement (LSM)  $\geq 7$  kPa, while NAFLD was defined as a controlled attenuation parameter  $>248$  dB/m. Logistic regression was used to identify factors associated with significant fibrosis.

**Results:** Among 133 participants (mean age  $43.8 \pm 11.1$  years; 90.2% male), significant liver fibrosis was identified in 19.5% by FIB-4 and 15.0% by TE. NAFLD was present in 42.9% of participants. Increasing age, hypertension, dyslipidaemia, and integrase strand transfer inhibitor (INSTI)-based ART were associated with fibrosis in univariate analysis. After adjustment, INSTI-based ART remained independently associated with significant fibrosis (adjusted OR 5.1, 95% CI 1.77–14.68;  $p = 0.003$ ). Liver fibrosis was also associated with increased odds of ASCVD (OR 9.17, 95% CI 1.88–44.7;  $p = 0.018$ ).

**Conclusion:** Liver fibrosis and NAFLD are common among HIV mono-infected patients in Malaysia. Routine fibrosis screening and metabolic risk assessment should be integrated into the long-term care of PLWH.



## Clinical Characteristics and Outcomes of Hospitalized People Living With HIV Admitted to a Tertiary Hospital in Sarawak: A 12-Month Observational Study

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**Introduction:** Despite advances in antiretroviral therapy (ART) and the UNAIDS 2030 targets, HIV remains a significant public health challenge in Malaysia. Understanding local epidemiology is essential to guide targeted interventions.

**Objectives:** To describe the demographic profile, transmission risk factors, clinical presentations, and outcomes of people living with HIV (PLHIV) admitted to a tertiary hospital in Sarawak.

**Methodology:** A 12-month observational study (January–December 2025) was conducted in the Infectious Disease Ward, Sarawak General Hospital. Demographic characteristics, HIV transmission risk factors, ART status, CD4 counts, clinical presentations, and mortality outcomes were analysed.

**Results:** Ninety-three PLHIV were admitted, with 17.2% (n=16) requiring multiple admissions. Most were male (93.5%, n=87), aged 21–40 years (67.7%, n=63), and acquired HIV through sexual transmission (92.5%, n=86), predominantly among men who have sex with men (MSM) (72.0%, n=67). Notably, 83.9% (n=78) did not receive ART at admission, comprising 49.5% newly diagnosed individuals and 34.4% who had defaulted treatment. Advanced immunosuppression was common, with 83.9% (n=78) having CD4 counts <200 cells/μL and 51.6% (n=48) having CD4 counts <50 cells/μL. Opportunistic infections (OIs) were the leading cause of admission (n=53), most frequently *Pneumocystis jirovecii* pneumonia (n=29), oral candidiasis (n=27), cerebral toxoplasmosis (n=9), cytomegalovirus infection (n=7), and cryptococcal meningitis (n=6). None of the patients with CD4 counts >200 cells/μL presented with an OI, and low CD4 count was significantly associated with OIs (Fisher's exact test, p<0.001). The overall mortality was 10.8% (n=10), occurring exclusively among patients who were treatment-naïve or had discontinued ART, with CD4 counts ranging from 9–125 cells/μL.

**Conclusions:** Late presentation and treatment interruption remain major barriers to HIV control in Sarawak, contributing to advanced immunosuppression, opportunistic infections, and preventable mortality. Targeted interventions for young MSM and aggressive default-retrieval systems are essential to achieve UNAIDS 2030 goals.



NAC26EP023

## Serum Creatinine Changes Following Transition to Dolutegravir Regimen in Stable HIV Patients at Hospital Sungai Buloh

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**Introduction:** Dolutegravir (DTG), a highly effective antiretroviral, often causes rise in serum creatinine (SCr) and data on these changes in the Asia-Pacific region is limited.

**Objectives:** To evaluate the change in serum creatinine (Scr) after switching from an EFV (Efavirenz) based to a DTG (Dolutegravir)-based regimen.

**Method:** This 4-year retrospective cohort study investigated 254 HIV-positive adults who switched from EFV to DTG-based therapy. Serum creatinine (SCr) and creatinine clearance (CrCl) were monitored at baseline and post-switch (weeks 4, 12, 24). Thresholds examined included SCr rise of  $\geq 20\%$  and  $\geq 30\%$ , SCr  $> 120 \mu\text{mol/L}$ , and absolute  $\Delta\text{SCr} \geq 50 \mu\text{mol/L}$ . Trajectory analysis examines the trend of  $\geq 30\%$  SCr increase, and multivariable logistic regression identifies significant predictors for  $\geq 20\%$  and  $\geq 30\%$  SCr increase. Individuals with a  $\geq 30\%$  SCr rise followed clinically for an additional six months.

**Results:** In 254 patients transitioning from EFV to a DTG regimen, median Scr increased from baseline to Weeks 4 (+10  $\mu\text{mol/L}$ ), 12 (+14  $\mu\text{mol/L}$ ), and 24 (+16  $\mu\text{mol/L}$ ) (all  $p < 0.001$ ), then stabilized and CrCl declined similarly. A  $\geq 30\%$  SCr increase by Week 24 occurred in 22.8% (58/254). This significant rise was linked to lower baseline SCr. 65.5% patients with a  $\geq 30\%$  increase plateaued after Week 12, with 7.9% showed progressive increases predicting SCr  $> 120 \mu\text{mol/L}$  ( $p = 0.022$ ). No demographic, clinical, or treatment factors independently predicted  $\geq 20\%$  or  $\geq 30\%$  SCr increase. During extended follow-up, regimen modification was uncommon.

**Conclusions:** This study observes, EFV-to-DTG switch usually causes an early, stabilizing rise in serum creatinine, without true nephrotoxicity.

**NMRR ID:** NMRR-ID-25-02529-YXR

**Keywords:** Dolutegravir; Antiretroviral; Scr; Crcl; Nephrotoxicity



NAC26EP024

## The Rash That Marched: Disseminated Zoster in AIDS – A Case Report

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**Introduction:** Herpes Zoster reactivation is common and severe in immunocompromised patients, especially in those with CD4 count of less than 200 cells/mm<sup>3</sup>. Disseminated zoster, defined as involvement of  $\geq 3$  dermatomes or  $> 20$  vesicles outside the primary zone which carries as significant morbidity. This case illustrates how a routine shingles diagnosis escalated into widespread disseminated disease with Ramsay Hunt features Case Report: A 26 year old Malay gentleman with RVD (CD4 129, Viral load 22,600 copies/mL) was started on HAART and Bactrim. 3 months later, he developed vesicles over right cheek and nape with pain. Oral acyclovir 800mg five times daily for five days was prescribed. Despite the compliance, the rash disseminated to V1, V2, C2, C4, T2 and T3 with aural fullness and severe pain affecting sleep. On examination, vesicles covered 8 dermatomes including the right external auditory canal. No facial weakness or eye involvement was present. Patient was subsequently transferred for Intravenous Acyclovir.

**Discussion:** The five-day oral acyclovir course was inadequate for this immunocompromised patient. Guidelines recommend at least 7 to 10 days of oral acyclovir. The rapid progression across eight dermatomes despite antivirals highlighted the severity. Key missed opportunities included: (i) considering IRIS given zoster onset three months post HAART (ii) inadequate pain management with neuropathic agents.

**Conclusions:** Disseminated zoster in advanced HIV demands prolonged antiviral therapy, vigilance for neurological complications, comprehensive opportunistic infection screening and proactive pain management. Early recognition and appropriate escalation of care are essential in optimizing outcomes.



NAC26EP027

## Factors Associated with Virological Failure among People Living with HIV

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Virological failure among the patients on antiretroviral therapy is a significant challenge in treating HIV patients. Objectives: To identify factors associated with virological failure among HIV patients started on antiretroviral therapy. Methodology: A multicentre retrospective cohort study was conducted in Hospital Sungai Buloh, Selangor and Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan. Adult patients aged 18 years and above were selected using a simple random sampling method. Data from January 2010 to December 2020 were retrieved from patient's medical record. Patients with viral load result  $>1000$  copies/ml in two consecutive results at least 3 months apart were categorized as virological failure. The model fitted and multivariate logistic regression analysis were performed with 95% confidence level and p values  $< 0.05$  were taken as statically significant. Results: From the total of 355 patients were recruited in this study, 92 patients (25.9%) were considered virological failure. Virological failure was predicted by history of non-adherence (odds ratio (OR) = 14.046, 95% confidence interval (CI): 4.130-47.776), history of missed appointment (OR = 4.909, 95% CI: 1.984-12.150), social support (OR = 0.247, 95% CI: 0.065-0.937 and use of reminder (OR = 0.100, 95% CI: 0.038-0.264). Conclusions: Factors associated with antiretroviral virological failure were patients with history of non-adherence, history of missed appointment, poor social support and not using reminder. Continuous patient education is important factors in delaying HIV virological failure.



NAC26EP031

## The association between the use of chem-sex, antiretroviral therapy adherence and lost-to-follow-up among people living with HIV.

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Chem-sex, defined as the use of substances to enhance sexual activities, has emerged as a growing concern in HIV treatment owing to its potential effects on adherence to antiretroviral medication (ART). Engaging in chem-sex can lead to poor ART adherence and increase the risk of lost-to-follow-up (LTFU), both of which are critical for sustaining viral suppression. Objectives: This study aims to determine the association between chem-sex and its impact on ART adherence, as well as the risk of LTFU among people living with HIV (PLHIV). Methodology: A multicentre, retrospective cohort study was conducted at Hospital Sungai Buloh, Selangor and Hospital Tuanku Ja'afar Seremban, Negeri Sembilan. Data were collected from patients' medical records from 2010 to 2023. Bivariable logistic regression was employed to assess the association between the use of chem-sex and its effects on ART adherence and LTFU. Multivariable logistic regression to identify factors associated with the use of chem-sex in PLHIV. Results: Of the 355 PLHIV patients recruited, 54 (15.20%) were involved in chem-sex. 159 (44.80%) PLHIV were non-adherence to ART medications. 69 (19.40%) PLHIV had a history of LTFU. The most common drug used in chem-sex was methamphetamine ( $n = 35$ , 64.81%), followed by ketamine ( $n = 17$ , 31.48%). The use of chem-sex was significantly associated with ART non-adherence ( $OR = 1.99$ ,  $p = 0.02$ ) and increased risk of LTFU ( $OR = 3.03$ ,  $p = <0.001$ ). The factors associated with the use of chem-sex in PLHIV were smoking, sexually transmitted infections and history of missed appointments. Conclusions: The involvement in chem-sex significantly compromised adherence to ART and contributed to a loss of follow-up in HIV care. This is a critical and alarming HIV issue that demands attention and intervention. Healthcare professionals should deliver awareness and strategize health education for improving HIV care.



NAC26EP032

## Improving Tuberculosis Preventive Therapy Implementation Among Newly Diagnosed People Living with HIV: A Quality Improvement Project

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**Introduction:** Tuberculosis (TB) remains the leading opportunistic infection and a major cause of mortality among people living with HIV (PLHIV). Although Tuberculosis Preventive Therapy (TPT) is recommended for eligible PLHIV, implementation remains inconsistent due to gaps in screening, documentation and clinical workflow. A baseline audit at Hospital Tengku Permaisuri Norashikin Kajang identified suboptimal TPT implementation. Objectives: To improve implementation of TPT among newly diagnosed PLHIV by strengthening TB screening, documented TPT counselling, timely TPT initiation and maintaining a low rate of treatment-limiting adverse events.

**Methodology:** A single-centre before-and-after quality improvement project using the Plan–Do–Study–Act (PDSA) methodology was conducted from January 2024 to June 2026. A multifaceted intervention comprising healthcare worker education, a standardized TB/TPT checklist, clinical flowchart, patient counselling flipchart and regular audit-feedback was implemented. TPT eligibility was defined as newly diagnosed PLHIV with active TB excluded and no contraindications to TPT. Outcomes were evaluated across 6 monthly audit cohorts.

**Results:** Of 48 newly diagnosed PLHIV assessed, 44 were included in the analysis. TB screening compliance improved from 7.1% in Cohort 1 to 100% in Cohort 5. Among eligible patients, documented TPT counselling and TPT initiation within two months improved from 20.0% to 100%, achieving the predefined audit target. Thirteen patients commenced TPT; 11 (84.6%) completed treatment, one remained on treatment and one discontinued due to adverse effects (7.7%).

**Conclusions:** A multifaceted quality improvement intervention substantially improved TPT implementation among newly diagnosed PLHIV, achieving 100% compliance with TB screening, TPT counselling and TPT initiation in the final audit cohort while maintaining an acceptable safety profile. These interventions are simple, practical and may serve as a model for improving TPT implementation in other HIV treatment centres.



NAC26EP034

## Persistent HIV Antibody Seronegativity in Critically ill Patient with Advanced HIV Infection

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**Introduction:** Diagnostic screening for HIV relies heavily on fourth-generation antigen/antibody (Ag/Ab) assays. However, rare instances of seronegative HIV infection can mask the diagnosis, leading to severe clinical progression and opportunistic presentations.

**Objective:** To report a rare case of advanced HIV infection presenting with occult sepsis and consistently yielded non-reactive results on standard HIV Ag/Ab screening assays.

**Case Description:** A 20-year-old male presented with a two-week history of fever, chills, body rash, and severe cachexia with weight loss from 68 kg to 51 kg. Initial workup revealed bicytopenia, transaminitis, highly elevated LDH, and profoundly elevated ferritin levels (up to 45,000 ng/mL). Endoscopic evaluation demonstrated severe Grade B esophagitis and *Helicobacter pylori* associated gastritis. Throughout his hospitalization, multiple rapid HIV tests and formal fourth-generation HIV Ag/Ab combo assays were repeatedly non-reactive past 22 mths. Given the high index of clinical suspicion for severe immunodeficiency, an HIV RNA viral load was requested, which successfully detected the virus. A subsequent CD4 count confirmed advanced immunosuppression with a nadir of 27 cells/ $\mu$ L. The patient was managed for past Hepatitis B virus infection and concurrently treated for suspected cytomegalovirus and herpes simplex virus co-infections. Highly active antiretroviral therapy (HAART) was successfully initiated. The patient achieved viral suppression (<20 copies/mL) and significant clinical improvement at subsequent follow-ups.

**Conclusion:** Seronegative advanced HIV infection presents a profound diagnostic dilemma. When clinical markers strongly dictate an immunocompromised state, clinicians must look beyond standard serological immunoassays and promptly utilize direct nucleic acid testing to prevent catastrophic diagnostic delays.



NAC26EP035

## Clinical Analysis Report: RVD Referrals to State Infectious Disease Centre from Single District Hospital

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**Background:** Human immunodeficiency virus-related mortality has declined with widespread access to antiretroviral therapy. However, late presentation with advanced HIV disease and opportunistic infections, remains a major concern. This study evaluates the demographic and clinical characteristics of HIV patients referred from a district hospital to a state ID centre in Johor, Malaysia.

**Methods:** A retrospective clinical analysis was conducted among 99 patients with HIV referred from Hospital Sultan Ismail to the State Infectious Disease Centre at Hospital Sultanah Aminah between 2024 and 2025. Data were extracted from the HSI Electronic Medical Record. Descriptive analysis was performed to evaluate demographic characteristics, clinical profiles, and outcomes.

**Results:** The patient cohort was predominantly male (82.8%), with a mean age of 41.1 years. 37.4% were newly diagnosed with HIV, and an overwhelming 75.7% of them were classified as late presenters, defined as initial presentation with CD4 count <350 cells/ $\mu$ L or an AIDS-defining event, regardless of CD4 count. The newly diagnosed patients have a median CD4 count of 36.5 cells/ $\mu$ L. Known HIV cases comprised 62.6% of the cohort, demonstrating a median CD4 of 83.5 cells/ $\mu$ L alongside high HAART treatment default rate of 43.5%. Active OIs were highly prevalent, oral candidiasis (63.6%), pneumocystis pneumonia (31.3%) and tuberculosis (13.1%). Overall mortality rate was 11.1%, with late clinical presentation identified as the most critical factor contributing to fatality. 18.2% of the total patients required urgent transfer to HSA for tertiary care, statistically 15 patients in 2024 and 3 patients in 2025.

**Conclusion:** Late HIV diagnosis and high treatment default rates severely compromise patient immunity, directly driving life-threatening opportunistic infections and mortality. We observed significant reduction in transfers, benefiting by implementation of decentralized care by HSA ID units. Strengthening public awareness, enhancing patient tracking, and establishing dedicated in-house ID services at district hospitals are vital to improve outcomes and alleviate burden on tertiary centers.



NAC26EP037

## Beyond the Viral Load: Sibling Dynamics and Adherence Journeys in Perinatally Acquired HIV from a Counsellor's Perspective

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**Background:** Prevention of Mother-to-Child Transmission (PMTCT) failure leads to lifelong mental and social challenges, especially for orphans. It is important to study why siblings raised in the same environment adapt differently, as their adult bond strongly influences their clinical health.

**Case Descriptions:** This series follows two siblings infected with HIV at birth.

**Case 1 (Brother):** He was diagnosed at age 6 (2002) and initiated on Antiretroviral Therapy (ART) at age 7, maintained viral suppression until age 13. He became non-adherent, skipping medications and clinic follow-ups due to a poor understanding of HIV. Despite a psychiatric referral for adolescent issues at age 17, chronic non-adherence led to hospitalizations for tuberculosis (age 19) and cerebral toxoplasmosis with seizures and hemorrhage (age 24). After restarting ART, he achieved viral suppression after one year and remains suppressed today. However, the illness left him with residual left-sided weakness. Now 30, he is unemployed and lives in a rural village.

**Case 2 (Sister):** She was diagnosed at age 3 (2003), initiated on Antiretroviral Therapy (ART) at age 3, maintained lifelong viral suppression through excellent treatment adherence. Now aged 26, she lives independently and is employed.

**Lessons Learned:** Despite an identical environment, their journeys diverged completely. Individual counselling—including showing him fatal outcomes of other non-adherent patients—failed. The turning point required a near-fatal illness and a shift in counselling to involve the sister. Family therapy restructured their relationship from a parent-like conflict into a collaborative alliance; she now financially supports him and remotely monitors his adherence.

**Conclusion & Future Implications:** Managing severe non-adherence requires moving beyond pill counts and scare tactics. Counsellors must involve family members when individual interventions fail. Future protocols should focus on improving sibling relationships, turning family trauma into lasting, permanent support for medication adherence.



NAC26EP038

## Not Every Violaceous Lesion Is Kaposi Sarcoma: A Case of Bacillary Angiomatosis in Advanced HIV

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**Introduction:** Cutaneous lesions are common in people living with HIV (PLWH). Kaposi sarcoma (KS) is a HIV-associated malignancy; however, certain infectious conditions may closely resemble KS clinically. Bacillary angiomatosis (BA), caused by *Bartonella* species, is a rare cutaneous infection characterized by vascular proliferative skin lesions and occasional visceral involvement. Unlike KS, bacillary angiomatosis is a treatable infectious disease that responds well to antibiotic therapy, highlighting the importance of early recognition and differentiation from KS.

**Case Presentation:** A 32-year-old man with retroviral disease and hepatitis C co-infection, diagnosed in 2015, presented after defaulting antiretroviral therapy (ART) and follow-up since 2020. He reported a one-month history of multiple reddish-purple maculopapular lesions over the upper limbs and trunk, associated with weight loss but no fever. His CD4 T-cell count was 128 cells/ $\mu$ L. Examination revealed no oral lesions, lymphadenopathy, or hepatosplenomegaly. Laboratory investigations were unremarkable except for a markedly elevated rapid plasma reagin (RPR) titre ( $>1:1024$ ), prompting empirical treatment for secondary syphilis. Skin biopsy demonstrated chronic plasmocytic inflammation with reactive vascular proliferation but was negative for *Treponema pallidum* and human herpesvirus-8 (HHV-8) on immunohistochemistry, making syphilis and KS less likely. Skin tissue polymerase chain reaction (PCR) subsequently detected *Bartonella* species, confirming the diagnosis of BA. Computed topography of the thorax, abdomen, and pelvis showed no visceral involvement. Antiretroviral therapy with tenofovir, lamivudine, and dolutegravir was restarted, and oral doxycycline 100 mg twice daily was planned for three months.

**Conclusion:** This case highlights the importance of considering BA in the differential diagnosis of vascular skin lesions in patients with advanced HIV. Histopathological findings alone may be inconclusive, and molecular testing can be invaluable in establishing the diagnosis. Early recognition of BA allows timely antibiotic treatment, avoids misdiagnosis as KS, and improves patient outcomes.



NAC26EP041

## Cerebral Toxoplasmosis with Obstructive Hydrocephalus in Advanced HIV

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**Background:** Cerebral toxoplasmosis is one of the most common opportunistic infection of the central nervous system in advanced human immunodeficiency virus (HIV) infection. Although most cases respond well to antimicrobial therapy, obstructive hydrocephalus and cerebral herniation requiring neurosurgical intervention are rare. We report a case of cerebral toxoplasmosis complicated by obstructive hydrocephalus and uncal herniation in a patient with newly diagnosed HIV infection.

**Case Presentation:** A 29-year-old man with no prior medical illness presented with a one-week history of fever and altered sensorium, preceded by four months of headache, weight loss, and poor appetite. On admission, his Glasgow Coma Scale was E4V1M6. HIV serology was positive, with a CD4 count of 12 cells/ $\mu$ L. Computed tomography of the brain demonstrated a right basal ganglia lesion with marked mass effect and obstructive hydrocephalus. Magnetic resonance imaging revealed multiple ring-enhancing lesions with surrounding oedema, suggestive of cerebral toxoplasmosis. Intravenous co-trimoxazole was initiated; however, neurological deterioration necessitated intubation and urgent neurosurgical referral.

Despite insertion of an external ventricular drain, serial imaging demonstrated worsening hydrocephalus and right uncal herniation. Emergency right decompressive craniectomy was performed, resulting in radiological improvement. Cerebrospinal fluid toxoplasmosis PCR was positive, while investigations for bacterial, tuberculous, and cryptococcal infections were negative. Anti-toxoplasmosis therapy was changed to pyrimethamine and clindamycin because of severe transaminitis, with gradual neurological recovery. Repeat MRI after six weeks demonstrated complete resolution of the cerebral lesions and hydrocephalus. Antiretroviral therapy was commenced, and the patient was discharged after intensive rehabilitation.

**Conclusion:** Cerebral toxoplasmosis may rarely present with life-threatening obstructive hydrocephalus and cerebral herniation. Early diagnosis, prompt neurosurgical intervention, and appropriate antimicrobial therapy are essential for favourable outcomes.



NAC26EP042

## Early Identification of Adherence Barriers and Retention Outcomes among First-Year ART Patients: An Embedded, Pharmacist-Led Enhanced Adherence Counselling Model in Malaysia

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Enhanced adherence counselling (EAC) is recommended by the World Health Organization for individuals with unsuppressed viral load before antiretroviral regimen modification but is typically implemented after virological failure, leaving its potential for proactive risk identification unexplored. Objective: To evaluate an embedded pharmacist-led EAC model for systematic identification of adherence barriers during first-year antiretroviral therapy (ART) and examine associations with retention outcomes. Methodology: We conducted a retrospective observational study among adults initiating ART at Malaysia's national infectious disease referral centre (2023–2024). Patients receiving at least one EAC session during their first year were included. From month four, EAC was embedded into routine pharmacy workflows using a standardised assessment tool documenting psychosocial, behavioural, structural and clinical barriers, Patient Health Questionnaire-9 screening and missed ART pick-ups. The primary outcome was adherence barrier identification. Secondary outcomes were 12-month loss to follow-up (LTFU), viral suppression and ART modification. Associations with LTFU were evaluated using Firth penalised logistic regression adjusted for age, sex, baseline CD4 count and baseline HIV viral load. Results: Among 245 patients, EAC identified at least one adherence barrier in all participants; 69.8% reported multiple barriers. Common barriers included transport constraints (39.6%), work-related stress (28.6%), depression (28.6%) and medication side effects (25.3%). Missed ART pick-ups (27.4%) emerged as an early behavioural signal of disengagement. At 12 months, 16.3% experienced LTFU and viral suppression exceeded 95% among retained patients. Substance use (aOR 11.76, 95% CI 3.65–37.85) and stigma (aOR 5.74, 95% CI 1.42–23.18) independently predicted LTFU. EAC also functioned as treatment triage: only 22.9% required ART modification, predominantly among patients with clinical barriers (RR 2.47, 95% CI 1.24–4.92). Conclusion: Embedding pharmacist-led EAC enables systematic adherence barrier identification and differentiated care during first-year ART.



NAC26EP043

## Implementation of a Pharmacist-Led Standard Operating Procedure for Routine Detection of Late Antiretroviral Therapy Pick-Up in Outpatient Pharmacy Practice

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Timely ART medication pick-up is essential for viral suppression and retention in HIV care. The World Health Organization identifies ART refill as an Early Warning Indicator for treatment failure and HIV drug resistance. In 2019, a pharmacist-led prospective cohort study in Malaysia found that 15% of people living with HIV (PLHIV) had late ART refills. Self-reported non-adherence, travel distance >20 km, and medication possession ratio <90% were independent predictors, highlighting the need for a pharmacist-led intervention. Objective: To evaluate the implementation of a pharmacist-led Standard Operating Procedure (SOP) for detection and management of late antiretroviral therapy (ART) medication pick-up in outpatient pharmacy practice. Methods: In 2022, a clinical audit at the outpatient pharmacy of Hospital Sungai Buloh, Malaysia's national infectious disease referral centre, identified the absence of routine detection of late ART pick-up. A pharmacist-led SOP was integrated into routine practice. Pharmacists screened refill records and medication supply during prescription verification, referred individuals with late ART pick-up to Medication Therapy Adherence Clinic pharmacists for enhanced adherence counselling, documented interventions using an electronic ART Late Pick-Up note, discussed individualized plans with Infectious Disease Consultants, and linked patients to value-added adherence support services. Results: Following SOP implementation, detection of late ART pick-up increased from 0% to 34.1% in the first audit cycle and 49.1% within two months. The proportion of PLHIV with late ART pick-up declined from 16% to 4%, representing a 12% reduction. Systematic pharmacy screening resulted in an 8% reduction in previously undetected late refills. No recurrent late ART pick-ups occurred among individuals who received pharmacist counselling, compared with a 7% recurrence rate among those not detected. Conclusions: Embedding pharmacist-led ART refill screening into routine outpatient pharmacy practice established Malaysia's first early warning system for adherence risk, enabling proactive identification of those at risk of treatment failure.



NAC26EP046

## Life-Threatening Tenofovir Disoproxil Fumarate-Induced Fanconi-Spectrum Tubulopathy: Progressive Hypokalaemia as an Early Marker of Multisystem Toxicity

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**Introduction:** Tenofovir disoproxil fumarate (TDF) is a widely used antiretroviral agent with excellent efficacy and long-term safety. However, prolonged TDF exposure may rarely cause proximal renal tubular dysfunction, ranging from subclinical injury to Fanconi-spectrum tubulopathy

**Case Presentation:** A 51-year-old woman with virologically suppressed HIV receiving TDF/emtricitabine/efavirenz for approximately eight years presented with a two-month history of progressive lethargy culminating in bilateral lower limb weakness, recurrent falls, and hypotension requiring vasopressor support following a recent diarrhoeal illness. Previous surveillance demonstrated preserved renal function and normal urinalysis. Mild hypokalaemia (3.4 mmol/L) documented in 2025 may have represented an early manifestation of TDF-associated tubular dysfunction approximately one year before the acute presentation. The gastrointestinal illness likely precipitated severe electrolyte depletion and clinical decompensation. Investigations revealed profound hypokalaemia (2.1 mmol/L), hypophosphataemia (0.53 mmol/L), high anion gap metabolic acidosis, elevated lactate (13 mmol/L), acute kidney injury, rhabdomyolysis (creatinine kinase 1453 U/L), and electrocardiographic T-wave inversion with prominent U waves, raising concern for hypokalaemic cardiomyopathy. She also sustained a right fourth proximal phalanx fracture following a fall.

**Outcome:** Infectious causes were excluded. The clinical findings were most consistent with TDF-induced Fanconi-spectrum tubulopathy. The fracture also raised concern for underlying metabolic bone disease associated with prolonged TDF exposure. TDF was discontinued and replaced with abacavir/lamivudine. Following aggressive fluid resuscitation, electrolyte replacement, and supportive care, she achieved progressive biochemical and clinical recovery and was discharged after a 9-day hospital admission.

**Conclusion:** Progressive hypokalaemia may represent an early indicator of TDF-associated proximal tubular dysfunction before overt Fanconi-spectrum tubulopathy develops.



NAC26EP047

## A Diagnostic Odyssey: Urine LAM Cross-Reactivity with *Mycobacterium avium* Complex in Patients with Advanced HIV

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**Introduction:** Urine lipoarabinomannan (LAM) antigen test is a vital point-of-care tool for tuberculosis (TB) screening in advanced HIV. However, cross-reactivity with non-tuberculous mycobacteria (NTM) frequently causes false-positives. This case series highlights the need for cautious interpretation of positive assays in severely immunosuppressed patients.

Case 1: A 48-year-old male presenting with fever, night sweats, and weight loss was diagnosed with advanced HIV (CD4: 7 cells/ $\mu$ L). He was treated for smear-negative TB following a positive urine LAM, with concurrent *Pneumocystis jirovecii* pneumonia and cytomegalovirus retinitis. Mycobacterial blood cultures later revealed disseminated *Mycobacterium avium* complex (MAC). Switching to targeted anti-MAC therapy and antiretroviral therapy (ART) led to full clinical recovery, weight gain, and viral suppression within six months.

Case 2: A 27-year-old male with advanced HIV (CD4: 8 cells/ $\mu$ L) presented with sepsis. Anti-TB therapy was initiated based on a positive urine LAM. Two weeks later, he was readmitted with persistent fever, vomiting, and increasing inflammatory markers, rapidly deteriorating into severe, refractory distributive shock. Despite aggressive fluid resuscitation, mechanical ventilation, and broad-spectrum antimicrobial therapy, the patient succumbed. Retrospective blood cultures grew MAC, confirming a false-positive urine LAM that fatally delayed appropriately targeted NTM therapy.

**Discussion:** In profoundly immunosuppressed patients, the clinical features of TB and NTM infections, particularly MAC frequently overlap. While urine LAM allows rapid TB screening, its cross-reactivity with NTM cell-wall components remains a major diagnostic pitfall (literature reports a specificity of 88.61%). Positive results must not be interpreted in isolation but correlated with mycobacterial cultures, clinical evaluation, and imaging.

**Conclusion:** Although urine LAM is crucial for rapid HIV-associated TB screening, its susceptibility to NTM cross-reactivity requires clinical vigilance. Multi-modal diagnostic strategies are essential to ensure timely targeted therapy and prevent fatal misdiagnoses



NAC26EP049

## Real-World Effectiveness, Safety, and Tolerability of Dolutegravir/Lamivudine Dual Therapy: A Retrospective Cohort Study in Hospital Sungai Buloh, Malaysia

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**Introduction:** Dolutegravir/lamivudine (DTG/3TC) dual therapy is a simplified antiretroviral therapy (ART) regimen with potential advantages for people living with HIV (PLWH), including reduced treatment burden and improved tolerability. However, local real-world evidence on its effectiveness, safety and tolerability among Malaysian PLWH remains limited.

**Objectives:** This retrospective cohort study evaluated virological effectiveness, safety and tolerability outcomes among adult patients receiving DTG/3TC at Hospital Sungai Buloh, Malaysia, between 2022 and 2024.

**Methodology:** A total of 248 patients were included, comprising 237 treatment-experienced switch patients and 11 treatment-naïve/initiation patients. Data were collected from medical records and pharmacy refill information. The primary outcome was virological suppression, defined as HIV viral load <50 copies/mL at Week 24 and Week 48. Secondary outcomes included detectable viral load, confirmed virological failure, adverse events, treatment discontinuation, body weight change, laboratory safety parameters, and predictors of virological suppression and weight gain.

**Results:** In the observed analysis, virological suppression was achieved in 198/215 patients at Week 24 (92.1%; 95% CI 87.6–95.3) and 194/210 patients at Week 48 (92.4%; 95% CI 87.9–95.6). No confirmed virological failure was observed. Treatment discontinuation was low at 5.2%, and no adverse events were documented in available medical records. Weight gain was significant, with 51.9% experiencing ≥5% weight gain and 29.6% experiencing ≥10% weight gain by Week 48. In logistic regression, medication possession ratio was associated with Week 48 virological suppression, while lower baseline BMI was associated with ≥5% weight gain.

**Conclusions:** This study provides local real-world evidence supporting DTG/3TC as an effective and well-tolerated regimen, particularly among treatment-experienced switch patients, while highlighting the need for adherence support and routine metabolic monitoring.



NAC26EP059

## Establishing a Differentiated Care Model For People With HIV at Malaysia Largest HIV Clinic

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**Introduction:** Despite Malaysia's efforts to decentralize HIV care, many people with HIV (PWH) continue to receive care at high-volume hospital clinics. To improve service efficiency and patient retention, Hospital Sungai Buloh introduced the EZ Wellness Clinic, a differentiated care model for stable patients using telemedicine and task-shifting.

**Objectives:** To evaluate the implementation and outcomes of the EZ Wellness Clinic in reducing clinic congestion, improving retention, and enhancing patient satisfaction among virologically stable PWH.

**Methodology:** Hospital Sungai Buloh's HIV clinic, serving over 7,000 patients, is staffed by infectious disease physicians, medical officers, pharmacists, and HIV counsellors. The EZ Wellness Clinic is a hybrid service combining physician consultations with virtual follow-up conducted by trained HIV counsellors. Eligible patients had sustained viral suppression and stable comorbidities. Data from 2020–2025 included enrolment, default rates, and telemedicine outcomes.

**Results:** Enrolment increased from 208 patients in 2020 to 1,311 in 2024. Virtual clinics managed up to 30 appointments per session, reducing the burden on face-to-face services. Default rates remained consistently low, declining from 1.20% (2020) to 0.12% (2025). Patient feedback showed high satisfaction, citing greater convenience, flexibility, and reduced travel.

**Conclusions:** The EZ Wellness Clinic demonstrates that a telemedicine-integrated differentiated care model is feasible and scalable in a high-volume HIV setting. Task-shifting routine follow-up to trained counsellors reduced clinic congestion while maintaining excellent patient engagement and retention. This model provides a practical framework for expanding sustainable HIV care in resource-limited settings.



NAC26EP060

## A Decade of HIV Mortality in the ART Era: Patterns and Causes of Death Among People Living with HIV in Northeast Malaysia

Logman Hakim Armia, Puteri Wan Seribani

HRPZ II

**Introduction:** The widespread availability of antiretroviral therapy (ART) has significantly improved survival among people living with HIV (PLHIV). However, HIV-related mortality remains a concern, particularly among individuals presenting late or disengaging from care. This study reviewed HIV mortality patterns at Hospital Raja Perempuan Zainab II (HRPZ II), Kelantan, over a 10-year period.

**Objectives:** To describe all-cause mortality among PLHIV managed at HRPZ II, determine the proportion of HIV-related and non-HIV-related deaths, evaluate ART status and retention in care before death, and assess trends in causes of death.

**Methodology:** A retrospective descriptive audit was conducted among PLHIV who died between 2015 and 2024. Data were obtained from the HIV clinic database, medical records, laboratory records, death certificates, and discharge summaries. Patients with confirmed HIV infection who died at HRPZ II during the study period were included.

**Results:** A total of 105 deaths were identified. Mortality was higher during 2015–2019 (61%) compared with 2020–2024 (39%). The mean age at death was 41.1 years; 80% were male and 90.5% were Malay. Intravenous drug use (34.3%) was the most common transmission route, followed by heterosexual transmission (29.5%). Advanced immunosuppression was common, with 66.7% having a CD4 count <200 cells/mm<sup>3</sup> before death. Additionally, 26.7% had never initiated ART and 28.5% had defaulted treatment. Overall, 66.7% of deaths were HIV-related, while 30.5% were non-HIV-related. Tuberculosis was the leading opportunistic infection (49.5%), followed by *Pneumocystis pneumonia* (16.2%), cerebral toxoplasmosis (10.5%), and cryptococcal meningitis (7.6%).

**Conclusion:** HIV mortality declined over the study period, likely reflecting improved ART access. Nevertheless, deaths remained strongly associated with advanced immunosuppression, delayed or interrupted ART, and tuberculosis. Early diagnosis, rapid ART initiation, retention in care, and integrated management of comorbidities are essential to reduce preventable mortality



NAC26EP068

## Adrenal Epstein-Barr Virus-Related Smooth Muscle Tumour Mimicking as Tuberculosis in Advanced HIV Patient

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**Introduction:** Immunocompromised HIV patients are susceptible to atypical neoplasms. Epstein-Barr virus related smooth muscle tumour (EBV-SMT) are rare but should be considered when infections like tuberculosis (TB) are excluded. We present a challenging case of adrenal EBV-SMT in a patient with advanced HIV and virologic failure.

**Case Description:** 37-year-old retroviral disease gentleman with a history of non-compliance to antiretroviral therapy (ART) and prior empiric TB treatment for tonsillar abscess with lymphadenopathy 1 year ago which tuberculosis (TB) and bartonella investigations were negative. 2 week following initiation of anti-TB, he defaulted follow up and medications. One year later, he presented with fever and weight loss for 1 month. His CD4 count was 55 cells/ $\mu$ L and viral load 695,000 copies/mL. Imaging revealed an enlarging left adrenal lesion with central necrosis (3.8 cm) and a palatine tonsillar collection (1.2cm). Extensive workup, including MTB Genexpert, TB culture, and fungal PCR were negative. Adrenal biopsy confirmed EBV-SMT via positive EBV RNA hybridization in spindle cells. Total adrenalectomy was planned.

**Discussion:** This case highlights the diagnostic dilemma in HIV patients with adrenal masses, where disseminated TB or histoplasmosis were the differential. Negative microbiological investigations were crucial in redirecting diagnosis. EBV-SMT arises due to loss of immune surveillance, allowing EBV-infected smooth muscle cells to proliferate. Its management is not standardized but typically involves immune reconstitution through ART and surgical resection for symptomatic or enlarging lesions. The non-adherence to medications likely contributed to disease progression. A tissue diagnosis is paramount to avoid unnecessary empiric therapy and guide appropriate oncologic management.

**Conclusion:** EBV-SMT should be considered in the differential of adrenal masses in HIV patients when infectious etiologies are ruled out. Definitive tissue biopsy is essential. Optimal outcomes depend on multidisciplinary approach combining surgical resection with ART to achieve virologic suppression and prevent recurrence.



NAC26EP070

## The Shadow Behind Tuberculosis; When Poor CD4 Recovery Revealed Disseminated MAC

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**Background:** Tuberculosis (TB) is the most common opportunistic infection in people with advanced HIV in TB-endemic countries. However, disseminated *Mycobacterium avium* complex (MAC) may coexist or mimic TB, particularly in patients with profound immunosuppression, posing a significant diagnostic challenge.

**Case Presentation:** A man who has sex with men (MSM) was newly diagnosed with advanced HIV infection with a baseline CD4 count of 9 cells/ $\mu$ L and HIV viral load of 321,000 copies/mL. He presented with chronic diarrhoea and weight loss. Initial investigations revealed positive urine lipoarabinomannan (LAM) and acid-fast bacilli on gastric lavage. Contrast-enhanced CT demonstrated thoracic and abdominal lymphadenopathy with a segment IV liver lesion. He was commenced on antituberculous therapy, tenofovir/emtricitabine/efavirenz, and cotrimoxazole prophylaxis.

After completing nine months of anti-TB treatment, his diarrhoea resolved and HIV viral load became undetectable after six months of antiretroviral therapy. Despite virological suppression, he failed to gain weight and demonstrated poor immune recovery, with CD4 count increasing only from 9 to 82 cells/ $\mu$ L. Repeat CT showed progression of mediastinal and intra-abdominal lymphadenopathy with long-segment bowel wall thickening. Blood mycobacterial culture isolated *Mycobacterium avium* complex on two separate occasions, confirming disseminated MAC. Drug susceptibility testing was unavailable due to culture contamination. Treatment with azithromycin, ethambutol, and rifampicin was initiated, resulting in significant weight gain, clinical improvement, and subsequent CD4 recovery.

**Conclusion:** This case highlights the importance of considering disseminated MAC in patients with advanced HIV who exhibit persistent constitutional symptoms or poor immunological recovery despite virological suppression and adequate TB treatment. Progressive lymphadenopathy and repeated positive blood mycobacterial cultures were key to establishing the diagnosis. Early recognition and timely initiation of MAC-directed therapy resulted in favourable clinical and immunological outcomes.



NAC26EP071

## Implementing a Structured "Look Back" Audit Protocol to Identify Missed Opportunities for Earlier HIV Diagnosis in Malaysia

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**Background:** Late HIV diagnosis remains a significant public health challenge in Malaysia. Identifying systemic barriers and clinical gaps is critical to shifting from reactive treatment to early detection.

**Objective:** To implement a standardized "Look Back" audit protocol to systematically uncover healthcare utilization patterns, clinical missed opportunities, and patient-reported barriers among individuals presenting with advanced HIV.

**Methods:** This quality improvement project targeted newly diagnosed People Living with HIV (PLHIV) enrolled in an ID First Year Clinic with a baseline CD4 count < 200 cells/ $\mu$ L in 2025-2026. During the scheduled clinic visit, HIV counsellor will administer a 9-questions survey that integrates into hospital's electronic medical record (EMR). The audit evaluated healthcare utilization over the last 3 years and tracked presentations of HIV indicator conditions like prolonged fever and unexplained weight loss. A "confirmed missed clinical opportunity" was rigorously defined as an encounter where a patient presented with an indicator condition to a healthcare provider but was not offered an HIV test.

**Results:** To date, 11 patients met the audit criteria. Preliminary data revealed that 5/11 45% of patients had a confirmed missed clinical opportunity. The most common missed indicator conditions were unexplained weight loss 4/5 (80%) and chronic diarrhoea 3/5 (60%). Missed clinical opportunities primarily occurred at Private GPs (80%) and Klinik Kesihatan (60%). Prominent patient-reported barriers to earlier testing included low self-perceived risk 8/11 (72.7%) and felt healthy 6/11(54.5%).

**Conclusion:** The "Look Back" audit successfully proves that majority of late diagnosis patients has missed clinical opportunity. Pinpointing exactly where early diagnostic pathways fail provides the concrete evidence needed to design targeted educational interventions for primary physicians across the Malaysian healthcare system.



NAC26EP072

## Diagnostic Performance and Clinical Utility of Novel Urine Lipoarabinomannan (FujiLAM) Assay for Tuberculosis Screening in Patients with Advanced HIV/AIDS In A Single Centre Infectious Disease Inpatient Care.

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**Background & Aim:** Tuberculosis (TB) remains a primary cause of mortality in people living with HIV (PLHIV), yet diagnosis is often challenging especially in paucibacillary sputum findings and extrapulmonary dissemination. We evaluated the diagnostic accuracy, real-world treatment alignment, and clinical utility of the novel Fujifilm SILVAMP TB LAM (FujiLAM) urine assay among hospitalized PLHIV with advanced HIV disease (CD4 <200 cells/ $\mu$ L).

**Methods:** This prospective cohort study was conducted in an adult Infectious Diseases (ID) ward. Eligible patients were enrolled and underwent clinical evaluation, imaging, and FujiLAM urine assays testing. Standard TB microbiological testing (AFB smears, GeneXpert, PCR, mycobacterial culture) and histopathology were performed as clinically indicated. Anti-TB treatment decisions were made at the treating physician's discretion. The performance of FujiLAM urine assay was evaluated against conventional microbiological confirmation and clinical treatment alignment.

**Results:** Eighty patients were enrolled from August 2024-August 2025. 15 (35.7%) patients had positive urine LAM and 17.5% (14/80) had microbiologically confirmed TB. AntiTB was initiated in 86.7% (13/15) of patients with positive LAM. FujiLAM demonstrated sensitivity of 75.0% (95% CI: 47.6–92.7), specificity of 95.3% (95% CI: 86.9–99.0), with positive predictive value (PPV) of 80.0% and negative predictive value 93.8%.

**Conclusion:** FujiLAM urine assay is a non-invasive point-of-care test offering high diagnostic accuracy in hospitalised advanced HIV cases. Its high specificity and PPV enable rapid antiTB initiation without waiting for conventional microbiology tests. Furthermore, its high NPV provides effective rule-out capability allowing earlier antiretroviral treatment. FujiLAM bridges gap between clinical suspicion and TB diagnosis, hence reducing delays in treatment in PLHIV in their most advanced state. Larger, longer-term studies are needed to assess its clinical impact.



NAC26EP077

## Recognition of an HIV Elite Controller in Primary Care: Lessons from a Rare Case

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*Pejabat Kesihatan Daerah Rompin*

Elite controllers are a rare subgroup of people living with HIV (PLHIV), comprising fewer than 1% of infected individuals, who maintain spontaneous suppression of plasma HIV RNA without antiretroviral therapy (ART). Despite sustained virological control, persistent immune activation and an increased risk of non-AIDS comorbidities have been reported. Current international guidelines therefore recommend ART for all PLHIV, including elite controllers, although evidence specific to this population remains limited. We report the case of a 47-year-old man diagnosed with HIV-1 infection in 2014 following high-risk sexual exposure. He remained asymptomatic and maintained plasma HIV RNA below the limit of detection (<20 copies/mL) without ART for more than five years, while preserving immune function and remaining free of opportunistic infections. Following consultation with the local Infectious Diseases Specialist, he was recognized as an HIV elite controller. Although universal ART was subsequently recommended, the patient declined treatment after counselling because of concerns regarding lifelong therapy and continued regular follow-up in primary care. He subsequently died due to a cardiovascular complication during follow-up. This case highlights the importance of recognising the elite controller phenotype in current primary care practice. Although spontaneous viral suppression is associated with favourable virological outcomes, accumulating evidence suggests that elite controllers remain susceptible to persistent immune activation, chronic inflammation and an increased risk of cardiovascular and other non-AIDS complications. Management should therefore include patient-centred counselling, shared decision-making, cardiovascular risk assessment and close collaboration between primary care physicians and Infectious Disease specialists. This case underscores the continuing relevance of recognising this rare phenotype to optimise long-term management in the era of universal ART.



NAC26EP079

## Complex HIV Care: A Rare Case of Itraconazole Precipitated Seborrheic Dermatitis Flare

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**Background:** Cutaneous lesions in retroviral disease (RVD) frequently present with atypical features. Misdiagnosis can lead to inappropriate systemic therapies that trigger severe, iatrogenic cutaneous adverse events, compromising patient care.

**Case Presentation:** A 42-year-old Sarawakian male with RVD, virologically suppressed on antiretroviral therapy (CD4: 182 cells/ $\mu$ L), presented with a left forehead erythematous plaque and scalp scaling for two months. A skin biopsy demonstrated spongiotic and perivascular dermatitis, but tissue fungal stains, tissue fungal and bacterial cultures were negative. Despite negative mycological workup, he was empirically prescribed oral itraconazole for suspected tinea capitis. Within five days, he experienced an explosive flare of extensive, itchy erythematous patches across his face, trunk, axillae, and groin. Dermatology revised the diagnosis to a severe flare of seborrheic dermatitis precipitated by itraconazole. The antifungal was discontinued, and he successfully recovered with topical corticosteroids.

**Discussion:** Seborrheic dermatitis is highly prevalent in RVD patients, often manifesting with heightened severity due to immune dysregulation. While oral itraconazole is conventionally utilized to treat fungal dermatoses, systemic azoles can rarely trigger paradoxical exacerbations or hypersensitivity reactions that mimic or worsen underlying inflammatory dermatoses. In this patient, the rapid clinical deterioration highlights the danger of empiric systemic prescribing without definitive histopathological or microbiological confirmation. It emphasizes the need to differentiate true drug eruptions from medication-induced flares of pre-existing conditions.

**Conclusion:** Precise dermatological assessment is critical in HIV care to prevent avoidable drug-induced complications. Clinicians must exercise extreme caution before introducing systemic antifungals for ambiguous lesions in immunocompromised hosts. When a cutaneous condition worsens post-treatment, prompt cessation of the offending agent and multidisciplinary dermatological review are vital.



NAC26EP085

## Not Every Umbilicated Papule is Talaromycosis: Disseminated Histoplasmosis Masquerading as Disseminated MAC in Advanced HIV Infection

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**Background:** Disseminated histoplasmosis is an AIDS-defining opportunistic infection that remains under-recognised in Southeast Asia, where tuberculosis and talaromycosis are more frequently encountered. Its clinical manifestations may mimic other opportunistic infections, resulting in diagnostic delay and inappropriate empirical therapy.

**Case Presentation:** A 32-year-old man with newly diagnosed advanced HIV infection (CD4 10 cells/ $\mu$ L; HIV viral load  $1.27 \times 10^6$  copies/mL) presented with prolonged fever, pancytopenia, generalized lymphadenopathy and polymorphic papulopustular lesions involving the face, ears, neck, upper trunk and soft palate. He had previous CMV colitis and intestinal microsporidiosis. Disseminated tuberculosis and *Mycobacterium avium* complex (MAC) were initially suspected. However, sputum AFB smears, GeneXpert MTB/RIF, urine TB-LAM, lymph node MTB PCR and mycobacterial cultures were repeatedly negative. Empirical anti-MAC therapy had been initiated at the referring centre. The cutaneous lesions also closely resembled disseminated talaromycosis.

Cervical lymph node biopsy demonstrated necrotizing lymphadenitis with fungal organisms, while tissue fungal PCR identified *Histoplasma capsulatum*, confirming disseminated histoplasmosis. Itraconazole was initiated, but therapeutic drug monitoring showed an undetectable level ( $<0.02$ ), indicating inadequate drug exposure. He subsequently received two weeks of intravenous liposomal amphotericin B, with marked improvement in fever and cutaneous lesions. Due to persistently inadequate itraconazole exposure, oral voriconazole was used as consolidation therapy with therapeutic drug monitoring. During admission, he also developed *Salmonella* spp. bacteraemia requiring targeted antimicrobial therapy.

**Conclusion:** Disseminated histoplasmosis should be considered in advanced HIV patients with prolonged fever, pancytopenia, lymphadenopathy and polymorphic skin lesions, even when the presentation mimics tuberculosis, MAC or talaromycosis. Tissue diagnosis, fungal molecular testing and therapeutic drug monitoring are important for timely diagnosis and effective treatment.



NAC26EP086

## Impact of Antiretroviral treatment duration and CD4 count on Tuberculosis incidence and treatment outcome: A 3 year single center retrospective review

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**Background:** Tuberculosis (TB) remains a leading cause of morbidity and mortality among people living with HIV (PLHIV). This study evaluates how antiretroviral therapy (ART) status and baseline Cd4 count impacts incidence of TB and TB treatment outcomes in a Malaysian clinical setting.

**Methods:** A retrospective cohort study was conducted at Hospital Sungai Buloh, Malaysia, including 235 PLHIV (aged 18 years and older) diagnosed with active TB between 2023 and 2025. Patients were classified by effective ART status at the time of TB diagnosis: "Currently on ART" (treatment for >6 months), "Defaulted ART" (started ART earlier but had defaulted, including those who were restarted on ART for <6 months) and "Never started ART" (including those who were started on ART for the first time but for <6 months).

**Results:** The cohort comprised 235 patients (93.2% male, median age 40.7 years). At TB diagnosis, 44.3% had never started ART, 34.5% had defaulted, and 17.0% were currently on ART. Median CD4 counts differed significantly across groups ( $p < 0.001$ ): 242 cells/mm<sup>3</sup> for patients currently on ART, compared to 64.5 cells/mm<sup>3</sup> for those who never started, and just 35.0 cells/mm<sup>3</sup> for those who defaulted. The overall TB mortality rate was 18.7%, and 100% of recorded deaths occurred in patients with CD4  $\leq$  200 cells/mm<sup>3</sup>.

**Conclusion:** 79.8% of incident TB in PLHIV occurred in the group not started/restarted ART or started /restarted ART less than 6 months prior to TB diagnosis. All TB mortality happened in those with Cd4 count < 200. Patients defaulting on ART had the lowest Cd4 count at the time of developing TB. These findings suggest that to reduce TB mortality among PLHIV, priority must be given to early HIV diagnosis, the initiation of TB preventive therapy, and strategies to prevent ART default.



NAC26EP088

## When Treatment Becomes the Challenge: A Therapeutic Dilemma in Disseminated Tuberculosis with HIV and Viral Hepatitis Coinfection

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**Introduction:** Management of disseminated tuberculosis (TB) becomes particularly challenging when complicated by HIV, chronic viral hepatitis, drug-induced liver injury and pancytopenia. Balancing treatment efficacy against toxicity may necessitate repeated treatment modification and multidisciplinary decision-making.

**Case Presentation:** A 45-year-old Orang Asli man was diagnosed with disseminated tuberculosis, with smear-positive pulmonary TB, pleural and spinal involvement with probable miliary dissemination. He also had advanced HIV infection with an initial viral load of 2,004,000 copies/mL, chronic hepatitis B and C coinfection and previous respiratory failure requiring mechanical ventilation. Anti-TB therapy was complicated by recurrent transaminitis during drug rechallenge and persistent pancytopenia, later predominantly thrombocytopenia. Potential contributors included anti-TB drug toxicity, underlying viral hepatitis, HIV-associated marrow suppression and possible bone marrow involvement by disseminated TB. The patient declined bone marrow aspiration and trephine biopsy. Despite achieving a full HREO regimen for 59 days following sequential rechallenge, worsening transaminitis subsequently necessitated temporary interruption of both anti-TB therapy and antiretroviral therapy after multidisciplinary consultation. Ongoing management required close biochemical monitoring, reassessment of the safest effective anti-TB regimen and multidisciplinary coordination between primary care and respiratory teams.

**Discussion:** This case illustrates the therapeutic dilemma of treating life-threatening disseminated TB when standard therapy itself may contribute to significant toxicity. Multiple competing causes of liver injury and thrombocytopenia further complicated attribution and treatment decisions.

**Conclusion:** Complex TB-HIV coinfection requires individualised treatment, careful toxicity surveillance and close multidisciplinary collaboration to balance treatment continuity against potentially serious adverse effects.

**Keywords:** *Tuberculosis; HIV coinfection; Viral hepatitis*



NAC26EP089

## Double-Edged Immunity: Relapsing Warm Autoimmune Haemolytic Anaemia in an Immunocompromised Host from Human Immunodeficiency Virus

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Human immunodeficiency virus (HIV) primarily targets CD4+ T lymphocytes, resulting in progressive impairment of host immune function. Anaemia is common among people living with HIV and may arise from chronic inflammation, opportunistic infections, nutritional deficiencies, drug-related myelosuppression or bone marrow suppression. Autoimmune haemolytic anaemia (AIHA) develops when autoantibodies directed against red blood cells lead to immune-mediated haemolysis. Although haematological abnormalities are frequently observed in HIV infection, AIHA remains an uncommon presenting manifestation. We report a case of relapsing warm AIHA in a person living with advanced HIV infection.

A 55-year-old man with diabetes mellitus and previous intravenous drug user was diagnosed with warm AIHA in 2023, confirmed by direct antiglobulin testing (polyspecific AHG 4+, anti-IgG 3+, anti-C3d 4+) with auto-IgG identified. He was treated with prednisolone and azathioprine but was subsequently lost to follow-up.

He re-presented in 2024 with severe anaemia (Hb 4.6 g/dL), jaundice and tea-coloured urine. Reticulocytes were 12%, LDH 350U/L (<248), total bilirubin 104µmol/L and direct 20µmol/L. Transfusion was complicated by antibody-related crossmatch difficulties. Following intravenous methylprednisolone and transfusion, haemoglobin improved to 7.5g/dL with steroid tapering.

HIV was subsequently diagnosed (viral load 7,310 copies/mL; CD4 294cells/µL), with positive urine TB-LAM and negative sputum AFB. HAART and anti-tuberculosis therapy were commenced in July 2024. Despite virological suppression to 111 copies/mL by December 2025, immunological recovery remained poor, with CD4 declining to 119cells/µL. Recurrent haemolysis resulted in Hb decline to 5.8g/dL in March 2026, prompting discontinuation of azathioprine, escalation of prednisolone and initiation of mycophenolate mofetil 500 mg twice daily.

This case highlights the complex intersection of advanced HIV infection and autoimmune hemolytic anemia. Persistent immunological vulnerability despite virological suppression further complicates management. Early detection and treatment of HIV remain the key to End HIV 2030.



NAC26EP091

## Plasmablastic Lymphoma in the Era of ART: A Case Report

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**Introduction:** Plasmablastic lymphoma (PBL) is a rare, highly aggressive non-Hodgkin lymphoma strongly associated with advanced HIV and Epstein-Barr virus (EBV). This is a case of advanced PBL to highlight that historical treatment non-adherence can trigger AIDS-defining malignancies, even when a patient eventually achieves virological control.

**Case Presentation:** A 46-year-old male with HIV diagnosed in 2014 presented with a rapidly enlarging, fungating right neck mass and significant weight loss. Notably, his disease course involved multiple treatment defaults requiring a switch to second-line antiretroviral therapy (ART) in July 2023. At presentation, despite having achieved a suppressed viral load (62 copies/mL) and a CD4 count of 204 cells/ $\mu$ L, the prolonged immune dysfunction from his past non-adherence culminated in malignancy. Histopathology of the mass confirmed PBL, revealing a plasma cell neoplasm positive for Epstein-Barr encoded region RNA on in situ hybridisation (EBER-ISH), with a highly aggressive Ki-67 index (>90%). CT staging identified a 6 cm necrotic submandibular mass with liver and pulmonary lesions, consistent with Ann Arbor Stage IV disease.

The patient received cytoreductive cyclophosphamide followed by a bortezomib-based chemotherapy regimen (Velcade-EPOCH). After three cycles, he demonstrated a profound clinical response with the resolution of the fungating mass, avoiding surgical intervention. He continues systemic chemotherapy alongside uninterrupted second-line ART.

**Conclusion:** This case illustrates the severe oncogenic consequences of prolonged immune dysfunction resulting from ART non-adherence. It highlights that patients with a history of treatment default remain at high risk for rare, aggressive malignancies like PBL, despite eventually achieving viral suppression on second-line therapy. Early recognition of PBL and prompt initiation of combined oncological and HIV-directed therapy with strict virological control, can yield remarkable clinical responses even in advanced, highly proliferative disease.



NAC26EP092

## Performance of a Self-reported Modified Frailty Phenotype for Identifying Frailty and its Association with Health Outcomes among People Aging with HIV on Antiretroviral Therapy in Malaysia

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**Background:** Fried's frailty phenotype (FFP) is a five-item tool for identifying frailty. We evaluated a self-reported, four-item modified frailty phenotype (MFP) and its association with health outcomes in people with HIV (PWH), assessing its potential as a pragmatic alternative in resource-constrained clinics.

**Methods:** Participants were  $\geq 35$  years old, clinically stable, and on antiretroviral therapy. MFP modifications included replacing the 7-item short-form International Physical Activity Questionnaire (IPAQ) with a single question on ability to perform physical activities, and grip strength and gait speed with a poor-mobility question, both from the European Quality of Life-5 Dimensions-5 Levels (EQ5D5L). Spearman correlation and receiver operating characteristic (ROC) analysis assessed MFP criterion validity against FFP. Multiple regression assessed associations with sarcopenia, falls, disability (WHODAS 2.0), and mortality risk (VACS 2.0).

**Results:** Median age was 51 years (IQR 44–57); 77.9% were male and 70.4% Chinese. MFP showed moderate-to-strong positive correlation with FFP (Spearman's  $\rho=0.64$ ,  $p<0.001$ ). A cutoff of  $\geq 3$  identified frailty with 47.4% sensitivity, 98.4% specificity, 93.9% overall classification accuracy, and AUC 0.91 (95% CI 0.83–0.99). A cutoff of  $\geq 1$  identified prefrailty with 14.2% sensitivity, 82.4% specificity, 68.7% accuracy, and AUC 0.59 (95% CI 0.51–0.67). MFP classified 5.7% as frail and 35.5% as prefrail, compared with 9.0% and 56.9%, respectively, using FFP. Neither measure was associated with falls or sarcopenia. MFP was associated with WHODAS 2.0 ( $B=7.53$ , 95% CI 5.46–9.59,  $p<0.001$ ), but not VACS 2.0. FFP was associated with WHODAS 2.0 ( $B=6.24$ , 95% CI 4.47–8.01,  $p<0.001$ ) and VACS 2.0 ( $B=1.59$ , 95% CI 0.07–3.10,  $p=0.04$ ).

**Conclusions:** MFP showed good performance but was not interchangeable with FFP. Where FFP is impractical, MFP may provide a pragmatic rule-in measure for frailty, pending local validation and context-specific calibration.



NAC26EP094

## Beyond the Poor Prognosis: Diagnostic Challenges and Favourable Outcomes in HIV Associated Progressive Multifocal Leukoencephalopathy

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**Introduction:** Progressive multifocal leukoencephalopathy (PML), caused by JC virus (JCV) reactivation, is a severe opportunistic neurological disease in advanced HIV. Variable presentations and initially unrevealing investigations may delay diagnosis. We describe two patients with HIV-associated PML who achieved favourable functional outcomes following antiretroviral therapy (ART).

### Case Series

Case 1: A 35-year-old man presented with prolonged fever, weight loss, altered mentation and progressive left hemiparesis. CT brain showed right parietal hypodensities initially interpreted as cerebral infarction. Initial cerebrospinal fluid (CSF) was unremarkable, and empirical treatment for stroke and CNS infections yielded no improvement. HIV testing was positive (CD4 58 cells/ $\mu$ L). Repeat CSF detected JCV and MRI demonstrated asymmetric bilateral T2/FLAIR hyperintensities, establishing PML. Tenofovir/emtricitabine/dolutegravir was initiated. Following virological suppression and CD4 recovery to 267 cells/ $\mu$ L, he regained independence in activities of daily living (ADL) and returned to work.

Case 2: A 34-year-old man presented with slurred speech, blurred vision and behavioural change following six months of cognitive slowing. HIV testing was positive (CD4 125 cells/ $\mu$ L; HIV RNA 303,000 copies/mL). Initial CSF was unremarkable. MRI demonstrated bilateral parieto-occipital abnormalities and repeat CSF detected JCV. Tenofovir/emtricitabine/efavirenz was initiated. At six months, HIV RNA declined to 21 copies/mL with CD4 recovery to 199 cells/ $\mu$ L, accompanied by resolution of speech and visual symptoms and restoration of ADL independence.

**Conclusion:** HIV-associated PML may masquerade as stroke or meningoencephalitis, while initially unrevealing CSF may delay diagnosis. Persistent neurological deficits should prompt early MRI and repeat CSF JCV testing. Importantly, PML in advanced HIV does not invariably predict poor functional outcome; effective ART, immune restoration and multidisciplinary rehabilitation may enable substantial neurological recovery and restoration of independence.



NAC26EP095

## Emergence of Dolutegravir Resistance in Treatment Experienced PLHIV - A Single-Center Case series

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**Background:** Dolutegravir (DTG) has a high genetic barrier to resistance, but integrase strand transfer inhibitor (INSTI) resistance is increasingly recognized. This study evaluated the clinical characteristics, resistance patterns and outcomes of patients with genotypic DTG resistance at a tertiary infectious disease centre in Malaysia.

**Methods:** A descriptive case series of five people living with HIV (PLHIV) managed at Hospital Sungai Buloh was conducted. Resistance mutations across NRTI, NNRTI, INSTI and protease inhibitor (PI) classes were interpreted using the Stanford HIV Drug Resistance Database. Clinical history, adherence, viral load trends and ART exposure were reviewed.

**Results:** All five patients were adult males with >5 years of ART exposure and documented treatment interruption or non-adherence. DTG resistance developed through actual DTG monotherapy following treatment default (n=2) or functional DTG monotherapy in the presence of persistent viraemia and NRTI resistance. G118R was the predominant INSTI mutation, detected in 4/5 patients (80%), with additional mutations including E138K/A, T66I, N155H, R263K and L74M/I. Extensive multi-class resistance was observed, including M184V in 4/5 and K65R in 2/5 patients. All isolates remained susceptible to boosted PIs. Following treatment optimization with atazanavir/ritonavir or darunavir/ritonavir-based salvage regimens, 3/4 evaluable patients (75%) achieved virological suppression (<200 copies/mL). One patient remained unsuppressed due to persistent non-adherence, while one outcome was pending.

**Conclusion:** DTG resistance occurred mainly in the setting of actual or functional monotherapy, with G118R emerging as the predominant INSTI resistance mutation. Boosted PI-based salvage therapy achieved effective viral suppression in adherent patients. Strengthening adherence support, timely viral load monitoring and access to genotypic resistance testing are essential to prevent multi-class HIV drug resistance and treatment failure.

**Keywords:** HIV; Dolutegravir; INSTI resistance; Treatment failure; Viral suppression; Non-adherence



NAC26EP096

## Impact of Dolutegravir-Based Antiretroviral Therapy (ART) on Weight Gain in Human Immunodeficiency Virus (HIV) Patients: A Preliminary Study in Malaysia

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**Background:** Dolutegravir-based antiretroviral therapy (ART) is recommended as first-line treatment for human immunodeficiency virus (HIV) because of its efficacy and tolerability. However, increasing evidence links dolutegravir with weight gain and potential metabolic complications. Malaysian data remain limited.

**Objectives:** To evaluate percentage weight change following a switch from efavirenz-based to dolutegravir-based ART among Malaysian adults with HIV, and to assess the feasibility of study procedures for a future multicentre study.

**Methods:** This retrospective preliminary cohort study included adults with HIV treated at University Malaya Medical Centre between January 2023 and December 2025 who received efavirenz-based ART followed by dolutegravir-based ART. Patients with conditions affecting body weight, poor ART adherence, or pregnancy were excluded. Percentage weight change at 6 and 12 months was calculated relative to baseline weight. Within-patient comparisons were performed using the Wilcoxon signed-rank test, while univariable linear regression explored factors associated with percentage weight change.

**Results:** Forty-seven patients were included. Median age was 47 years (IQR 37–60), 95.7% were male, and median body mass index at dolutegravir initiation was 24.72 kg/m<sup>2</sup> (IQR 20.52–27.52). Weight remained largely stable during efavirenz-based therapy, with median changes of –0.14% at 6 months and –1.67% at 12 months. Following dolutegravir initiation, median weight increased by 2.86% at 6 months and 6.25% at 12 months. Percentage weight change differed significantly between regimens at 6 months ( $p<0.001$ ) and 12 months ( $p=0.001$ ). Clinically significant weight gain occurred in 19.0% of patients at 6 months and 39.1% at 12 months. Higher baseline CD4<sup>+</sup> cell count was associated with lower percentage weight change ( $B=-0.034$ , 95% CI –0.058 to –0.010;  $p=0.010$ ).

**Conclusion:** Switching from efavirenz-based to dolutegravir-based ART was associated with significant and progressive weight gain. These preliminary Malaysian data support closer weight and metabolic monitoring after dolutegravir initiation and provide a basis for a larger multicentre study.



NAC26EP098

## Persistent Cardiopulmonary Abnormalities in Advanced HIV: A Multifactorial Diagnostic Challenge

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Advanced HIV disease (AHD) may present with complex cardiopulmonary diagnostic challenges due to overlapping opportunistic infections (OIs), chronic lung disease, metabolic abnormalities and treatment-related toxicity. We describe persistent bradycardia and pulmonary abnormalities during treatment of multiple OIs.

A 71-year-old woman living with AHD, bronchiectasis and ART interruptions presented with fever, lethargy, exertional dyspnoea and severe odynophagia for three weeks. Investigations demonstrated marked viraemia and a critically low CD4 count. She developed respiratory distress and was treated for *Pneumocystis jirovecii* pneumonia (PCP), oesophageal candidiasis and infective bronchiectasis. Trimethoprim-sulfamethoxazole allergy necessitated primaquine and clindamycin for PCP; fluconazole and intravenous cefepime were given for candidiasis and infective bronchiectasis.

During treatment, she developed sinus bradycardia with QTc prolongation and hyperkalaemia. A potential fluconazole-primaquine interaction prompted switching fluconazole to micafungin. Following drug withdrawal and hyperkalaemia correction, QTc prolongation resolved; however, bradycardia persisted, requiring atropine and coronary care unit admission. Suboptimal respiratory improvement after seven days of PCP therapy prompted further evaluation. CT thorax demonstrated persistent bilateral ground-glass opacities, septal thickening, subpleural reticulation and atelectatic changes. Despite absent CMV retinitis, possible CMV pneumonitis and myocarditis were subsequently considered and treated, with CMV PCR and serology results awaited.

Cardiopulmonary complications in AHD are multifactorial, involving uncontrolled viraemia, inflammation, OIs, metabolic disturbances and drug toxicity. QTc resolution supported a reversible drug-metabolic contribution, whereas persistent bradycardia raised concern for CMV myocarditis. Suboptimal PCP response with persistent CT abnormalities suggested concurrent CMV pneumonitis. Bronchiectasis further complicated assessment.

Persistent cardiopulmonary abnormalities in AHD should prompt reassessment for concurrent OIs, drug toxicity and metabolic disturbances.



NAC26EP099

## Clinical implication of switching from Efavirenz to Dolutegravir in patients with opioid use disorder receiving methadone

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**Background:** Methadone is widely used in opioid substitution therapy, but its metabolism is affected by antiretroviral therapy, particularly efavirenz. This interaction may lead to subtherapeutic methadone levels, persistent withdrawal symptoms, and dose escalation, increasing the risk of QT prolongation.

**Case Presentation:** We report two cases of 52-year-old Malay gentlemen with well-controlled retroviral disease and opioid use disorder on methadone maintenance therapy. Both patients experienced persistent opioid craving despite high-dose methadone while on efavirenz-based antiretroviral therapy.

In Case 1, the patient had persistent cravings with withdrawal symptoms despite on methadone 190 mg/day and developed QTc prolongation (450 ms). After switching efavirenz to dolutegravir, cravings resolved, methadone was tapered to 100 mg/day, and QTc improved to 398 ms.

In Case 2, the patient was on methadone 100 mg/day and had persistent cravings. Following substitution with dolutegravir, cravings resolved but he developed oversedation that affect his daily activities including getting ready to work. His initial ECG revealed prolonged QTc with QTc of 455ms. His condition improved with improved QTc after methadone dose reduction to 90mg/day.

**Discussion & Conclusion:** Efavirenz induces methadone metabolism, resulting in apparent treatment failure and dose escalation. Switching to dolutegravir restores methadone levels but may precipitate toxicity if doses are not adjusted.

One of the dangerous side effects of methadone toxicity is prolong QT interval. It is a dose-dependent effect that need to be monitored in patient with high dose methadone (>100mg/day). Prolonged QT interval increases the risk of Torsade's de pointes. The observed improvement in QTc following methadone reduction highlights the importance of optimizing dosing in the context of ART changes.

These cases illustrate the need for clinicians to anticipate pharmacokinetic interactions when modifying ART regimens in patients receiving methadone. Careful monitoring and pre-emptive methadone dose reduction are essential to prevent adverse outcomes, including QT prolongation.



NAC26EP100

## The Dilemma of Initiating Anti-TB Therapy in Severe HIV-Induced ITP: A Case Report

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**Introduction:** Thrombocytopenia in advanced HIV is multifactorial, often stemming from opportunistic infections, bone marrow suppression, or iatrogenic drug toxicity. HIV-associated immune thrombocytopenic purpura (ITP) is a critical differential, but its coexistence with active tuberculosis (TB) creates a profound therapeutic dilemma. Initiating anti-TB therapy is challenging due to the risk of rifampicin-induced haematological toxicity. Furthermore, standard ITP treatment requires corticosteroids, which are controversial in immunocompromised patients during active infections.

**Case Presentation:** A 57-year-old male with advanced HIV (CD4 count 122 cells/ $\mu$ L) presented with fever, headache, and weight loss. Investigations revealed severe thrombocytopenia ( $16 \times 10^9$ /L) and concurrent pulmonary TB. Standard anti-TB therapy was initiated, but his platelets plummeted to  $5 \times 10^9$ /L within days, prompting withdrawal for suspected rifampicin toxicity. A bone marrow aspirate showed reactive marrow without malignancy or infiltrative infection. The thrombocytopenia was refractory to platelet transfusions and intravenous immunoglobulin (IVIG). Due to persistent headache and MRI evidence of basal ganglia infarction, he received empirical high-dose intravenous dexamethasone for suspected TB meningitis. Following corticosteroid administration, his platelet count rapidly surged to  $121 \times 10^9$ /L, and then normalised after a few days. This dramatic response definitively isolated HIV-associated ITP as the primary cause of his severe cytopenia. Achieving haematological stabilisation via steroids safely facilitated the stepwise reintroduction of anti-TB medications.

**Conclusion:** Managing cytopenias in advanced HIV involves navigating complex aetiologies. This case highlights that a robust response to corticosteroids is a crucial diagnostic indicator for HIV-associated ITP. Recognising this steroid responsiveness allows clinicians to effectively manage cytopenia and safely bridge immunocompromised patients back to essential anti-TB therapy.



NAC26EP101

## From Negative Donor Screen to Seroconversion: Acute HIV Infection Unmasked by *Salmonella* Gastroenteritis

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**Introduction:** Acute human immunodeficiency virus (HIV) infection may present with nonspecific symptoms and can be missed when recent screening results are negative. We report an unusual case of acute HIV infection identified during evaluation of *Salmonella* gastroenteritis despite a recent negative blood-donor screen.

**Case Presentation:** A 21-year-old man with no known medical illness presented with six days of high-grade fever, vomiting and diarrhoea. Stool culture yielded non-typhoidal *Salmonella*, while blood culture was negative. He was treated with intravenous ceftriaxone. Infectious disease screening was performed because of concurrent anal fissure. Fourth-generation HIV antigen/antibody chemiluminescence immunoassay was reactive and particle agglutination was positive. The patient denied recognised HIV risk factors and had donated blood one month earlier, when HIV antigen/antibody and nucleic acid testing were negative. A line immunoassay was indeterminate, with gp41 reactivity only. HIV-1 RNA was 7,250,000 copies/mL and CD4+ T-cell count was 282 cells/ $\mu$ L, confirming acute HIV infection at Fiebig stage IV.

**Intervention/Outcome:** Antiretroviral therapy with tenofovir disoproxil fumarate/emtricitabine and dolutegravir was initiated. After one month, HIV-1 RNA declined to 92 copies/mL and the CD4+ T-cell count increased to 509 cells/ $\mu$ L. Repeat line immunoassay demonstrated HIV-1 seroconversion.

**Discussion:** This case illustrates how acute HIV infection may be concealed by an apparently routine gastrointestinal presentation and how a recent negative donor screen may provide false reassurance when infection occurs within the diagnostic window period. The combination of evolving serology and markedly elevated HIV-1 RNA was crucial in establishing the diagnosis.

**Conclusion:** Acute HIV infection should remain a diagnostic consideration in patients with unexplained or atypical gastrointestinal infections. Prompt nucleic acid testing when serological findings are discordant can facilitate early diagnosis, timely treatment and reduction of transmission risk.

**Keywords:** acute HIV infection; seroconversion; *Salmonella* gastroenteritis



NAC26EP103

## Association between HIV-Related Stigma and Loss-to-Follow-Up among People Living with Human Immunodeficiency Virus: A Pilot Study

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**Introduction:** Retention in HIV care is essential for achieving viral suppression and reducing HIV-related morbidity and mortality. However, loss to follow-up (LTFU) remains a challenge among people living with HIV (PLHIV) and may result in treatment interruption and poor clinical outcomes. HIV-related stigma may negatively influence healthcare-seeking behaviour, treatment adherence, and engagement with HIV care, potentially contributing to LTFU. However, evidence on the association between HIV-related stigma and LTFU among PLHIV in Malaysia remains limited.

**Objective:** To determine the association between HIV-related stigma and LTFU among PLHIV receiving care at tertiary hospital.

**Methods:** A cross-sectional observational study was conducted among PLHIV receiving care at Hospital Tengku Ampuan Rahimah (HTAR), Klang from February to July 2026. Participants were recruited using simple random sampling. HIV-related stigma was assessed using the validated Berger HIV Stigma Scale. Sociodemographic and clinical characteristics, including relevant laboratory parameters and LTFU status, were obtained from patient records. The association between stigma score and LTFU was assessed using logistic regression analysis.

**Results:** A total of 50 PLHIV aged 18–65 years were included, of whom 42 (84.0%) were male and 8 (16.0%) were female. Among the 50 participants, 11 (22%) were classified as LTFU. HIV-related stigma score was significantly associated with LTFU (OR 0.953, 95% CI 0.915–0.992;  $p=0.017$ ). Each one-unit increase in stigma score was associated with a 4.7% reduction in the odds of LTFU.

**Conclusion:** HIV-related stigma score was significantly associated with LTFU among PLHIV receiving care at HTAR. The inverse association observed warrants further investigation to understand the behavioural, social, and healthcare-related factors influencing retention in HIV care. Further studies with larger sample sizes are needed to clarify the relationship between HIV-related stigma and LTFU among PLHIV in Malaysia.



NAC26EP104

## Prevalence and Risk Factors of Metabolic-Associated Steatotic Liver Disease Among People Living with HIV in Malaysia

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**Objective:** Metabolic dysfunction-associated steatotic liver disease (MASLD) is an increasingly recognised comorbidity among people living with HIV (PLWH). This study determined the prevalence and risk factors of MASLD in virally suppressed Malaysian PLWH receiving antiretroviral therapy (ART).

**Methodology:** This cross-sectional study enrolled PLWH receiving ART at a tertiary centre. Participants with chronic hepatitis B, hepatitis C or significant alcohol consumption were excluded. MASLD was diagnosed using ultrasound or controlled attenuation parameter (CAP  $\geq 248$  dB/m) in the presence of  $\geq 1$  cardio-metabolic risk factor. Multivariable logistic regression identified independent predictors.

**Results:** Among 250 eligible participants, MASLD was identified in 67 (26.8%). Participants with MASLD had higher body mass index, waist circumference and prevalence of metabolic syndrome, diabetes mellitus and hypertension (all  $p < 0.05$ ). HIV and ART durations were longer, while previous efavirenz exposure was less common. Waist circumference independently predicted MASLD (adjusted odds ratio aOR 1.14 per cm increase, 95% confidence interval CI 1.07–1.20;  $p < 0.001$ ) whereas previous efavirenz exposure was independently protective (aOR 0.31, 95% CI 0.12–0.79;  $p = 0.014$ ). Among 129 participants with valid CAP, 23.3% had severe steatosis (CAP  $\geq 280$  dB/m). Among 121 participants with valid liver stiffness measurements (LSM), 9.9% had advanced fibrosis (F3–F4; LSM  $\geq 8$  kPa). Based on Baveno VII criteria, 2.5% had LSM  $> 15$  kPa, highly suggestive of compensated advanced chronic liver disease (cACLD), while 4.1% had LSM 8–15 kPa, falling within the cACLD grey zone. For clinically significant portal hypertension (CSPH), 97.5% were classified as ruled out, 2.5% were in the grey zone requiring further assessment, and none met rule-in criteria (LSM  $> 25$  kPa).

**Conclusion:** MASLD affects more than one-quarter of virally suppressed Malaysian PLWH. Central adiposity is the strongest independent predictor, while previous efavirenz exposure appears protective. These findings support routine waist circumference assessment and targeted FibroScan screening for early detection of MASLD in PLWH.



NAC26EP105

## Age-Dependent pTau-217 Elevation in PWH: Associations with Systemic Immune Activation, CNS Injury, and CVD Risk

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**Background:** Older people with HIV (PWH) ( $\geq 50$  years) face elevated dementia risk. Plasma phosphorylated tau-217 (pTau-217) is a biomarker of Alzheimer's Disease (AD)-related tau pathology, but its relationship to HIV status and to chronic immune activation (IA), comorbidities, and neural injury remains poorly understood. We examined plasma pTau-217 levels and its clinical/biological correlates in treated PWH and age-matched controls without HIV (PWoH).

**Method:** Participants were from the Malaysian HIV and Ageing (MHIVA, wave 2:2021-2023) cohort, age  $\geq 35$  years, with treated PWH (HIV RNA  $< 20$  copies/mL). Plasma pTau-217, neurofilament light chain (NfL), glial fibrillary acidic protein (GFAP) and systemic IA markers (IL-6, sCD14, and sCD163) were measured. Multivariable linear regression identified factors associated with pTau-217 in PWH and PWoH, adjusting for demographic and lifestyle.

**Results:** 194 PWH and 106 PWoH (median age=51 years in both) were included. PWH exhibited a higher level of plasma pTau-217 than PWoH (3.39 vs 2.98pg/mL,  $p=0.067$ ), though not statistically significant. Among participants aged  $\geq 50$  years, pTau-217 levels were higher in PWH than in PWoH ( $p=0.027$ ), but not in participants aged  $< 50$  years. Furthermore, pTau-217 correlated positively with NfL, GFAP, sCD14, IL-6 and sCD163 in PWH aged  $\geq 50$  years ( $p$ -value:0.000-0.029), but only NfL were observed in PWoH aged  $\geq 50$  years ( $p$ -value=0.002). After multivariable adjustment, higher pTau-217 in PWH was independently associated with higher sCD14, NfL, GFAP, number of medications, lower eGFR and hypertension. Contrary, associations in PWoH were limited, with NfL remaining the only consistent correlates of pTau-217.

**Conclusion:** Overall, pTau-217 levels were elevated in virally suppressed, middle-aged PWH and exhibited broader associations with systemic IA markers, neuronal and astrocytes health markers, as well as multiple CVD risk factors than in PWoH., whose associations were restricted to neuronal damage and hypertension. These findings suggest a high level of AD risk in PWH even when cognitive functions are mostly unaffected.



NAC26EP106

## When Concordant HIV Serology Misleads: False-Positive HIV-1 Results in Active Pulmonary Tuberculosis

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Concordant reactivity on HIV screening and supplemental antibody assays is generally considered diagnostic under established testing algorithms. However, cross-reactivity during inflammatory or infectious conditions may rarely produce misleading results. We describe repeated false-positive HIV serology in a patient with active pulmonary tuberculosis (PTB), highlighting the clinical and psychosocial consequences of unexpected assay discordance. A 70-year-old patient with active PTB underwent routine HIV testing. A fourth-generation chemiluminescent immunoassay was reactive, and a supplemental rapid differentiation assay detected HIV-1 antibodies. Repeat testing using a second blood specimen reproduced the same dual-platform reactivity, reducing the likelihood of specimen or pre-analytical error. The result was reported as HIV-1 reactive; disclosure was performed, and ART was initiated. A baseline HIV-1 viral load specimen collected before ART initiation subsequently returned “not detected” (<40 copies/mL), with CD4/CD8 indices within expected ranges. Review found no evident autoimmune disease, malignancy, metabolic disorder, or transfusion-related confounder. Repeat serological and molecular testing at a tertiary center was non-reactive, and HIV-1 RNA was not detected. Taken together, these findings did not support HIV infection or elite control and were most consistent with false-positive local serological reactivity, possibly related to immune activation in active PTB. ART was discontinued after multidisciplinary review. This case illustrates that concordant reactive serological results may rarely produce false positives, particularly in the setting of active infection and immune activation. When serological findings are inconsistent with virological or clinical parameters, prompt review, repeat testing using an alternative platform, and molecular testing should be considered before communicating a definitive lifelong diagnosis. Close laboratory–clinician collaboration is essential to resolve unexpected discordance and minimize unnecessary treatment and psychosocial harm.



NAC26EP114

## A Study on Retroviral Disease Patient Who Loss to Follow-Up (LTFU) at the Infectious Disease Clinic (ID), HSNZ

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Maintaining long term retention in care for patients living with HIV is essential for achieving sustained viral suppression and optimal clinical outcomes. Given that LTFU remains a significant challenge, understanding the duration of follow-up prior to LTFU and the frequency of counseling is critical to identifying potential barriers to patient engagement and continuity of care. This retrospective study examined 164 patients at the Infectious Disease Clinic (ID), Hospital Sultanah NurZahirah (HSNZ), who were lost to follow-up (LTFU) from 2018 to 2024.

The study's primary objectives were to evaluate the demographic profile, clinical co-infections, and barriers to care for RVD patients at HSNZ, as well as to analyze the duration of follow-up prior to LTFU and counseling frequency. Among the 164 defaulted patients, the mean age was 47 years. The demographic profile highlighted a significant male predominance (87.8%) compared to 12.2% female, with 55.5% of the patients being unemployed.

Descriptive analysis showed that Hepatitis C co-infection was remarkably prevalent, affecting 57.3% of the cohort. Other co-infections included Hepatitis B and combined Hep B & C, while 17.7% of patients had active opportunistic infections. Final patient outcomes were varied: 32.9% had no documented action, 26.2% were uncontactable, 20.7% were uncooperative or failed to attend, 9.8% had died, and 9.1% were under NGO/prisoner care.

Regarding retention, 42.7% of patients had less than 3 years of follow-up prior to LTFU. Notably, counseling engagement was limited; 47.6% attended only one session, and 82.9% attended three or fewer sessions. The study concludes that limited counseling exposure likely contributes to LTFU. Strengthening the availability of dedicated, trained paramedic counselors is recommended to facilitate the early identification of psychosocial and socio-economic barriers, ultimately enhancing patient engagement and improving long-term retention in HIV care.



NAC26EP115

## Persistent Reactive HIV Antibody Following Occupational Exposure: A Diagnostic Challenge

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Reactive HIV serology following occupational needle stick injury (NSI) can cause significant diagnostic and psychological challenges, particularly when serological and molecular results are discordant. We report a case of persistent HIV antibody reactivity following occupational exposure despite repeatedly undetectable HIV RNA. Case Presentation: A 27-year-old healthcare worker sustained a percutaneous needle stick injury (NSI) over the dorsum of the right fifth metacarpophalangeal joint from a branula needle used in patient living with HIV. She was wearing double gloves, sustained minimal bleeding and had immediately washed the wound. The source patient had been diagnosed with HIV for one year and was reportedly compliant with antiretroviral therapy, with a CD4 count of 317 cells/mm<sup>3</sup> and HIV viral load of 40,000 copies/mL. Post-exposure prophylaxis regime with Tenofovir Disoproxil Fumarate/Emtricitabine and Raltegravir was initiated immediately for 28 days. Baseline and 3-weeks post-exposure HIV screening were non-reactive. At 6 weeks, HIV ELISA became reactive (antibody) with a positive particle agglutination (PA) assay, meanwhile HIV RNA was undetectable. Her second sample was sent to reference laboratory that demonstrated a non-reactive HIV antigen-antibody assay, reactive HIV PA, and undetectable HIV RNA. Subsequent follow-up demonstrated persistent HIV-antibody reactivity, while HIV antigen and differentiation assays remained non-reactive with repeatedly undetectable HIV RNA. Further evaluation for potential serological interference and underlying autoimmune disease including ANA, ENA, p-ANCA and c-ANCA, was negative. Discussion: Persistent HIV antibody reactivity in the absence of detectable HIV RNA, non-reactive antigen and negative differentiation testing was inconsistent with established HIV infection. This case highlights the importance of interpreting reactive HIV serology using complementary serological and molecular assays. Serial and reference laboratory testing is essential following occupational exposure to distinguish true infection from persistent false-reactive serology and to minimise unnecessary psychological consequences.



NAC26EP116

## Prevalence of drug resistance mutations and HIV-1 subtypes among HIV-1 patients with virological failure in Selangor.

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The emergence of HIV-1 drug resistance mutations (DRMs) and the wide diversity of viral subtypes pose significant challenges to the efficacy of antiretroviral therapy (ART). Understanding the local epidemiology of HIV-1 subtypes and resistance profiles is vital for optimizing treatment strategies and improving clinical outcomes for patients. Plasma samples were collected from March 2025 till June 2026 in EDTA tubes of 159 HIV-1 patients currently on treatment with viral loads of  $\geq 1000$  copies/ml. Viral subtyping and mutation identification were conducted using the Vela Diagnostics Next-Generation Sequencing (NGS) System utilizing the Sentosa SQ HIV-1 Genotyping Assay. Successful subtyping was achieved in 95% of the samples (151/159), while 5% (8/159) remained indeterminate. The most prevalent subtype identified was CRF01\_AE (32.7%, 52/159), followed by CRF33\_01B (32.1%, 51/159), Subtype B (13.8%, 22/159), other Common Reading Frames (CRFs) (10.69%, 17/159), and Subtype G (5.7%, 9/159). Single class DRM was observed in 23.3% (37/159). Multi-class resistance mutations were observed in 54.7% (87/159) of the cohort. This was driven predominantly by high failure rates in the non-nucleoside reverse transcriptase inhibitors (NNRTI) (68.6%) and the nucleoside reverse transcriptase inhibitors (NRTI) (62.3%) drug classes. The most frequent mutations observed were NRTIs (M184V, K65R, S68G, M184I) and NNRTIs (K103N, P225H, Y188L, G190A, L100I, V106I). DRMs for protease inhibitors (PI) was detected in 1 patient and 3 patients had mutations associated with Integrase strand-transfer inhibitors (INSTIs). In conclusion, the predominant subtypes in Selangor are CRF01\_AE and CRF33\_01B. The high DRM detection rate of 78% emphasized the importance of genotypic resistance testing in monitoring patients with virological failure. However, the remaining 22% of fully susceptible samples suggests potential issues with treatment compliance within the cohort. While INSTI and PI-based regimens remain highly viable, localized clinical studies are required to verify these data trends in Selangor and across Malaysia to guide future public health strategies.



NAC26EP118

## A Retrospective Analysis of the Causes of Hospitalizations among People Living with HIV (PLHIV) at Hospital Sungai Buloh

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**Background:** As survival on antiretroviral therapy (ART) improves, morbidity among people living with HIV (PLHIV) is shifting toward non-AIDS-defining events. We characterized admission diagnoses and outcomes at Hospital Sungai Buloh, a Malaysian tertiary referral hospital, to assess whether AIDS-defining events (ADEs) remain an important cause of hospitalization.

**Methods:** This retrospective observational study included 61 PLHIV adults admitted from 1st January 2026 to 31st March 2026. For patients with multiple admissions, only the earliest admission was analyzed. Diagnoses were classified as ADEs, non-AIDS infections, or non-infectious non-AIDS events. Viral suppression was defined as HIV RNA <200 copies/mL. CD4 counts were compared using the Mann–Whitney U test.

**Results:** Median age was 41 years (IQR 32–48). Thirty patients (49.2%) were receiving ART; 19/30 (63.3%) had documented viral suppression. ADEs were the leading admission category (32/61, 52.5%). Tuberculosis was the most common diagnosis (18/61, 29.5%) and comprised 18/32 (56.3%) ADE admissions, followed by *Pneumocystis jirovecii* pneumonia (7/32) and cytomegalovirus disease (4/32). Non-AIDS infections accounted for 18/61 (29.5%) admissions and were predominantly bacterial (13/18, 72.2%); non-infectious non-AIDS events accounted for 11/61 (18.0%). ADEs occurred in 20/30 (66.7%) patients not receiving ART and 9/11 (81.8%) receiving ART without documented suppression, compared with 2/19 (10.5%) with documented suppression. The remaining patient had unknown ART status and an ADE. Median CD4 count was lower in ADE than non-ADE admissions (36.5 versus 215.5 cells/ $\mu$ L;  $p=0.001$ ). All four deaths (6.6%) occurred in patients not receiving ART with detectable viraemia and an ADE.

**Conclusion:** Despite the epidemiological shift toward non-AIDS-defining morbidity in the ART era, ADEs—particularly tuberculosis—remained the leading reason for hospitalisation in this Malaysian tertiary referral cohort. Earlier diagnosis, ART initiation, retention in care, viral suppression, and opportunistic infection prevention remain priorities.



NAC26EP119

## Silent Signals: ENT Symptoms as the Sentinel Presentation of Undiagnosed HIV Infection: A Case Series (2020–2025)

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**Background:** ENT complaints are often the first point of contact for patients with undiagnosed HIV, frequently preceding formal diagnosis by weeks to months. Recognizing these atypical presentations is critical for early detection and timely linkage to care.

**Objective:** To characterize the spectrum of ENT presentations leading to incidental or subsequent HIV diagnosis, and their clinical outcomes, in a tertiary hospital.

**Methods:** A retrospective case series of patients presenting to the ENT Department of Hospital Canselor Tuanku Muhriz between 2020 and 2025, whose workup revealed underlying HIV infection.

**Results:** Seven patients (age 30–55 years; predominantly male) presented with diverse ENT complaints: cervical lymphadenopathy/neck mass with tuberculous lymphadenitis (3), nasopharyngeal mass (2), recurrent tonsillitis with syphilis co-infection (1), and acute vocal cord palsy from skull-base osteomyelitis (1). Three of seven presented with AIDS-defining illness at diagnosis, including disseminated talaromycosis, *Pneumocystis* pneumonia, and miliary tuberculosis.

Outcomes were largely favourable but not uniform. Six patients with an underlying infective process (TB lymphadenitis, syphilis-associated tonsillitis, or disseminated opportunistic infection) were started on HAART and remained clinically stable, including one who defaulted for four months before re-engagement. The patient with a nasopharyngeal mass later diagnosed as lymphoma had a fulminant course with severe bicytopenia and progressive cranial neuropathy, and passed away despite supportive care.

**Conclusion:** Unexplained cervical lymphadenopathy, nasopharyngeal masses, refractory tonsillitis, and cranial neuropathies should prompt HIV screening in the ENT clinic. Infection-associated presentations responded well to HAART, while the malignancy-associated case carried a poor prognosis, highlighting the need for early, aggressive multidisciplinary management once HIV-related malignancy is suspected.



NAC26EP122

## Undetectable Yet Not Unprotected: Disseminated Tuberculosis in a Virologically Suppressed Patient with HIV

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**Introduction:** Tuberculosis (TB) remains a critical opportunistic infection in people living with HIV (PLHIV). While antiretroviral therapy (ART) and immune restoration significantly reduce TB incidence, they do not completely eliminate the risk. This case report highlights a disseminated, drug-sensitive *Mycobacterium tuberculosis* infection in a virologically suppressed patient with a well-preserved CD4 count.

**Case Report:** A 24-year-old Malay gentleman, diagnosed with HIV in 2020, completed isoniazid prophylaxis in 2021. Following five years of excellent adherence to ART (tenofovir/emtricitabine and efavirenz), he maintained an undetectable viral load and a CD4 count of 669 cells/ $\mu$ L. He presented with a three-month history of profound weight loss (58.3 kg to 34 kg), anorexia, lethargy, early satiety, and chronic diarrhoea. He lacked classical respiratory TB symptoms like fever or cough. Initially suspected of having a colorectal malignancy, he was admitted for further evaluation. Investigations revealed right perihilar consolidation on chest radiography, while sputum acid-fast bacilli cultures confirmed drug-sensitive *M. tuberculosis*. Colonoscopic histopathology showed suppurative granulomatous lesions, confirming intestinal involvement and a diagnosis of disseminated TB. The patient developed drug-induced liver injury on standard first-line anti-TB therapy, requiring a modified regimen of ethambutol, levofloxacin, isoniazid, rifampicin, and pyridoxine. His clinical condition improved, and he was discharged to primary care for treatment continuation.

**Conclusion:** This case underscores that complete virological suppression and immune recovery do not entirely protect PLHIV from severe TB. Atypical clinical presentations dominated by gastrointestinal and constitutional symptoms can easily mimic malignancy, causing dangerous diagnostic anchoring. Primary care physicians must maintain a high index of suspicion for TB in any PLHIV presenting with unexplained weight loss. Furthermore, routine chest X-ray screening protocols must be strengthened to facilitate early recognition and reduce diagnostic delays.



NAC26EP124

## Stigma Effect on Loss-to-follow-up among People Living with Human Immunodeficiency Virus: A Pilot Study

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**Introduction:** Retention in HIV care is essential for achieving viral suppression and reducing HIV-related morbidity and mortality. However, loss to follow-up (LTFU) remains a challenge among people living with HIV (PLHIV) and may result in treatment interruption and poor clinical outcomes. HIV-related stigma may negatively influence healthcare-seeking behaviour, treatment adherence, and engagement with HIV care, potentially contributing to LTFU. However, evidence on the association between HIV-related stigma and LTFU among PLHIV in Malaysia remains limited.

**Objective:** To determine the association between HIV-related stigma and LTFU among PLHIV receiving care at Hospital Tengku Ampuan Rahimah (HTAR), Selangor.

**Methods:** A cross-sectional observational study was conducted among PLHIV receiving care at HTAR from February to July 2026. Participants were recruited using simple random sampling. HIV-related stigma was assessed using the validated Berger HIV Stigma Scale. Sociodemographic and clinical characteristics, including relevant laboratory parameters and LTFU status, were obtained from patient records. The association between stigma score and LTFU was assessed using logistic regression analysis.

**Results:** A total of 50 PLHIV aged 18–65 years were included, of whom 42 (84.0%) were male and 8 (16.0%) were female. Of the 50 participants, 11 (22%) experienced LTFU. HIV-related stigma score was significantly associated with LTFU (OR 0.953, 95% CI 0.915–0.992;  $p=0.017$ ). Each one-unit increase in stigma score was associated with a 4.7% reduction in the odds of LTFU.

**Conclusion:** HIV-related stigma score was significantly associated with LTFU among PLHIV receiving care at HTAR. The inverse association observed warrants further investigation to understand the behavioural, social, and healthcare-related factors influencing retention in HIV care. Further studies with larger sample sizes are needed to clarify the relationship between HIV-related stigma and LTFU among PLHIV in Malaysia.



NAC26EP126

## Fanconi Syndrome in the Setting of Augmented Renal Clearance: Reversible Tenofovir Disoproxil Fumarate-Induced Proximal Tubulopathy in a Young Adult with HIV-Tuberculosis Co-Infection

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**Introduction:** Augmented renal clearance (ARC), defined as creatinine clearance  $>130$  mL/min/1.73m<sup>2</sup>, is increasingly recognised in critical illness and associated with subtherapeutic antimicrobial exposure. Tenofovir disoproxil fumarate (TDF) causes proximal tubular toxicity and Fanconi syndrome. However, sustained ARC coexisting with TDF-induced proximal tubulopathy is under-described.

**Case Report:** A 22-year-old Malay man with type 2 diabetes, HIV (CD4 9 cells/μL) and disseminated tuberculosis developed carbapenem-resistant *Acinetobacter baumannii* bacteraemia, catheter-related bloodstream infection and drug-induced liver injury. He received TDF/emtricitabine with efavirenz. Renal profiling showed sustained ARC (creatinine clearance 130–227 mL/min) with low serum creatinine. Following TDF initiation, severe refractory hypokalaemia (nadir 1.8 mmol/L) developed with hypophosphataemia and hypomagnesaemia, initially attributed to resolving diarrhoea. Persistent electrolyte wasting despite aggressive replacement prompted suspicion of TDF-induced Fanconi syndrome. TDF was stopped and therapy switched to abacavir/lamivudine plus dolutegravir. Potassium and phosphate improved, supporting reversible TDF-associated proximal tubulopathy.

**Discussion:** TDF nephrotoxicity is predominantly transporter-mediated rather than dependent solely on glomerular filtration. In ARC, augmented filtration may increase tubular tenofovir delivery and potentially amplify proximal tubular exposure rather than protect against nephrotoxicity. Diagnosis may be challenging because ARC may itself contribute to solute wasting, while diarrhoea and parenteral nutrition dependence may obscure the presentation. The temporal relationship between TDF exposure, refractory electrolyte abnormalities and improvement after withdrawal supports TDF-induced proximal tubulopathy.

**Conclusion:** Supra-normal renal function should not be equated with low nephrotoxicity risk from transporter-handled drugs such as TDF. In patients with sustained ARC receiving TDF, unexplained or refractory electrolyte abnormalities should prompt early consideration of proximal tubular dysfunction and targeted electrolyte surveillance.

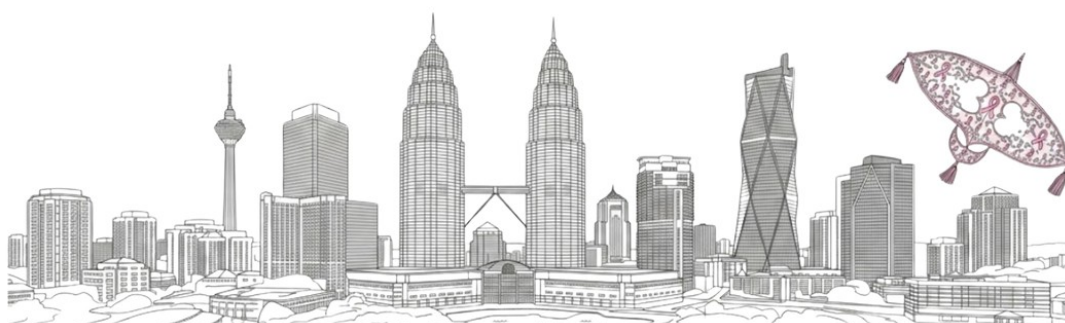


# TRACK B

## PUBLIC HEALTH

*Epidemiology, prevention, surveillance and health-systems research in the national HIV response.*

**30 ABSTRACTS**





NAC26EP002

## Tahap stigma dan diskriminasi terhadap orang yang hidup dengan HIV dalam kalangan anggota kesihatan di fasiliti kesihatan awam

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Stigma dan diskriminasi terhadap orang yang hidup dengan HIV dalam kalangan anggota kesihatan merupakan isu yang boleh menjejaskan akses kepada perkhidmatan kesihatan, kualiti rawatan serta kesejahteraan pesakit. Kajian ini bertujuan untuk mengenal pasti tahap pengetahuan, sikap, amalan, kebimbangan terhadap risiko jangkitan HIV serta persepsi stigma dan diskriminasi dalam kalangan anggota kesihatan difasilitasi kesihatan. Disamping itu, kajian ini turut menilai tahap pematuhan terhadap amalan kawalan infeksi dan penerimaan anggota kesihatan terhadap individu yang hidup dengan HIV. Kajian ini menggunakan reka bentuk kuantitatif secara keratan rentas dengan mengaplikasikan soal selidik berstruktur sebagai instrumen pengumpulan data. Soal selidik merangkumi maklumat demografi responden, pengalaman memberikan perkhidmatan kepada orang yang hidup dengan HIV, latihan berkaitan HIV, amalan kawalan infeksi, kebimbangan terhadap risiko jangkitan HIV, serta persepsi terhadap stigma dan diskriminasi. Data dianalisis menggunakan statistik deskriptif melalui taburan kekerapan dan peratusan bagi menghuraikan ciri-ciri responden dan pola jawapan. Kajian menunjukkan bahawa majoriti responden pernah mengikuti latihan dan mempunyai tahap pengetahuan serta amalan kawalan infeksi yang baik. Responden menunjukkan tahap kebimbangan yang rendah terhadap risiko jangkitan HIV semasa menjalankan prosedur klinikal dan mematuhi langkah pencegahan standard. Sebahagian kecil responden masih menunjukkan persepsi negatif terhadap orang yang hidup dengan HIV. Disamping itu, terdapat laporan mengenai kejadian diskriminasi dan layanan yang berbeza terhadap pesakit HIV di fasiliti kesihatan. Kesimpulannya, latihan berkaitan HIV dan pelaksanaan prosedur kawalan infeksi telah menyumbang kepada peningkatan pengetahuan dan amalan profesional anggota kesihatan. Kewujudan stigma dan diskriminasi dalam kalangan sebahagian responden menunjukkan bahawa pendidikan berterusan, pengukuhan etika profesional serta pelaksanaan dasar anti-diskriminasi perlu diperkasakan bagi memastikan penyampaian perkhidmatan kesihatan yang berkualiti, saksama dan bebas diskriminasi kepada semua individu tanpa mengira status HIV.



NAC26EP005

## A Cross-Sectional Survey of HIV Prevention Awareness in Northern Malaysia

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Innovating HIV prevention through Pre-Exposure Prophylaxis (PrEP) is a critical population-level strategy. However, its success fundamentally relies on public awareness and accurate health literacy. To guarantee that "no one gets left behind," this study evaluates the baseline understanding, exposure, and perceptions of PrEP across demographic groups to identify gaps in public knowledge. Objective: To systematically evaluate the public's baseline understanding, awareness, and perceptions of PrEP, aiming to identify critical gaps in health literacy. Methods: A cross-sectional survey was administered to collect detailed demographic data—including age, gender, race, sexual orientation, education, occupation, and state of residence. The questionnaire evaluated prior HIV and STI testing histories alongside targeted PrEP knowledge. It systematically assessed general awareness, exposure to educational materials, and pervasive knowledge gaps, such as whether PrEP is an HIV cure, a form of birth control, whether it can inadvertently cause HIV, and if it is accessible over-the-counter without a prescription. Results: The survey captured 203 responses. While 82.8% of participants had undergone prior HIV testing, baseline PrEP literacy demonstrated significant gaps. Only 65.5% had heard of PrEP, and a mere 58.6% understood its clinical purpose. Misconceptions were prevalent: 25.6% incorrectly believed PrEP is an HIV cure, 19.7% viewed it as birth control, and 14.3% thought it causes HIV. Furthermore, 44.8% mistakenly assumed PrEP is exclusively for individuals with HIV-positive partners. Educational exposure highlighted critical deficits, as 54.2% had never seen PrEP educational materials. Although 54.2% knew where to obtain a prescription, 6.4% incorrectly believed it was available over-the-counter. Conclusion: The data reveals significant gaps in public knowledge and notable misconceptions regarding PrEP's use. To innovate prevention and strengthen care, targeted public health campaigns must rapidly address community-specific myths, clarify prescription access, and improve overall PrEP literacy to optimize population-level HIV eradication.



NAC26EP007

## Digital Health in Enhancing Antiretroviral Therapy Adherence: A Systematic Review and Meta-Analysis

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Adherence to antiretroviral therapy (ART) is essential in determining successful treatment of human immunodeficiency virus (HIV). The adoption of digital health is suggested to improve ART adherence among people living with HIV (PLHIV) Objective: This study aimed to systematically determine the effect of digital health in enhancing ART adherence among PLHIV from published studies Methodology: The systematic search was conducted on Scopus, Web of Science (WoS), PubMed, Ovid, EBSCOHost, and Google Scholar databases up to June 2022. Studies utilized any digital health as an intervention for ART adherence enhancement and ART adherence status as study's outcome was included. Digital health refers to the use of information and communication technologies to improve health. Quality assessment and data analysis were carried out using Review Manager (RevMan) version 5.4. A random-effects model computed the pooled odds ratio between intervention and control groups. Results: The search produced a total of 1864 articles. Eleven articles were eligible for analysis. Digital health was used as follows: six studies used short message service or text message alone, three studies used mobile applications, and two studies used combination method. Four studies showed statistically significant impacts of digital health on ART adherence, while seven studies reported insignificant results. Conclusions: Results showed studies conducted using combination approach of digital health produced more promising outcome in ART adherence compared to single approach. New innovative in combination ways is required to address potential benefits of digital health in promoting ART adherence among PLHIV.



NAC26EP013

## Evaluation of the Methadone Replacement Therapy Program and Predictors of HIV Infection Among Clients in Perak, Malaysia

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Substance use disorder is a chronic condition requiring long-term treatment and support (Ali et al., 2018; Chen et al., 2017; Ministry of Health Malaysia, 2016). In Malaysia, the Ministry of Health delivers harm reduction via public and private Methadone Replacement Therapy (MRT) programs. Objectives: This study evaluates the effectiveness of the MRT program in Perak State in reducing HIV transmission, while predicting the factors associated with HIV infection among MRT clients. Methodology: A cross-sectional study was conducted using retrospective records up to 2025 from the Perak State Health Department. The study evaluated 1,345 MRT participants across 40 health facilities. Relative Risk (RR) with a 95% Confidence Interval (CI) was calculated to assess changes in HIV prevalence. Bivariate and multivariate logistic regression analyses were performed to identify predictors of HIV infection. Results: The clients were predominantly male (97.9%, n=1,319) and aged 45–64 years (56.4%, n=763), followed by those aged 25–44 years (34.3%, n=462). Seven participants tested positive for HIV prior to enrollment, whereas 17 tested positive at the most recent evaluation. The longitudinal analysis demonstrated a statistically not significant relative risk of 2.43 (CI: 1.01, 5.84; p>0.05). Bivariate analysis identified Hepatitis C virus (HCV) co-infection, history of injection drug use, and age as significant predictors of HIV status (p<0.05). However, multivariate analysis revealed that only HCV co-infection remained an independent predictor of HIV infection (OR=3.08; 95% CI: 1.03, 10.32; p<0.05). Conclusions: Active participation in the methadone program is associated with a controlled, low incidence of HIV transmission, keeping the absolute increase in cases minimal. The final cohort infection rate remains comparable to or below general community estimates; therefore, integrating robust HCV screening and treatment within MRT infrastructures is critical to mitigating the compounding risk of HIV co-infection.



NAC26EP033

## Awareness and Willingness to Use Pre-Exposure Prophylaxis (PrEP) for HIV Among Private University Students in Malaysia

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Young adults remain the most affected age group for HIV in Malaysia with growing concerns among university students. Pre-exposure (PrEP) is an effective HIV prevention strategy for individuals at risk. However, awareness of PrEP among university students remains unclear due to limited studies. Objectives: This study aimed to assess Malaysian university students' awareness of PrEP and their willingness to use it for HIV prevention. Methodology: A quantitative cross-sectional study was conducted among university students in Malaysia using a self-administered online survey. Data on sociodemographic characteristics, sexual behaviour, HIV knowledge sources, and PrEP awareness and willingness were collected. Descriptive statistics summarised participant characteristics while chi-square tests examined associations between course type (health-related vs non-health-related) and PrEP awareness and willingness ( $p < 0.05$ ). Results: A total of 200 university students participated, including 56 (28%) from health-related courses and 144 (72%) from non-health-related courses. Most participants were aged 21–24 years (147/200, 73.5%). 71 respondents reported being sexually active with more than half (39/71, 55%) reported inconsistent or no condom use. Health-related students obtained HIV knowledge through lectures (48/56, 85.7%) whereas most non-health-related students obtained HIV knowledge from the Internet (107/144, 74.3%). Students from health-related courses demonstrated significantly higher PrEP awareness than those from non-health-related courses (37/56, 66.1% vs. 45/144, 31.3%,  $p < 0.001$ ). After receiving information about PrEP, willingness to use PrEP was high among both health-related and non-health-related students (45/56, 80.4% vs 105/144, 72.9%) with no significant difference between the groups ( $p = 0.275$ ). Conclusions: Health-related students demonstrated greater PrEP awareness than non-health-related students, whereas willingness to use PrEP was high in both groups after education. Integrating PrEP education into university curricula and targeted educational programmes may improve awareness and strengthen HIV prevention among university students.



NAC26EP036

## Effectiveness of the PROSTAR Education Programme in Improving HIV/AIDS Knowledge Among Adolescents in a Religious Boarding School in Negeri Sembilan

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Adolescents in religious boarding schools may have limited access to comprehensive HIV/AIDS education because of sociocultural sensitivities, contributing to misconceptions and HIV-related stigma. Program Sihat Tanpa AIDS untuk Remaja (PROSTAR), a national adolescent health promotion initiative by the Ministry of Health Malaysia, aims to improve HIV knowledge, dispel myths, and foster positive attitudes towards people living with HIV. Objective: To evaluate the effectiveness of the PROSTAR education programme in improving HIV/AIDS knowledge among adolescents attending a religious boarding school. Methods: A quasi-experimental one-group pre-test/post-test study was conducted among 312 adolescents aged 13–16 years from a religious boarding school in Negeri Sembilan. Participants included 162 (51.9%) males and 150 (48.1%) females. PROSTAR was delivered through eight one-day sessions in July 2025. HIV/AIDS knowledge was assessed using a validated 15-item questionnaire before and immediately after the intervention. Anonymous questionnaires without unique identifiers were analysed as independent samples using independent-samples t-tests. Results: Mean knowledge scores increased significantly from  $5.6 \pm 2.6$  to  $10.6 \pm 2.7$  ( $t(622)=23.50$ ,  $p<0.001$ ), with a mean improvement of 5.01 points (95% CI: 4.59–5.43) and a large effect size (Cohen's  $d=1.88$ ). Female students had higher knowledge scores than males at baseline ( $6.11 \pm 2.52$  vs.  $5.13 \pm 2.61$ ;  $p<0.001$ ) and post-intervention ( $11.02 \pm 2.59$  vs.  $10.23 \pm 2.78$ ;  $p=0.010$ ), although both groups improved greatly. The greatest improvements were observed in misconceptions regarding HIV transmission through sharing food, mother-to-child transmission, healthy appearance of people living with HIV, and acceptance of students and teachers living with HIV. Conclusion: PROSTAR substantially improved HIV/AIDS knowledge and corrected misconceptions among adolescents in a religious boarding school. These findings show that structured, culturally sensitive HIV education is feasible and effective in religious educational settings, supporting wider implementation to strengthen adolescent health literacy and reduce HIV-related stigma.



NAC26EP039

## Association Between Social Media Use for Sexual Partnering and Risk of Sexually Transmitted Diseases Among Sexual Health Clinic Attendees in Kinta District, Malaysia

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**Introduction:** Social media has transformed communication and networking, increasingly serving as a platform for forming sexual relationships. However, its role in facilitating risky sexual behaviors and contributing to sexually transmitted disease (STD) transmission remains a growing public health concern. This study aimed to assess the association between social media-mediated partner seeking and STD risk among clinic attendees.

**Methodology:** A cross-sectional study was conducted among clients attending a sexual health clinic in Kinta District, Malaysia. A self-administered questionnaire assessed socio-demographic characteristics, social media use, sexual behaviors, and STD-related outcomes. Logistic regression analyses were performed to identify factors associated with STD infection.

**Results:** A total of 164 participants were included. The majority reported using social media platforms to find sexual partners, and 43.3% had a history of STD infection. In multivariate analysis, not knowing a partner's STD status prior to sexual activity (AOR 2.82; 95% CI: 1.10–7.20;  $p=0.03$ ) and continued use of social media to seek partners after prior STD diagnosis (AOR 7.46; 95% CI: 1.98–28.12;  $p=0.01$ ) were significantly associated with higher odds of STD infection.

**Conclusion:** Social media plays a substantial role in shaping sexual networks among clinic attendees. Certain behaviors associated with digital partner-seeking, particularly lack of partner status awareness and continued high-risk practices after infection, are linked to increased STD risk. These findings highlight the need for targeted sexual health interventions addressing digital environments.



NAC26EP045

## The effectiveness of a PROSTAR 2.0 HIV Education Intervention on Knowledge and Attitudes towards HIV/AIDS among pre-service teachers in Institut Pendidikan Guru (IPG) Kampus Ilmu Khas (KIK) in Cheras FT Kuala Lumpur: A pre-post evaluation study

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**Introduction:** HIV/AIDS-related knowledge gaps and stigma remain significant barriers to HIV/AIDS prevention among young people. Program Sihat Tanpa AIDS untuk Remaja (PROSTAR) 2.0, developed by the MOH, is an interactive educational programme to improve HIV/AIDS-related knowledge and attitude. However, its effectiveness among pre-service teachers, who are future school-based educators, remains unclear.

**Objective:** To evaluate the effectiveness of the PROSTAR 2.0 education intervention in improving HIV/AIDS knowledge and attitudes among pre-service teachers at IPG.

**Methodology:** A single-group quasi-experimental pre-post study was conducted among thirty pre-service teachers at Institut Pendidikan Guru (IPG) Kampus Ilmu Khas (KIK) on 10 June 2026. Participants received the PROSTAR 2.0 HIV/AIDS education intervention comprising interactive educational activities. Participants completed self-administered questionnaires before and after the intervention. HIV/AIDS knowledge was assessed using a validated 12-item questionnaire, while attitudes was measured using a validated 3-item scale. Descriptive statistics and the Wilcoxon signed-rank test were used to compare pre and post-intervention scores.

**Results:** Among participants, 86.7% were female and the mean age was 19.6 years (SD = 0.49). Mean knowledge scores increased from  $7.80 \pm 2.85$  at baseline to  $10.67 \pm 1.32$  post-intervention. Mean attitude scores increased from  $0.93 \pm 1.05$  to  $1.30 \pm 1.02$ . Wilcoxon signed-rank analysis demonstrated a significant increase in knowledge scores following the intervention ( $Z = -4.044$ ,  $p < 0.001$ ). Attitude scores also improved significantly ( $Z = -2.057$ ,  $p = 0.040$ ). The intervention demonstrated a large effect on knowledge (effect size = 0.74) and a moderate effect on attitudes (effect size = 0.38).

**Conclusion:** The PROSTAR 2.0 HIV/AIDS education intervention significantly improved HIV/AIDS-related knowledge and attitudes among pre-service teachers. Integrating HIV/AIDS education programmes into teacher training institutions may improve HIV/AIDS literacy and reduce stigma among future educators. Further evaluation



NAC26EP051

### 3-Month Proportion of Retention and Its' Associated Factors among HIV PrEP Program Clients in Kelantan

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Human Immunodeficiency Virus (HIV) remains a critical public health crisis in Malaysia, with transmission shifting predominantly to sexual contact. Expanding public sector Pre-Exposure Prophylaxis (PrEP) is vital to the National Strategic Plan for Ending AIDS by 2030, but effectiveness depends on client retention, which typically drops within the first one to three months. Objectives: This study aimed to describe the baseline sociodemographic profile, determine the 3-month retention proportion, and identify independent factors associated with 3-month retention among HIV PrEP program clients in Kelantan. Methodology: A retrospective cohort study was conducted using secondary data from Klinik Kesihatan Kota Jembal. Using total census sampling, data for 155 clients enrolled between March 2024 and September 2025 were reviewed. Simple and multiple logistic regression analyses were performed using IBM SPSS Statistics version 30 to identify predictors of 3-month retention. Results: Our data of 155 clients showed demographic homogeneity: predominantly young adults with a mean age of 27.21 years, biological males (97.4%), Malay ethnicity (91.6%), and individuals identifying as homosexual (79.9%). The overall 3-month retention rate was 76.1% ( $n = 118$ ; 95% CI: 69.4, 82.8). Multiple logistic showed every single-year increase in age was associated with higher retention odds (aOR = 1.19; 95% CI: 1.07, 1.32;  $p = 0.002$ ). Clients recruited via non-governmental organization (NGO) pathways demonstrated 5.04 times higher odds of retention compared to direct PrEP Navigator referral (reference group) (aOR = 5.04; 95% CI: 1.56, 16.29;  $p = 0.007$ ). The model demonstrated good fit (Hosmer-Lemeshow  $p = 0.660$ ) and strong discriminatory power (AUC = 0.747). Conclusions: Client age and structured NGO entry pathways are influential determinants that safeguard against early program attrition during the first 3-months of care. These findings underscore the need for youth-friendly clinical environments and expanded public-NGO shared-care protocols to sustain retention and optimize national HIV prevention strategies toward Ending AIDS 2030 targets.



NAC26EP053

## Excellent Viral Suppression Is Not Enough: Late HIV Presentation Remains the Critical Gap in Decentralised Primary Care HIV Services in Manjung, Perak, Malaysia

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**Introduction:** Decentralisation of HIV care to primary care improves access and continuity of treatment, but its impact may be limited if patients are diagnosed late. Understanding where the HIV care cascade continues to fail is essential to guide service improvement and accelerate progress towards ending HIV as a public health threat.

**Objective:** To evaluate treatment outcomes among people living with HIV (PLHIV) receiving decentralised primary care follow-up and to identify factors associated with late HIV presentation.

**Methodology:** A retrospective cohort study was conducted using routinely collected clinical data of 96 PLHIV receiving follow-up at a decentralised primary care HIV clinic in Perak, Malaysia, between 2022 and 2026. Logistic regression was performed to explore factors associated with late presentation.

**Results:** Among 96 PLHIV, the median age was 34 years and 89.6% were male. Men who have sex with men represented the largest transmission group (45.8%), followed by heterosexual transmission (40.6%). ART was initiated in 90.6% of patients. Baseline CD4 was available for 78 patients, of whom 20 (25.6%) presented late with CD4 <200 cells/mm<sup>3</sup>. Heterosexual transmission showed higher odds of late presentation compared with other transmission groups, although this was not statistically significant after adjustment for age ≥35 years (adjusted OR 2.27, 95% CI 0.77–6.66). Among patients retained in active follow-up, 93.6% achieved viral suppression.

**Conclusion:** Decentralised primary care HIV services achieved high ART uptake and excellent viral suppression among retained patients. However, one in four patients still presented with advanced HIV disease, suggesting that delayed diagnosis remains the major unresolved gap. Primary care can treat HIV well once patients enter care, but the real challenge is finding them earlier. Future HIV strategies should move beyond treatment delivery alone and prioritise earlier community testing, stigma reduction, targeted outreach, and rapid linkage to care.



NAC26EP055

## MIND Module: An Innovative Public Health Intervention to Improve ART Adherence and Mental Well-Being Among People Living with HIV in Malaysia

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**Introduction:** Many people living with HIV (PLHIV) struggle to take their antiretroviral therapy (ART) consistently. Stigma, depression, and lack of support are common reasons. In Malaysia, poor adherence leads to treatment failure, wasted medicine, and higher costs. The MIND Module was created to help patients through education, motivation, and emotional support.

**Objective:** This study aimed to determine whether the MIND Module could improve ART adherence, mental well-being, viral suppression, and reduce HIV stigma and healthcare costs among PLHIV in Malaysia.

**Methodology:** The study involved 227 PLHIV on ART at public clinics in Kuala Lumpur. Over six months, patients took part in structured MIND Module sessions covering education, motivation, and emotional support. Researchers measured adherence, viral load, and drug use, and also interviewed patients about their experience.

**Results:** Before the programme, 23.8% of patients had poor adherence, causing RM129,600 in wasted medicine each year. After the MIND Module, poor adherence dropped to 8%, cutting waste by 67% (to RM43,200 a year). Viral suppression rose from 62% to 84%. Fewer patients needed costly second-line treatment (down from 18% to 6%), saving about RM364,500 a year. In a satisfaction survey of 50 patients, 92% liked the counselling sessions, 87% felt better able to handle stigma and emotions, and 90% felt more confident about staying on ART long-term. Interviews showed patients felt more motivated, communicated better with healthcare staff, and coped better emotionally.

**Conclusions:** The MIND Module works well and can be sustained. It helps patients stick to their treatment, feel less stigma, and saves healthcare costs. Using it in regular HIV care could help Malaysia reach the UNAIDS 95-95-95 targets and improve life for PLHIV.



NAC26EP056

## Determinants of Mortality Among People Living with HIV in Perak, Malaysia: A Statewide National AIDS Registry Analysis, 2015–2025

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**Introduction:** Although antiretroviral therapy has transformed HIV into a manageable chronic condition, mortality among people living with HIV (PLHIV) remains a concern, especially after late diagnosis. In Malaysia, population-level evidence on HIV mortality determinants remains limited.

**Objectives:** To identify factors associated with mortality among PLHIV registered in the National AIDS Registry (NAR) in Perak, Malaysia.

**Methodology:** This registry-based cross-sectional study included all HIV/AIDS cases notified to the NAR in Perak from 2015 to 2025 (N = 3,341). The outcome was recorded mortality status at data extraction. Sociodemographic, clinical, behavioural, and transmission-related factors were analysed using simple and multivariable binary logistic regression, reported as crude odds ratios and adjusted odds ratios (AOR) with 95% confidence intervals (CI). Model performance was assessed using omnibus chi-square test, Nagelkerke R<sup>2</sup>, Hosmer–Lemeshow test, area under the ROC curve (AUC), and variance inflation factor (VIF).

**Results:** Of 3,341 patients, 701 had died, giving a cumulative mortality of 21.0%. AIDS-stage presentation was the strongest determinant of mortality (AOR 11.05; 95% CI 8.64–14.12). Mortality was also associated with age ≥50 years (AOR 4.45), age 30–49 years (AOR 2.22), TB co-infection (AOR 1.34), injecting drug use (AOR 2.06), vertical transmission (AOR 1.90), primary or no formal education (AOR 2.21), “Other” ethnicity, predominantly East Malaysian indigenous groups (AOR 2.73), and Malay ethnicity (AOR 1.37). Homosexual/bisexual transmission showed lower odds of mortality (AOR 0.75). The model showed good fit and strong discrimination.

**Conclusion:** Mortality among PLHIV in Perak was mainly driven by late AIDS-stage presentation, with additional disparities by age, education, ethnicity, TB co-infection, and transmission route. Strengthening early HIV diagnosis, TB-HIV integration, and linkage to care for high-risk groups is essential to reduce avoidable deaths.



NAC26EP073

## Too Late for Prevention? High Burden of Advanced HIV Disease and Active Tuberculosis Limits Uptake of Tuberculosis Preventive Therapy in Hospital Sultan Ismail Petra, Kelantan, Malaysia

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**Background:** Tuberculosis (TB) remains the leading cause of morbidity and mortality among people living with HIV (PLHIV). WHO recommends tuberculosis preventive therapy (TPT/IPT) for eligible PLHIV after excluding active TB. However, late HIV diagnosis may result in advanced immunosuppression and active TB, reducing opportunities for preventive therapy. This study evaluated the burden of advanced HIV disease, active TB and IPT uptake among PLHIV receiving care at our centre.

**Methods:** A retrospective review of the HIV treatment registry was conducted using routinely collected programme data from a Malaysian HIV treatment centre. Demographic characteristics, baseline CD4 count, active TB status and IPT initiation were extracted. Advanced HIV disease was defined as baseline CD4 <200 cells/ $\mu$ L. Descriptive statistics were used to summarise patient characteristics.

**Results:** A total of 141 PLHIV were included. Baseline CD4 counts were available for 71 (50.4%) patients. The median baseline CD4 count was 94 cells/ $\mu$ L (IQR 25–335). Overall, 46/71 (64.8%) patients presented with advanced HIV disease, while 28/71 (39.4%) had severe immunosuppression with CD4 counts below 50 cells/ $\mu$ L. Eighty-two (58.2%) patients had documented active TB. Despite national recommendations for TB preventive therapy among eligible PLHIV, only 16 (11.3%) patients had documented IPT initiation, highlighting a substantial gap in implementation. The high burden of advanced HIV disease and active TB at presentation substantially reduced opportunities for TB prevention.

**Conclusion:** Late HIV presentation remains common in our setting, with most patients presenting with advanced immunosuppression and a high burden of active TB. Consequently, uptake of IPT was low, representing missed opportunities for TB prevention. Strengthening early HIV testing, rapid linkage to care, routine TB screening and timely initiation of TB preventive therapy among eligible individuals are essential to reduce HIV-associated TB morbidity and mortality.



NAC26EP074

## Virological Control Among Pregnant Women Living with HIV According to Timing of HIV Diagnosis in Pahang, Malaysia: A Five-Year Retrospective Cohort Study (2021–2025)

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**Introduction:** Women newly diagnosed with HIV during pregnancy have less antiretroviral therapy (ART) exposure at the time of initial viral load (VL) assessment than women diagnosed before conception. This timing difference must be considered when interpreting virological control within the elimination of mother-to-child transmission (EMTCT) programme.

**Objectives:** To compare VL status at diagnosis or antenatal enrolment between newly and previously diagnosed pregnant women with HIV.

**Methodology:** A retrospective cohort study was conducted using Pahang EMTCT surveillance data from 2021–2025. All 63 HIV-positive pregnancy episodes were included. Recorded VL represented testing at or near diagnosis confirmation or antenatal enrolment. Virological control was defined as VL <50 copies/mL or “not detected.” Proportions were compared using Fisher’s exact test. Relative risk (RR) of uncontrolled VL and its 95% confidence interval (CI) were calculated.

**Results:** The 63 pregnancy episodes involved 57 women, including six women with two pregnancies. 18 episodes (28.6%) involved newly diagnosed women and 45 (71.4%) previously diagnosed women. VL was documented in all 61 booked episodes; the two episodes without VL were unbooked and unscreened. Overall, 37/61 episodes (60.7%) with documented VL achieved virological control. None of the newly diagnosed women with documented VL achieved control compared with 37/45 (82.2%) previously diagnosed women 0/16 versus 37/45;  $p < 0.001$ . Uncontrolled VL was 5.63 times more frequent among newly diagnosed women 16/16 (100%) versus 8/45 (17.8%); RR 5.63, 95% CI: 3.00–10.54.

**Conclusions:** Newly diagnosed pregnant women had poorer initial virological control, largely reflecting shorter ART exposure. Strengthening HIV counselling, testing and reproductive planning through preconception care is essential for women of reproductive age. Early antenatal booking should be encouraged to enable timely HIV diagnosis and prompt ART initiation, allowing sufficient treatment time before delivery.

**Keywords:** EMTCT; HIV; mother-to-child transmission



NAC26EP076

## PrEP awareness, barriers, and facilitators in Malaysia in current landscape of new HIV infections: A review

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Pre-exposure prophylaxis (PrEP) uptake remains low among key populations in Malaysia despite notable improvements in PrEP awareness. This literature review aims to understand PrEP awareness, barriers, and facilitators that influence PrEP utilisation. PrEP awareness ranged between 20-85%, while uptake ranged between 8-18.3%. Reported barriers included cost, limited accessibility, poor PrEP literacy, potential side effects, daily pill burden, along with stigma and discrimination. Potential facilitators such as digital health interventions, pharmacy-led PrEP services, HIV testing integration, and interest in long-acting injectable formulation of PrEP could eliminate underlying barriers Malaysian key populations experience and encourage PrEP adoption.

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**Keywords:** *pre-exposure prophylaxis; HIV prevention; awareness; barriers; facilitators; men who have sex with men; Malaysia; LAI-PrEP*



## Demographic Profiling of PrEP Clients in Kedah

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**Introduction:** Pre-exposure prophylaxis (PrEP) is an important biomedical intervention for HIV prevention among individuals at substantial risk of infection. Since the expansion of PrEP services in primary healthcare clinics across Kedah, understanding the demographic characteristics of enrolled clients is essential to evaluate the reach of the programme and support equitable service planning. This study describes the educational attainment and employment status of clients enrolled in PrEP services in Kedah.

**Methodology:** A descriptive cross-sectional study was conducted using data from the My HIV Care Cascade (MyHCC) database. All clients initiated on PrEP in Kedah between 2023 and 2025 were included (N=292). Data on employment status (employed, unemployed, student) and highest educational attainment (primary, secondary, tertiary) were extracted and analysed using descriptive statistics.

**Results:** Among the 292 clients enrolled, most were employed (64.0%), followed by unemployed individuals (19.6%) and students (16.4%). The majority had tertiary education (68.5%), while 25.7% had secondary education and only 5.8% had primary education. These findings indicate that PrEP uptake in Kedah was highest among individuals with higher educational attainment and stable employment.

**Discussion:** The demographic profile suggests that PrEP services are predominantly accessed by individuals with higher educational backgrounds and employment. The relatively low representation of clients with primary education highlights potential disparities in programme reach and suggests the need to further explore barriers affecting PrEP access among underserved populations.

**Conclusion:** PrEP services in Kedah have successfully enrolled clients from diverse backgrounds but are predominantly utilised by individuals with tertiary education and stable employment. Strengthening targeted outreach, health promotion, and community engagement may improve equitable access to PrEP among populations with lower educational attainment and other underserved groups.

**Keywords:** *PrEP; HIV Prevention; Demographic Profile; Socioeconomic Status; Kedah; MyHCC*



NAC26EP081

## Towards Elimination of Mother-to-Child Transmission of HIV: A Descriptive Analysis of HIV-Positive Pregnancies in Pahang, Malaysia (2021–2025)

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**Introduction:** Malaysia is committed to eliminating mother-to-child transmission (EMTCT) of HIV through antenatal screening, timely antiretroviral therapy (ART), and infant prophylaxis. State-level programme data are needed to monitor progress and identify gaps.

**Objective:** To describe the epidemiological profile, programme characteristics, and infant outcomes of HIV-positive pregnancy episodes registered under the Pahang EMTCT programme from 2021 to 2025.

**Methodology:** A retrospective descriptive analysis included all 63 HIV-positive pregnancy episodes registered from 2021 to 2025. Variables examined were antenatal booking, timing of maternal HIV diagnosis, ART initiation, pregnancy outcome, infant feeding, neonatal prophylaxis, and infant HIV status based on serial PCR testing.

**Results:** Among 63 pregnancy episodes, 61 (96.8%) were booked for antenatal care. HIV was diagnosed before pregnancy in 45 episodes (71.4%), while 18 (28.6%) were newly diagnosed during pregnancy. Maternal HIV acquisition was predominantly heterosexual (60/63, 95.2%); three episodes (4.8%) involved women with vertically acquired HIV. ART was initiated in 62 episodes; one unbooked foreign national did not initiate ART in Malaysia. There were 61 live births (96.8%) and two spontaneous abortions (3.2%). All live-born infants were formula-fed and received zidovudine and cotrimoxazole prophylaxis. Final HIV status was available for 60 infants; two were HIV-positive, giving an observed MTCT rate of 3.3% (2/60), while one infant outcome still pending.

**Conclusion:** Pahang demonstrated high antenatal engagement and strong uptake of recommended infant feeding and prophylaxis practices. However, the observed MTCT rate exceeded the <2% elimination benchmark for non-breastfeeding settings. Strengthening early antenatal diagnosis, timely ART initiation, treatment adherence and viral load monitoring remains essential. Complete infant follow-up and targeted outreach to unbooked or newly diagnosed women may reduce missed prevention opportunities and support sustained EMTCT.

**Keywords:** EMTCT; HIV; vertical transmission; elimination mother to child transmission



NAC26EP082

## Incidence of *Chlamydia trachomatis* (CT) and/or *Neisseria gonorrhoeae* (NG) infections in Malaysia

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*Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) are common bacterial sexually transmitted infections (STI) in Malaysia, but their true burden is underestimated due to reliance on syndromic management and limited aetiological testing. This study aimed to determine the incidence of CT and/or NG infections in Malaysia and identify associated risk factors using nucleic acid amplification tests (NAAT), specifically the Xpert CT/NG assay. A multicentre study was conducted from May-December 2025 in 33 public health clinics nationwide. Adults aged  $\geq 18$  years were recruited from symptomatic attendees, partner referrals and key populations at higher risk. Respondents completed an online questionnaire on demographics, sexual behaviours, STI history and provided specimens for CT/NG testing using the Xpert CT/NG assay. Data were analysed using descriptive and multivariable methods. A total of 2,344 respondents participated in the study. The incidence estimates of CT infection, NG infection and CT/NG co-infections was 18.8% (95% CI: 17.0-20.7), 15.6% (95% CI: 14.0-17.3) and 7.0% (95% CI: 5.9-8.3), respectively. Younger age ( $\leq 24$  years) and heterosexual orientation were significantly associated with higher odds of infection. CT and/or NG infections remain highly prevalent in Malaysia, especially among young adults, highlighting the need for routine NAAT-based screening, age-targeted interventions and improved access to confidential STI services.



NAC26EP083

## Predictors of Advanced HIV Disease Among Newly Diagnosed People in Melaka, Malaysia, 2021–2025

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**Background:** Advanced HIV disease (AHD) is associated with opportunistic infections, increased mortality, and greater healthcare utilisation. Identifying groups at risk of AHD can guide earlier testing. This study determined predictors of AHD among people newly diagnosed with HIV in Melaka, Malaysia.

**Methods:** A retrospective cross-sectional study was conducted using surveillance data from the National AIDS Registry for newly diagnosed HIV cases in Melaka between 2021 and 2025. AHD was defined as a baseline CD4 count below 200 cells/mm<sup>3</sup>. Sociodemographic, behavioural, clinical, and notification characteristics were analysed. Simple logistic regression identified candidate variables, followed by multivariable logistic regression to estimate adjusted odds ratios (aORs) with 95% confidence intervals (CIs). Statistical significance was set at  $p < 0.05$ .

**Results:** Among 651 eligible cases, 283 (43.5%) had AHD at diagnosis. After adjustment, adults aged 25–49 years had higher odds of AHD than those aged below 25 years (aOR 2.52, 95% CI 1.57–4.05). TB coinfection was independently associated with AHD (aOR 2.99, 95% CI 1.63–5.46). Compared with cases notified by private facilities, those notified by government health clinics (aOR 0.35, 95% CI 0.15–0.81) and prison clinics (aOR 0.17, 95% CI 0.06–0.53) had lower odds of AHD. The model demonstrated acceptable fit (Hosmer–Lemeshow  $p = 0.135$ ) and correctly classified 73.4% of cases.

**Conclusion:** More than two in five people newly diagnosed with HIV in Melaka had AHD, indicating substantial missed opportunities for earlier diagnosis. Working-age adults and people with TB should be prioritised for provider-initiated and risk-based HIV testing, respectively. The lower odds observed among cases detected through government health and prison clinics suggest that structured screening at these entry points may facilitate earlier diagnosis. Targeted testing should be strengthened across public and private healthcare settings while preserving routine screening among key populations. These findings support integrating HIV risk assessment, testing, and linkage pathways into TB and adult care services.



NAC26EP084

## Predictors of Unsuccessful TB Treatment among TB/HIV Co-Infected Patients in Peninsular Malaysia: A 10-Year Review

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**Background:** Tuberculosis (TB) remains a leading cause of morbidity and mortality among people living with HIV. Co-infection complicates treatment outcomes due to immunosuppression, drug interactions, and comorbidities. Understanding predictors of unsuccessful treatment is essential to strengthen TB/HIV control strategies in Malaysia.

**Objectives:** To determine factors associated with unsuccessful TB treatment outcomes among TB/HIV co-infected patients in Peninsular Malaysia from 2015 to 2024.

**Methods:** This cross-sectional study analyzed secondary data extracted from the MyTB online system over ten years. The dataset was obtained from the Section of TB and Leprosy, Disease Control Division, Ministry of Health (MOH). A total of 4,270 TB/HIV co-infected patients were identified out of 59,323 TB patients notified in Peninsular Malaysia. Multiple logistic regression was performed using SPSS version 25.0, with successful treatment as the reference category. Ethical clearance was granted by the Medical Research Ethics Committee, MOH.

**Results:** Multiple logistic regression analysis identified several predictors of unsuccessful treatment outcome among TB/HIV co-infected patients. After controlling for confounders, increasing age (AOR = 1.012, 95% CI: 1.00-1.02,  $P = 0.026$ ), relapse cases (AOR = 1.59, 95% CI: 1.17-2.15,  $P = 0.003$ ), absence of DOT supervision (AOR = 2.06, 95% CI: 1.11-3.81,  $P = 0.022$ ), non-healthcare DOTS supervision (AOR = 0.70, 95% CI: 0.51-0.96,  $P = 0.029$ ) and presence of comorbidities (AOR = 0.40, 95% CI: 0.23-0.69,  $P = 0.001$ ) were significantly associated with higher odds of unsuccessful treatment. Conversely, longer treatment duration was a strong protective factor (AOR = 0.36, 95% CI: 0.34-0.38,  $P < 0.001$ ).

**Conclusion:** Older age, relapse, lack of DOT supervision, and comorbidities increase the risk of unsuccessful TB treatment among TB/HIV co-infected patients, while longer treatment duration and healthcare supervised DOT are protective. Strengthening DOT implementation and integrating comorbidity management are critical to improving treatment success in Malaysia.



NAC26EP087

## The Impact of Case Category on the Duration of Treatment: An ANCOVA Approach Controlling for Age

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**Background:** Understanding factors influencing tuberculosis (TB) treatment duration among TB-HIV co-infected patients is essential for optimizing outcomes and guiding programmatic decisions. Case category and age are potential determinants, and adjusting for age allows a clearer evaluation of their relationship with treatment duration.

**Objectives:** To confirm the effect of case category on treatment duration among TB-HIV co-infected patients in Peninsular Malaysia (2015–2024) after controlling for age.

**Methods:** This cross-sectional study analyzed secondary data from the MyTB database, managed by the Section of TB and Leprosy, Disease Control Division, Ministry of Health (MOH). Treatment duration was assessed using SPSS version 25.0, with case category (new vs. relapse) as the independent variable and age as the covariate. ANCOVA was applied to evaluate adjusted group differences. Ethical approval was obtained from the Medical Research Ethics Committee (MREC), MOH.

**Results:** A total of 4,270 TB-HIV co-infected patients aged 18–85 years (mean  $\pm$  SD: 41.3  $\pm$  10.9 years) were included. Treatment duration ranged from 0 to 22 months (mean  $\pm$  SD: 3.3  $\pm$  3.4 months). Of these, 3,597 (84.2%) were new cases and 673 (15.8%) relapse cases. Without adjustment, there was no significant difference in mean treatment duration between new and relapse cases. After controlling for age, the findings remained consistent, with no significant difference observed. Mean treatment duration was 3.3 months for new cases and 3.4 months for relapse cases.

**Conclusion:** Case category and age did not significantly influence treatment duration among TB-HIV co-infected patients. These findings suggest that treatment duration is largely independent of case category, underscoring the importance of exploring other clinical and programmatic factors to strengthen TB/HIV care and ensure that no patient is left behind.



NAC26EP090

## Determinants of HIV Care Outcomes in the Context of TB Co-Infection in East-Coast Malaysia: An Epidemiological Analysis

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**Background:** Human Immunodeficiency Virus (HIV) remains a critical global health challenge, with co-infections substantially undermining treatment success and long-term survival. Tuberculosis (TB), the leading opportunistic infection among PLHIV, continues to drive morbidity and mortality, particularly in resource-limited settings. In Malaysia's East-Coast, TB-HIV co-infection persists as a major obstacle to achieving optimal HIV care outcomes despite sustained public health interventions.

**Objective:** This study aims to determine the proportion and key determinants of treatment outcomes (success, default, death) among HIV co infected with TB in East-Coast Malaysia (2016–2020), using an epidemiological modelling approach.

**Methods:** A retrospective cohort study was conducted using secondary data from the MyTB database across Kelantan, Terengganu, and Pahang. A total of 1,223 HIV co-infected with TB cases were analysed based on inclusion and exclusion criteria. Multinomial logistic regression was performed using STATA V14. Ethical approval was obtained from the Medical Research Ethics Committee, Ministry of Health Malaysia.

**Results:** Of the 1,223 cases, 767 (62.7%) achieved treatment success, 78 (6.4%) defaulted, and 378 (30.9%) died, with no treatment failures recorded. Multinomial logistic regression analysis revealed significant factors associated with defaulted treatment, including age, treatment duration, residency, smoking status, DOT, and TB cases category. In contrast, significant factors associated with death outcomes included treatment duration, treatment delay, smoking status, DOT, TB cases category, and employment status. Notably, treatment duration, smoking status, DOT, and TB cases category emerged as consistent predictors across all outcomes.

**Conclusion:** This study highlights the multifactorial determinants of TB treatment outcomes among HIV co-infected with TB in East-Coast Malaysia. Strengthening DOT programs, addressing smoking cessation, reducing treatment delays, and tailoring interventions to vulnerable groups are critical to improving survival. These findings provide actionable insights for integrated HIV/TB strategies and policy development.



NAC26EP093

## Assessment of Psychological Health during COVID-19 Pre-Endemic Phase and Its Influence on Adherence to Highly Active Antiretroviral Therapy (HAART) among People Living with HIV (PLHIV)

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**Background:** Apart from physiological impact, COVID-19 impairs psychological health of people living with HIV (PLHIV). This can cause non-adherence towards highly active antiretroviral therapy (HAART), which will lead to unsuccessful HAART treatment, progression to AIDS and death. However, the study regarding this issue is still limited, especially on PLHIV in Malaysia population.

**Methods:** A cross-sectional survey study was conducted in two Infectious Disease (ID) clinic of hospital in Pahang state. PLHIV who met inclusion and exclusion criteria were conveniently recruited in this study. Data was collected between 1 April 2022 until 31 July 2022. Psychological health was assessed by using Impact of Event Scale-Revised (IES-R Malay version) and HAART adherence level was assessed by using The Malaysia Medication Adherence Assessment Tool (MyMAAT). Psychological health and HAART adherence level were presented as percentage distribution and Spearman's rank correlation test was utilised to analyse correlation between psychological health and HAART adherence level.

**Results:** Total of 59 patients were participated, mean age 38.02 ( $\pm 11.02$ ) years old. One-fourth ( $n=15$ , 25.4%) of the patients had psychological stress (median (IQR) score of 6 (1 to 14.5)) and more than one-third ( $n=21$ , 35.6%) had behavioural stress ((median (IQR) score of 4 (0 to 10)) during COVID-19 in Malaysia. For HAART adherence, majority of patients had good adherence towards HAART ( $n=49$ , 83.1%). A significant fair negative correlation was found between psychological and behaviour domain score with HAART adherence score ( $r = -0.359$ ,  $p < 0.05$  and  $r = -0.344$ ,  $p < 0.05$  respectively).

**Conclusion:** Impaired psychological health was still reported among PLHIV even though country had entered 'transition to endemic' phase. Study found poor psychological health will reduce HAART adherence level. However, further investigations are required to validate this finding as this study had small sample size.



NAC26EP097

## Divergent Drivers of Menopausal Symptom Severity in Women with and without HIV

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**Background:** Menopause remains under-recognised within long-term HIV care for women with HIV (WWH). Evidence from Asia-Pacific region is limited. This study compared menopausal symptoms burden between WWH and without HIV (WWoH) in Malaysia and identified factors associated with symptom severity.

**Methods:** A comparative cross-sectional study was conducted at Universiti Malaya Medical Centre (UMMC) between September 2024 and March 2026. Women aged 35–60 years were recruited from the Infectious Diseases Clinic (WWH) and Primary Care Clinic (WWoH). Menopausal symptom severity was assessed using the 11-item Menopause Rating Scale (MRS). Comorbidities were defined as self-reported physician-diagnosed chronic conditions other than HIV. Multivariable linear regression analyses were performed separately for WWH and WWoH to identify factors associated with total MRS score.

**Results:** A total of 230 women were recruited: 72 WWH and 158 WWoH. Median age was 48.0 years (IQR 42.8–54.0). Among WWH, median duration since HIV diagnosis was 17.2 years (IQR 10.5–21.3), and 98.6% were virologically suppressed (<1000 copies/mL). Menopausal stage distribution was comparable between groups ( $p=0.511$ ). WWH experienced menopause significantly earlier than WWoH (median 49.5 years vs 51.0 years;  $p=0.033$ ). Median total MRS score was similar (7 vs 7;  $p=0.783$ ) and physical and mental exhaustion was the most prevalent symptom in both groups (>70%). In adjusted analysis, ex-or active smoking was associated with greater symptom severity among WWH (adjusted  $\beta=5.34$ ; 95%CI 1.17–9.50;  $p=0.013$ ). Among WWoH, greater severity was associated with separated or widowed status (adjusted  $\beta=4.15$ ; 95%CI 0.03–8.27;  $p=0.048$ ), alcohol intake once monthly or less (adjusted  $\beta=2.88$ ; 95%CI 0.06–5.70;  $p=0.045$ ), and three or more comorbidities (adjusted  $\beta=6.23$ ; 95%CI 2.88–9.59;  $p<0.001$ ).

**Conclusion:** Overall menopausal symptoms burden was similar by HIV status, but WWH experienced menopause earlier and had different associated factors. These findings support earlier menopause assessment and tailored, person-centered menopausal care within HIV services in Malaysia.



NAC26EP109

## Descriptive Epidemiology of Notified Acquired Syphilis in Kulim District, Kedah, January–August 2026

**Fadli Zulfaiz**

*Pejabat Kesihatan Daerah Kulim*

**Introduction:** Syphilis notifications are rising in Malaysia, facilitating HIV transmission and indicating populations at risk. District-level data regarding diagnosis and demographics remains limited.

**Methodology:** A cross-sectional descriptive analysis of syphilis notifications extracted from the electronic notification system (eNotis) for Kulim District Health Office (epidemiological weeks 1–32, 2026). Records were linked to HIV/AIDS notifications via identification numbers.

**Results:** Of 39 notifications, 28 (71.8%) were registered; eight were cancelled. All 28 were laboratory-confirmed, locally acquired syphilis. The majority (75.0%) were male, with a median age of 31 years (IQR 27.5–43.3). Most were Malaysian citizens (89.3%; Malay 56%, Indian 28%, Chinese 16%). Detection was predominantly passive (96.4%), with only one case detected via FOMEMA screening. Government health clinics notified 16 cases (57.1%), while 32.1% originated outside the district. Risk factors were documented in 21 cases (75.0%), including 7 reporting male-to-male or bisexual exposure. Five cases (17.9%) involved concurrent HIV/AIDS notification, all in males aged 24–35. The median diagnosis-to-notification interval was 0 days.

**Conclusions:** Syphilis in Kulim predominantly affects young to middle-aged men and is detected almost exclusively through passive screening, with significant HIV co-infection. Every syphilis diagnosis must trigger routine HIV testing, partner notification, and PrEP assessment.



NAC26EP110

## Situational Analysis of HIV Infection Trends in Hulu Selangor District, Selangor, Malaysia (2020–2025)

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*Pejabat Kesihatan Daerah Hulu Selangor*

**Background:** HIV/AIDS remains a significant global public health burden. The UNAIDS Global AIDS Monitoring 2025 report estimates 85,033 people living with HIV (PLHIV) in Malaysia, with only 66% (55,904) aware of their status, 95% of diagnosed individuals on antiretroviral therapy (ART), and 88% virally suppressed. Malaysia's national HIV notification rate has declined 71.4% from its 2002 peak of 29/100,000 population to 8.3/100,000 in 2025, largely attributed to harm reduction (introduced 2005) and pre-exposure prophylaxis (PrEP, introduced 2023). Transmission nationally has shifted from injecting drug use toward sexual contact, with 65% of new infections attributed to homosexual/bisexual transmission and 32.3% to heterosexual transmission in 2025.

**Objective:** To analyse HIV incidence trends in Hulu Selangor district from 2020–2025 and benchmark district-level rates against Malaysia's national notification rate.

**Methods:** A retrospective descriptive analysis of annual HIV case notifications and corresponding mid-year population estimates for Hulu Selangor was conducted, with incidence rates calculated per 100,000 population and compared against national data for the same period.

**Results:** Hulu Selangor reported 28, 20, 46, 30, 38, and 33 new HIV cases in 2020–2025 respectively, against population denominators of 243,000–259,800. Corresponding incidence rates were 11.5, 8.2, 18.7, 11.9, 14.7, and 12.7 per 100,000 population. A pronounced peak occurred in 2022 (18.7/100,000), more than double the concurrent national estimate, followed by a decline and subsequent rebound. Males predominated throughout the period. The largest age groups with the 20–39-year age groups most affected. Hulu Selangor's incidence exceeded Malaysia's 2025 national rate in five of six years, despite contributing a comparatively small share of total Selangor case volume.

**Conclusion:** Hulu Selangor demonstrates a consistently higher HIV incidence than the national average, underscoring the need for intensified local surveillance, targeted screening among key populations, and expanded decentralised prevention and treatment aligned with Malaysia's 2030 Ending AIDS goal.



NAC26EP112

## High-Risk HPV Prevalence and Genotype Distribution Among Women Living with HIV in Universiti Malaya Medical Centre

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*Universiti Malaya*

**Introduction:** Women living with HIV (WWH) are at increased risk of persistent HPV infection and cervical cancer due to higher HPV positivity rates and delayed viral clearance. Although HPV positivity among WWH is well documented in African cohorts, data from Asia-Pacific remain limited. A meta-analysis reported high-risk (HR) HPV prevalence of 34.6% among WWH in Asia-Pacific, but Malaysian data are lacking. To address this gap, HPV self-testing was introduced into routine HIV care for WWH at Universiti Malaya Medical Centre (UMMC).

**Methods:** An ongoing cross-sectional study was conducted among WWH attending routine follow-up at UMMC's Infectious Diseases Clinic, where participants were offered HPV self-testing. Self-collected samples underwent DNA extraction using the NIMBUS system (Seegene) and tested for HR-HPV using the Allplex HPV HR Detection assay (Seegene) on a CFX96 Real-Time PCR Detection System (Bio-Rad). Participants with positive results were referred to O&G for colposcopy according to the WHO test-and-treat pathway. Demographic, HPV genotype, and colposcopy outcomes were analysed descriptively.

**Results:** Among 111 eligible women, 64 were approached and 46 participated in HPV self-testing (uptake: 71.9%), with median age 47 years. 95.7% had suppressed HIV viral load and 58.7% reported no prior HPV testing. HR-HPV was detected in 17.4%. HPV16 and HPV52 were the most frequently detected genotypes (23.1% each), while four women had multiple HPV genotypes. All self-collected samples were successfully tested, indicating adequate self-sampling. Among positives, 87.5% completed colposcopy. Histopathology was benign in five women; one had moderate dysplasia (CIN2) with HPV-related changes and no malignancy.

**Conclusions:** Despite the small sample size, HR-HPV prevalence among WWH was 3-fold higher than the 6% prevalence among Malaysian women without HIV. Integration of HPV self-testing into routine HIV care achieved good linkage to colposcopy and may facilitate early cervical cancer prevention. Further data are needed to characterise HPV burden in this population.



NAC26EP113

## Willingness to Prescribe HIV Pre-Exposure Prophylaxis Among Private Malaysian Muslim General Practitioners: Knowledge, Attitudes and Implementation Barriers

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**Background:** HIV pre-exposure prophylaxis (PrEP) is an effective HIV prevention strategy, but its implementation in Malaysia remains limited. Private general practitioners (GPs) may contribute to PrEP delivery; however, evidence regarding their readiness to prescribe PrEP, particularly among Muslim GPs, is limited. This study assessed perceived knowledge, attitudes, willingness to prescribe PrEP, and barriers and facilitators to implementation among private Malaysian Muslim GPs.

**Methods:** A cross-sectional survey was conducted among 193 private Malaysian Muslim GPs from 19 March to 27 June 2026. Participants completed a validated self-administered questionnaire assessing PrEP knowledge, attitudes, willingness, clinical experience, barriers, facilitators and training needs. Data were analysed using descriptive statistics, chi-square/Fisher's exact tests and logistic regression.

**Results:** Overall, 75.6% of GPs were willing to prescribe PrEP, although only 18.1% had previously prescribed it. Perceived knowledge was high for HIV screening (94.3%) and sexual health history taking (91.7%), but lower for managing side effects (30.6%), contraindications (32.1%), PrEP dosing (43.5%) and ongoing laboratory monitoring (43.5%). Willingness was highest for serodiscordant couples (95.9%) and lower for men who have sex with men (65.8%), transgender people (66.3%) and sex workers (67.9%). Female GPs had lower adjusted odds of willingness to prescribe PrEP than male GPs (aOR 0.37, 95% CI 0.15–0.92;  $p=0.033$ ). Major barriers included lack of insurance coverage and out-of-pocket costs (97.4%), concerns about poor adherence and antiretroviral resistance (93.3% each), and insufficient provider training (92.7%). Key facilitators were clear referral pathways (97.9%), PrEP training (97.6%) and access to prescribing guidelines (95.6%).

**Conclusion:** A substantial gap exists between willingness to prescribe PrEP and actual prescribing among private Malaysian Muslim GPs. Strengthening technical PrEP training, clinical guidance, referral systems and financial accessibility may improve PrEP integration into private primary care.



NAC26EP121

## Declining HIV prevalence and incidence among blood donors at Pusat Darah Negara: a 6-year analysis (2020-2025)

**Elizebeth Mah**

*Pusat Darah Negara*

**Introduction:** Blood donors are a repeatedly screened population whose HIV trends can serve as an early signal of transmission patterns in the wider community. Nucleic acid testing (NAT), which detects viral genetic material earlier than antibody-based serology testing, combined with serology screening at Pusat Darah Negara (PDN) enables detection of infections missed by antibody testing alone.

**Objectives:** To assess the trend of HIV prevalence and incidence among blood donors at PDN from 2020-2025, and characterize HIV-positive donations by detection method, donor type and gender.

**Methods:** Retrospective analysis of 1,171,871 donations (9445,843 repeat, 226,028 first-time) screened by NAT and serology from 2020-2025. Prevalence was calculated per total donations. Incidence was calculated per 100,000 repeat-donor person-years. Residual transmission risk was estimated using the Weusten model.

**Results:** A total of 292 HIV-positive donations were identified. Prevalence declined from 33.3 to 14.4 per 100,000 donations over the study period (overall 24.9/100,000), while incidence among repeat donors declined from 23.4 to 6.3 per 100,000 person-years (overall 16.2/100,000 person-years). Of the 292 cases, 283 (96.9%) were NAT/serology-concordant, 7 (2.4%) were NAT-yield only, and 2 (0.7%) were serology-yield only. NAT-yield cases were predominantly detected among repeat donors (71.4%) rather than first-time donors (28.6%), suggesting incident infection close to a prior non-reactive donation. Males accounted for 278 (95.2%) and females 14 (4.8%) of cases. Residual transmission risk was estimated at 0.68 per million donations (1 in 1,459,773).

**Conclusion:** Both HIV prevalence and incidence among PDN blood donors declined over six years, reflecting improving transfusion safety and possibly broader epidemic trends. The predominance of NAT-yield cases among repeat donors highlights persistent window-period transmission risk even among donors previously screened non-reactive, underscoring NAT continued value in blood safety and its potential contribution to national HIV surveillance.



NAC26EP123

## Leveraging Routine HIV Care to Improve Cervical Cancer Screening: Early Experience with HPV Self-Testing Among Women Living with HIV in University Malaya Medical Centre

**Anisa Salleh**, Reena Rajasuriar, Jamal I-Ching Sam, Adeeba Kamarulzaman, Woo Yin Ling, Anjanna Kukreja

*Universiti Malaya*

**Introduction:** Women living with HIV (WWH) are six times more likely to develop cervical cancer than women without HIV, yet screening remains suboptimal. Routine HIV care provides an opportunity to improve cervical cancer screening by integrating HPV self-testing into existing HIV services for this high-risk population. This study describes early experience of offering HPV self-testing during routine HIV follow-up visits among WWH at Universiti Malaya Medical Centre (UMMC).

**Objectives:** To assess feasibility and acceptability of integrating HPV self-testing into routine HIV care visits for cervical cancer screening among WWH.

**Methods:** An ongoing cross-sectional study was conducted among WWH attending routine follow-up at the Infectious Diseases (ID) Clinic, UMMC. Participants were offered HPV self-testing during their routine clinic visit. Pre- and post-screening questionnaires assessed cervical cancer screening history, self-sampling experience, future HPV screening preferences, and acceptability of HPV self-testing in the HIV clinic setting. Descriptive analysis was performed.

**Results:** Among 111 eligible women attending HIV care, 64 were approached and 46 participated in HPV self-testing (uptake: 71.9%), with median age of 47 years. Most participants (58.7%) had never undergone HPV testing before, highlighting missed opportunities for cervical cancer screening. Following HPV self-testing, 95.7% reported no difficulty performing self-sampling and 84.8% rated the procedure as easy. Most preferred self-sampling over Pap smear (78.3%) and were willing to repeat HPV self-testing if it were the only screening option (97.8%). For future HPV screening, 50% preferred testing at the ID clinic, while 30.4% preferred home-based self-sampling, suggesting that routine HIV care provides an acceptable platform for HPV screening.

**Conclusions:** Early findings suggest HIV care provides a feasible and acceptable platform to improve cervical cancer screening among WWH. Integrating HPV self-testing into existing HIV services may increase screening access and strengthen linkage to care for this high-risk population in Malaysia.

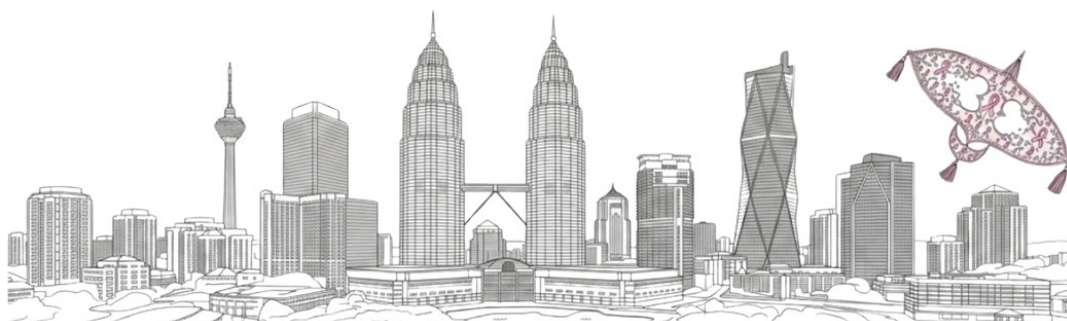


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## NGO & COMMUNITY

*Community-led programmes, advocacy, peer support and civil-society partnerships.*

**10 ABSTRACTS**





NAC26EP008

## Bringing Oral PrEP to the Community: Implementation of Community-Based PrEP Services in Penang, Malaysia

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**Introduction:** Despite national efforts to scale up Pre-Exposure Prophylaxis (PrEP) for HIV prevention in Malaysia, clinic-based delivery models continue to face challenges related to stigma, logistical barriers, and long waiting times. As part of the Consortium to Advance Access to New HIV Prevention Products (CAAPP) project, community-based PrEP services are being implemented to improve accessibility and acceptability among key populations.

**Objectives:** To evaluate the implementation of a community-based oral PrEP service at the Penang Family Health Development Association (FHDA).

**Methodology:** This qualitative study was conducted at Penang FHDA from September to November 2025. Participants included 16 PrEP users (14 current users and 2 who had discontinued PrEP): six men who have sex with men, seven transgender women, two female sex workers, and one heterosexual man at risk of HIV, together with five project staff. Data were collected through semi-structured in-depth interviews and focus group discussions and analysed using Consolidated Framework for Implementation Research (CFIR)-informed thematic analysis.

**Results:** The community-based PrEP service was perceived as highly feasible, acceptable, and effective. Key facilitators included peer-led outreach, supportive and non-judgemental staff, and flexible service delivery. PrEP use was associated with reduced anxiety about HIV, increased confidence in sexual relationships, and greater autonomy over sexual health. Persistent barriers included HIV-related stigma, privacy concerns, and affordability. Daily oral PrEP was generally preferred over on-demand dosing because of its simplicity and reliability. Providers reported high motivation but identified organisational and structural constraints, including limited resources and coordination gaps, that affected service delivery.

**Conclusions:** Community-based PrEP delivery through FHDA is feasible, well accepted, and effective in supporting PrEP uptake and continuation among key and other at-risk populations in Penang. Strengthening coordination between community and public-sector services and ensuring affordability are essential for PrEP scale-up in Malaysia.



NAC26EP010

## Bridging the Gap: Compassionate Empowerment as a Framework for Reintegration and Treatment Continuity at INAP PT

**Rozmanshah Abdullah**, Zahiran Toee

*PT Foundation*

**Introduction:** ART is highly effective in controlled settings, yet adherence often collapses post-discharge amid housing instability, stigma, or unsafe environments. PT Foundation's INAP PT transitional shelter bridges hospital discharge and independent living, guided by compassionate empowerment rooted in the Shariah principles of Hifz al-Nafs (preservation of life) and Raf' al-haraj (alleviating hardship).

**Objectives:** To describe INAP PT's transitional care model and evaluate a Directly Observed Treatment (DOT)-akin adherence monitoring system designed to support, not penalise, residents.

**Methodology:** INAP PT provides stabilisation across three pillars: a safe environment (up to 20 beneficiaries), medical continuity (ART adherence monitoring, clinic coordination), and psychosocial empowerment (peer counselling, reintegration preparation). Monitoring was restructured from binary “taken/not taken” tracking to a DOT-akin protocol, with staff verifying and logging each resident's medication consumption and actual intake time daily. The protocol was iteratively refined through internal review, including standardised time-entry and documentation practices. Records for INAP PT residents in Kuala Lumpur were analysed monthly, May–June 2026.

**Results:** Overall ART adherence rose from 90% in May (5 residents; range 81–100%) to 98.1% in June (7 residents; range 86.7–100%), coinciding with protocol refinement. Deviations mainly reflected documented clinical or logistical disruptions rather than voluntary non-adherence. Qualitative gains included improved wellness, reduced stigma, and restored resident dignity.

**Conclusions:** A DOT-akin adherence protocol, embedded within a compassionate empowerment model and refined through ongoing review, offers a verifiable, humane mechanism for sustaining treatment continuity among vulnerable PLHIV, and a replicable model for NGO-run transitional care in Malaysia.



NAC26EP012

## Beyond Peer Support: A Practice Domain Framework for Community-Based HIV Case Management in Malaysia

**Han Hoong Chew**, Azad Nor Effandi Abdul Wahab, Kathy Chin Chew Lee, Puteri Nadine An-Nur Erwandy, Abdul Hafiz Idris, Ming Yun Tong

*PT Foundation*

Community-based HIV programmes in Malaysia have traditionally emphasised emotional and social peer support to promote treatment adherence and retention in care. However, many people living with HIV (PLHIV) require broader support. PT Foundation's Positive Living Program organises case management around four practice domains: emotional and social support, adherence reinforcement and practical support, navigation and advocacy, and intensive stabilisation. Objectives: To develop and demonstrate a practice domain framework for community-based HIV case management delivered through peer support. Methodology: Programme monitoring data from March to June 2026 were reviewed. Of 275 clients accessing services, 35 received comprehensive case management. A retrospective deductive content analysis of routine case records examined presenting problems, practice domains, interventions, and documented case outcomes. Clients could present with multiple needs and receive support across multiple practice domains. Results: Financial hardship (88.6%), being newly diagnosed (45.7%) and mental health concerns (37.1%) were the most common presenting problems. Adherence reinforcement and practical support (65.7%) and navigation and advocacy (62.9%) were the most commonly required practice domains. More than half of clients (54.3%) required support across two or more domains, while 34.3% required three or four. Common interventions included psychosocial support, treatment and financial navigation, crisis intervention, housing support, and care coordination. Documented case outcomes included treatment engagement maintained or re-established (62.9%), financial assistance (37.1%), improved self-management (31.4%), housing stability (11.4%), and continuity of care until end of life (11.4%). Conclusions: The findings support a practice domain framework that conceptualises peer support as comprehensive case management, extending beyond emotional support to address the multidimensional needs of PLHIV. The framework offers a practical model for person-centred, community-based HIV care.



NAC26EP015

## From Community-Based Frontline Insights to Printed Practice: Developing Youth-Informed HIV and PrEP Communication Materials at PT Foundation Malaysia

**Wan Mohd Ridwan W Mohd Yusoff**, Muhammad Ihsan Salim, Ming Yun Tong, Tai Fook Then

*PT Foundation*

**Introduction:** With fewer than four years to 2030, Malaysia still reports about 3,000 HIV diagnoses annually, while AIDS cases and deaths persist. In 2023, 95% of new diagnoses were linked to sexual transmission, with people aged 20–29 forming the largest group. Younger and hidden key populations may face stigma, cultural sensitivities, fragmented information and age-related barriers, creating a need for engaging, non-judgmental and culturally responsive materials.

**Methods:** This Phase 1 initiative followed a longitudinal, practice-led process at PT Foundation Malaysia. Ideas emerged from the lead author's work as a Senior Community Healthcare Worker, were refined as Team Lead Peer Navigator at Klinik Kesihatan Kuala Lumpur, and consolidated after transition to Programme Manager. The lead author directed the content, communication framework and production requirements. A younger frontline team member translated these into visual design and completed iterative revisions. The work also addressed depleted IEC stocks and an immediate need for updated HIV and PrEP materials.

**Results:** Two tri-fold brochures were produced, printed and introduced into service use. The HIV brochure applies a Test–Protect–Treat structure covering HIV, AIDS, transmission, non-transmission, ART, TasP and U=U. The PrEP/PEP brochure uses illustrations, colour-coded pathways, dosing guidance, emergency timelines and peer-navigation access. Both use neutral, action-oriented language to reduce identity or behaviour-based risk labels while remaining suitable for younger audiences, concerned parents and hidden key populations, including people affected by chemsex who may need harm-reduction or recovery support.

**Conclusion:** Community-based frontline insights can become practical communication tools through programme leadership and intergenerational teamwork. This first phase established usable, youth-informed IEC materials for immediate implementation. Future phases will explore community consultation, technical review, user testing and refinement as capacity permits.



NAC26EP018

## Expanding ABCDE: A Person-Centred, MI-Informed HIV/STI Prevention Framework for Peer Navigation in Malaysia's PrEPGov Programme

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*PT Foundation*

**Introduction:** HIV prevention messages may feel moralising when abstinence or monogamy overlooks clients' readiness, relationships and realities. In Malaysia, stigma around same-sex behaviour, substance use and PrEP may deter less-visible MSM, including those affected by chemsex. Peer Navigators in PrEPGov clinics can translate guidance into culturally responsive, non-judgmental care.

**Objectives:** To develop an expanded ABCDE framework integrating HIV/STI prevention, harm reduction and Motivational Interviewing (MI)-informed communication to strengthen autonomy, safety and actionable decisions.

**Methodology:** This practice-based service innovation drew on PrEP navigation, community health work, materials, team review and prevention guidance. No client data were analysed. MI micro-skills—open questions, affirmations, reflections and summaries, were mapped across five domains with brief non-diagnostic assessment and referrals.

**Results:** A—Abstinence or Delay as a voluntary, temporary or situational option without hierarchy; B—Behaviour: Building Mutual Commitment, Boundary Awareness and Being Safe through mutual care across relationships, negotiated agreements, value-aligned monogamy, situational awareness and stage-matched change; C—Condoms, Consistency, Consent and Communication; D—Drug-based protection: PrEP, PEP, virally suppressive ART and HBV/HPV vaccination; E—Empowerment through Education, Early Action in testing, protection and treatment, and Emotional Regulation. Emotional regulation supports recognising triggers, pausing and translating intentions into achievable protective actions across mental-health and neurodivergent needs. For substance use or chemsex, harm reduction is framed as a bridge to safety, care and self-directed recovery, with tailored clinical, mental-health, substance-use and community linkages.

**Conclusions:** The framework offers an inclusive, less-stigmatising approach for community-based PrEP navigation in Malaysia. Co-design, multidisciplinary review and feasibility evaluation are recommended.



NAC26EP020

## T-P-T—Ending AIDS More Sustainably: A Culturally Responsive Framework for Inclusive HIV and STI Communication in Malaysia

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*PT Foundation*

**Introduction:** Ending AIDS by 2030 requires voluntary testing and communication that people can approach without shame, fear or identity-based labelling. In Malaysia, messages centred on population identity or presumed risk may not reach adolescents, young people, hidden subpopulations or people outside conventional categories. Communication should respect diverse family, cultural, religious and personal perspectives while preserving confidentiality and access to support.

**Objectives:** To describe T-P-T—Test, Protect, Treat & Suppress / Akhiri AIDS Lebih Lestari, as a culturally responsive, age-appropriate and population-inclusive framework that normalises HIV and STI awareness and timely testing as responsible healthcare, while linking people to prevention packages, treatment pathways, peer support, harm reduction and recovery journey availabilities.

**Methodology:** T-P-T was developed through PT Foundation's frontline community experience and iterative review. It integrates testing, combination prevention, treatment literacy, peer navigation, psychosocial support, harm reduction and recovery into three memorable actions. Its layered design offers a neutral public entry point, while trained workers provide confidential, tailored support according to age, consent requirements, needs and readiness.

**Results:** T-P-T was translated into outreach materials and educational presentations. Test promotes clinic, NGO, community-based and, where appropriate, self-testing pathways. Protect presents readiness, mutual commitment, condoms and lubricants, PrEP/PEP, vaccination and harm reduction. Treat & Suppress supports confirmatory testing, early ART, viral-load monitoring, U=U, peer navigation, mental-health support and recovery. This universal entry point complements targeted services for key affected populations with intersecting vulnerabilities. It may reduce labelling and support earlier engagement; formal evaluation is required.

**Conclusions:** T-P-T is a practice-based, community-led innovation bridging inclusive public-health messaging with confidential, population-responsive care across the HIV continuum.



NAC26EP044

## Strengthening the HIV Care Continuum Through Community-Based Support Services: Experience from Teratak Kasih Tok Nan (TKTN) in Sarawak, Malaysia

**Hafiz Tarmizi Noor Azizi**

*NGO - Malaysian AIDS Foundation*

**Introduction:** While advancements in HIV treatment have improved health outcomes among people living with HIV (PLHIV), challenges such as stigma, psychosocial barriers, limited social support, and difficulties navigating healthcare systems continue to affect engagement throughout the HIV care continuum. Community-based organisations play an important role in complementing clinical services by providing accessible support, strengthening linkage-to-care, and addressing social and psychosocial needs.

**Objectives:** This abstract shares the implementation experience of Teratak Kasih Tok Nan (TKTN), a community-based support initiative by Malaysian AIDS Foundation (MAF), in strengthening HIV-related support services and improving access to care in Sarawak, Malaysia.

**Methodology:** TKTN operates through collaboration with healthcare providers, government agencies, NGOs, and local stakeholders. The programme provides peer support, HIV education and awareness, psychosocial support, linkage-to-care assistance, and community engagement activities. Programme experiences were documented through activity reports, beneficiary records, stakeholder engagement, and operational observations from three TKTN centres in Kuching, Miri, and Bintulu.

**Results:** TKTN Sarawak supported a total of 380 beneficiaries, comprising Kuching (230), Miri (75), and Bintulu (75). Through community-based support activities, TKTN provided access to psychosocial support, HIV-related information, community engagement opportunities, and assistance in navigating healthcare services. The implementation across three locations demonstrated the importance of decentralised community support models in improving accessibility and strengthening collaboration between communities, healthcare providers, and stakeholders.

**Conclusions:** Community-based support models are essential in strengthening the HIV care continuum by addressing needs beyond medical treatment. The experience of TKTN in Sarawak highlights the importance of decentralised services, peer-oriented approaches, and multi-stakeholder collaboration in supporting Malaysia's efforts towards ending AIDS.



NAC26EP054

## Project SAFE: Building Prevention Before Risk Through a Community-Based Sexual Health Education Framework for HIV Prevention Among Malaysian Youth

**Choo Soon Yak**

MD (USM), MAFP (M'sia), icFRACGP (Aus), CTFM (AFPM)

**Introduction:** According to the National Health and Morbidity Survey (NHMS) 2022, 7.6% of Malaysian adolescents reported having engaged in sexual intercourse, with nearly one-third initiating sexual activity before the age of 14 years. These findings underscore the importance of introducing preventive sexual health education before high-risk behaviors are established. However, HIV awareness initiatives frequently focus on tertiary education, potentially missing critical opportunities for earlier intervention. To address this gap, we developed Project SAFE (Sexual Health Awareness Framework for Empowerment), a structured, age-appropriate community education programme delivered across primary schools, secondary schools and universities.

**Methods:** Project SAFE employs interactive lectures, scenario-based discussions, videos, anonymous question-and-answer platforms and reflective commitment activities. The framework comprises six progressive modules: (1) Know Your Worth—self-worth and human development; (2) Respect Differences—puberty, biological differences and healthy relationships; (3) Know Your Boundaries—body autonomy, safe touch and safeguarding; (4) Protect Yourself—refusal skills using the "Say No, Leave, Seek Help" strategy; (5) Understand the Risks—HIV, sexually transmitted infections, unintended pregnancy, stigma and psychosocial consequences; and (6) Choose Your Future—promoting healthy decision-making, abstinence or safer sexual practices, while facilitating linkage to youth-friendly HIV and STI screening services through primary healthcare.

**Conclusion:** The best time to prevent HIV is before vulnerability becomes behavior. Project SAFE aligns with WHO and UNESCO recommendations that comprehensive sexuality education should equip young people with the knowledge, skills and values to protect their health and well-being. By integrating values-based education, safeguarding skills, stigma reduction and early linkage to primary care, Project SAFE offers a practical, scalable and sustainable community model to strengthen Malaysia's HIV prevention strategy and advance the goal of ending HIV as a public health threat.



NAC26EP062

## One Stop Centre: An Integrated Community-Led Ecosystem Linking Outreach, Harm Reduction, Clinical Care and Psychosocial Support for Key Populations in Malaysia

**Ming Yun Tong**, Tien Wei Long, Wan Mohd Ridwan W Mohd Yusoff

*PT Foundation*

**Introduction:** In Kuala Lumpur and Putrajaya, 61.5% of people living with HIV (PLHIV) are late presenters (Rahman et al., 2022), with 60% reported in Selangor (Ahmad et al., 2024). Fragmented care across separate providers drives loss-to-follow-up among key populations.

**Objectives:** To describe PT Foundation's integrated "One Stop Centre" ecosystem, a community-led model linking prevention, clinical care, psychosocial support and housing reintegration, and to present first-year (2025) outcomes in the Klang Valley.

**Methodology:** The ecosystem links 5 community-led programmes: DSKP/JomTest (HIV/STI screening, PrEP/PEP linkage), ComRed (drug use harm reduction), Positive Living (PLHIV psychosocial support), Inap Shelter (crisis accommodation) and Cinta Manis (housing reintegration), and the Community Healthcare Clinic (CHCC), PT Foundation's subsidiary social enterprise providing diagnosis, treatment and monitoring. Bi-directional referrals connect all components, supported by MOH, GPs, MAIWP and Baitulmal. Community healthcare workers, peer navigators and peer facilitators deliver services. 2025 programme data were reviewed.

**Results:** DSKP/JomTest screened 3,153 MSM clients, yielding 83 reactive HIV screens (2.7%; 94% linked to care), 99 reactive syphilis screens (3.6%; 88% linked) and 9 reactive hepatitis C screens (0.4%; 100% linked); 1,586 (50.3%) were referred for PrEP. Among CHCC clients, 46 were newly diagnosed with HIV, 235 started PrEP and 79 initiated PEP. ComRed provided harm reduction to 112 newly enrolled clients; Positive Living supported 774 clients cumulatively (200 active); Inap Shelter housed 11 residents; 2 transitioned to independent housing through Cinta Manis. Cross-programme referrals occur routinely but were not yet centrally recorded; figures are programme-level outputs.

**Conclusions:** A community-led organisation can consolidate the full pathway from prevention to independent living within one trusted network. Donor-dependent funding, staff capacity, stigma and cross-referral tracking gaps remain constraints; a unique-client tracking system is the next priority. The model offers a replicable framework for Malaysia's key populations.



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## Stigma and Discrimination in HIV Care: Experiences of People Living with HIV in a Malaysian Public Hospital

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**Background:** Stigma and discrimination remain significant barriers to HIV care, affecting psychological well-being, trust in healthcare providers, and continued treatment engagement. Understanding patients' lived experiences is essential for developing responsive and compassionate HIV services.

**Objective:** This study explored experiences of stigma and discrimination among people living with HIV (PLHIV) receiving treatment in a Malaysian public hospital and examined the role of social support in promoting resilience and treatment engagement.

**Methods:** An exploratory qualitative study was conducted at the Specialist Clinic and Ambulatory Care Centre, Hospital Kuala Lumpur. Participants were recruited through purposive sampling. Thirteen PLHIV participated in face-to-face, semi-structured in-depth interviews, of which ten transcripts were included in the final thematic analysis. Data were analysed using Braun and Clarke's six-phase approach.

**Results:** Five themes emerged: interpersonal stigma in clinical interactions; structural stigma within healthcare and institutional systems; internalised stigma and psychological burden; social stigma and community narratives; and positive support, resilience, and coping mechanisms. Participants described judgmental language, insensitive treatment, compromised privacy, institutional procedures, moral stereotyping, and fear of social rejection. These experiences contributed to shame, emotional distress, concealment of HIV status, and avoidance of healthcare. Conversely, empathetic healthcare providers, supportive family members, non-governmental organizations, spiritual strength, and self-acceptance helped participants cope with stigma and remain engaged in treatment.

**Conclusion:** HIV-related stigma operates across interpersonal, institutional, community, and individual levels. Empathy-focused healthcare training, stronger confidentiality practices, non-stigmatizing public communication, psychosocial care, and community-based support should be integrated into HIV services to protect dignity and strengthen sustained treatment engagement.

**Keywords:** *HIV stigma; discrimination; PLHIV; social support; qualitative research*



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