17TH INTERNATIONAL WORKSHOP ON

# PEDIATRICS & HIV | 2025

# ABSTRACT BOOK

**17th International Workshop on Pediatrics & HIV 2025**

Kigali, Rwanda | 11 - 12 July

ame
academic medical education

All meeting materials such as abstracts, presentations, etc will be posted on **www.AcademicMedicalEducation.com**

## Oral Abstracts:

**Paper # - Paper Title** **Page #**

**1 - Gestational Exposure to an Efavirenz-Containing Compared to a Dolutegravir-Containing Antiretroviral Regimen Is Associated with Lower Anthropometrics at 18 Months of Life among Children HIV-Exposed Uninfected in Botswana..... 16**

**2 - Infant Safety Following Exposure to Maternal TDF/FTC for HIV Prevention in Utero and Through Breast Milk: IMPAACT 2009..... 17**

**3 - The Impact of Daily Oral PrEP on Maternal Bone Mineral Density During Pregnancy and Postpartum: IMPAACT 2009..... 18**

**4 - Impact of Maternal HIV Status on Maternal and Child Peripheral Blood Immune Markers and Associations with Neurometabolite Profiles at Age 6–7 Years: A South African Birth Cohort Study . 19**

**5 - Validation of a Ministry of Health (MoH) HIV Risk Screening Tool for Breastfeeding Women (BFW) in Northern and Central Mozambique (2022 to 2024)..... 20**

**6 - Did HIV-1 Incidence Decline During the DREAMS Program? Lack of Progress for Adolescent Girls and Young Women..... 21**

**7 - Ugandan Teenage Females with PHIV on DTG Have a Distinct Phenotype Concerning for Future Cardiometabolic Risk..... 22**

**8 - Minimising Risk, Maximising Retention: A Cascade Analysis of Vertical HIV Transmission Prevention among Adolescent Mothers and Their Children in the Eastern Cape Province, South Africa..... 23**

**9 - Mental Health Challenges and Substance Use Associated with Poor Viral Suppression and Transition Readiness among Adolescents with HIV Transitioning to Adult Care..... 24**

**10 - Outcomes of Children and Young Adolescents Receiving ART Under Family-Based DSD Model at Largest Public ART Clinic in Lilongwe, Malawi..... 25**

**11 - Predictors of Treatment Failure in Children Living with HIV Starting First-Line Antiretroviral Therapy in the ODYSSEY Trial..... 26**

**12 - Factors Associated with HIV-1 DNA Dynamics in Early Treated Children with Perinatal HIV ..... 28**

**13 - Efficacy and Safety of Emtricitabine/Tenofovir Alafenamide (F/TAF) Plus Cobicistat-Boosted Protease Inhibitors in Children with HIV-1 Aged 2-<12 Years and Weighing 14-<40 kg: Week 48 Outcomes..... 29**

**14 - Effectiveness and Safety of Dolutegravir (DTG) in Infants and Children Aged Under 12-Years at Start of DTG in Europe and Thailand..... 30**

**15 - Efficacy of Second-Line Dolutegravir- versus Boosted Protease Inhibitor-Based ART in Children and Adolescents Living with HIV at 96 and 144 Weeks: Pooled Analysis of the ODYSSEY and CHAPAS-4 Trials..... 32**

**16 - Silent Threats and Missed Opportunities: Rethinking Pediatric TB/HIV Co-Infection Diagnosis in the Era of Advanced HIV Treatment and Universal Test-and-Treat..... 34**

**17 - Effect of TB Preventive Treatment on TB Incidence and Non-TB-Related Mortality among Children and Adolescents Living with HIV Initiated on Antiretroviral Therapy in Cameroon, 2020-2022 ..... 35**

**18 - Infectious Morbidity among Children HIV-Exposed, Uninfected in South Africa: Elevated Risk in Infancy but Not Thereafter ..... 36**

**19 - Growth Trajectories Before and After Switching to Dolutegravir in Children Living with HIV in the ODYSSEY Trial..... 37**

## Oral Poster Abstracts:

**Paper # - Paper Title** **Page #**

**20 - Telomere Length and Neurodevelopmental Outcomes among Children Exposed and Not Exposed to HIV in Kenya ..... 40**

**21 - Switching Off Dolutegravir in Pregnancy During the Safety Signal Period: A Multi-Cohort European Study..... 41**

**22 - Causes of Death among Sub-Saharan African Infants Living with HIV and Hospitalized with Severe Pneumonia Using Minimally Invasive Autopsies in the EMPIRICAL Trial ..... 42**

**23 - Association Between Reservoir Size and Markers of Cardiovascular Inflammation in Perinatally Infected Children Living with HIV ..... 43**

## Poster Walk Abstracts:

**Paper # - Paper Title** **Page #**

**24 - Higher Prevalence of Depression and Anxiety among Postpartum Women with HIV than Women Without HIV During 3-Year Follow-Up..... 45**

**25 - Predictors of Mother-to-Child Transmission of HIV among Pregnant and Breastfeeding Women Living with HIV in Rwanda ..... 46**

**26 - Association Between Maternal Antenatal HIV Service Engagement and Well-Child Visit Utilisation in the Western Cape, South Africa ..... 47**

**27 - Neurodevelopmental Outcomes of HIV-Exposed Uninfected and HIV-Unexposed Children in Kenya ..... 48**

**28 - Stunting and Neurodevelopmental Delays in HIV-Exposed Uninfected Children at 18 Months of Age in South Africa ..... 49**

**58 - Enhancing Pediatric HIV Screening Coverage in Côte d'Ivoire and Togo: Preliminary Results from an Intervention Led by Community Associations - The RaDAR Project..... 50**

**59 - Effectiveness of Layered Interventions in Improving Viral Load Suppression among Children and Adolescents (0-19 Years) Living with HIV in Western Kenya, 2021 - 2023..... 51**

**60 - Viral Failure by 48 Months on Dolutegravir in Children and Adolescents in Uganda..... 52**

**61 - Characteristics of Antiretroviral Resistance in Participants from the SHIELD Trial: A Pharmacokinetic and Safety Study Evaluating Fostemsavir in Children and Adolescents Living with Multi-Drug Resistant HIV ..... 53**

**62 - Determinants of Successful ART Outcomes in Children and Adolescents in Kenya, 2021-2023 54**

**87 - Acceptability and Preferences of Long-Acting HIV Treatment Options among Adolescents and Young Adults Living with HIV in Kenya ..... 55**

**88 - Prevalence and Correlates of Depression and Anxiety among Adolescents and Young Adults Living with HIV in Western Kenya: Social Support, Violence, Drug Use, and Stigma as Key Determinants..... 56**

**89 - Alcohol and Substance Use among Youth Living with HIV in the Global Adolescent and Young Adult Network of IeDEA (AYANI) Cohort..... 57**

**90 - Low and Decreasing Levels of Tenofovir Diphosphate in Dried Blood Spots in a Prospective Cohort of Adolescents and Young Adults with HIV in Uganda..... 59**

**119 - Tuberculosis Preventive Treatment Initiation and Factors Associated with Adherence among Newly Diagnosed Children Living with HIV Initiated on ART in Cameroon, 2020-2022..... 60**

**120 - Trends in Tuberculosis Notifications and Tuberculosis/HIV Co-Infection Rates among Children at a Tertiary Hospital in Zambia: A 15-Year Retrospective Analysis ..... 61**

**121 - Assessment of Central Adiposity among Adolescents Living with HIV in Sub-Saharan Africa: Baseline Data from the LATA Trial..... 62**

**122 - Four-Year-Old Children Born to Women Living with Well-Controlled HIV Had Similar Executive Function and Cognition to Children Born to Women Without HIV..... 63**

**123 - Growth Outcomes in Children Living with HIV in Europe and Thailand Before and After Starting Dolutegravir..... 64**

## Poster Abstracts:

**Paper # - Paper Title** **Page #**

**29 - Pregnancies among Adolescents and Young Women on Dolutegravir vs. Standard-of-Care in the ODYSSEY Trial and Effects of the Dolutegravir Neural Tube Defect Safety Alert ..... 67**

**30 - The Impact of Dolutegravir-Based Antiretroviral Therapy on Maternal HIV Viral Suppression and Vertical Transmission in Pregnant Women Living with HIV in Johannesburg, South Africa, July 2021-March 2025 ..... 69**

**31 - HIV Prevention & Treatment in Pregnant and Breastfeeding Persons ..... 70**

**32 - Pregnancy, PMTCT Services, and Infant Outcomes among Adolescents and Young Adults Living with HIV in Nigeria..... 71**

**33 - Growth Outcomes in Neonates and Infants Born to Mothers on Bictegravir During Pregnancy . 72**

**34 - Viral Load Monitoring During Pregnancy and Postpartum in the Western Cape Province, South Africa, 2018-2021..... 73**

**35 - Focused Interventions among Pregnant and Breastfeeding Women in a Rural District in Malawi Improved Gaps in Viral Load Coverage and Suppression ..... 74**

**36 - Determinants of Sustained HIV Viral Suppression among Pregnant and Breastfeeding Mothers Enrolled in Prevention of Mother-to-Child Transmission Program in Rwanda ..... 75**

**37 - Prevalence of Low-Level Viremia and Correlates of Viral Load Suppression in Ugandan Pregnant Women Living with HIV (April 2023-March 2024) ..... 76**

**38 - Identifying and Addressing Psychosocial Needs of Pregnant and Breastfeeding Women Living with HIV Referred for Psychosocial Services at Health Facilities Supported by Baylor Foundation Malawi ..... 77**

**39 - High Prevalence of Postpartum Depression and Association with Viral Non-Suppression among Women Living with HIV in Mozambique and Tanzania ..... 78**

**40 - Perceptions of Nurses and Counsellors on the Effectiveness of Enhanced Adherence Counselling for Pregnant and Breastfeeding Women Living with HIV ..... 79**

**41 - Rwanda's Path to Elimination: Evidence, Gaps, and Data-Driven Strategies to Prevent Pediatric HIV Infections ..... 80**

**42 - Evaluating the Integrated Mother Baby Course (IMBC) Model for HIV Diagnosis and Prevention of Mother-to-Child Transmission in Zimbabwe: A Retrospective Analysis of the SPACE for OVC Program ..... 81**

**43 - Descriptive Analysis Findings of Infant Clinical Audits in Uganda ..... 82**

**44 - An Audit of Cases of Vertical HIV Transmission in Programmatic Settings in Malawi ..... 83**

**45 - Early Signals of Language Delays among Preterm Children Who Are HIV-Exposed Uninfected in Botswana ..... 84**

**46 - Severe Stunting in Children Under Two Years of Age Exposed to HIV Infection in Lesotho ..... 85**

**47 - Differential miRNAs Expression in HIV-Exposed Uninfected Infants versus HIV-Unexposed Uninfected Infants: A Pilot Study ..... 86**

**48 - 'I was in Between Wars': Mothers' Perceptions, Feelings, and Concerns About Consequences of HIV Exposure for Their Children, HIV Exposed and Uninfected During Early Childhood – Qualitative Insights from Worcester, South Africa ..... 87**

**49 - Early-Life Lipidomic Profiles of Infants HIV-Exposed Uninfected Differ from Unexposed Peers and Are Influenced by Maternal Lipidomic Profiles ..... 88**

**50 - Body Mass Index and Gestational Weight Gain in Pregnancy among Persons with HIV, and Birth Weight-for-Gestational Age of Children Who Are HIV-Exposed and Uninfected ..... 89**

**51 - Utility of PrEP in Averting Postnatal Seroconversion among Infants Born from Breastfeeding Mothers Testing HIV-Negative at Delivery in Four Facilities of Eastern Province of Zambia ..... 90**

**52 - Factors Influencing Adherence to Daily Oral PrEP During Pregnancy and Postpartum: Qualitative Findings from Malawi, South Africa, Uganda, and Zimbabwe ..... 91**

**53 - Acceptability of Broad Neutralizing Antibodies for Postnatal Prophylaxis: Perceptions from Communities in South Africa and Uganda ..... 92**

**54 - Acceptability and Outcomes of Index Case Testing for Children of Female Sex Workers in Malawi: Insights from Drop-In Centers ..... 93**

**55 - Integration of Electronic Mother Infant Pair (eMIP) Tracking System with SMS and USSD Technology for Timely HIV Testing and Results Receipt in Already Existing Disease Programs: Lessons Learned from a Pilot in Uganda ..... 94**

**56 - Estimating HIV Testing Yield and Treatment Coverage among Children of Female Sex Workers Enrolled in a Bio-Behavioral Survey Conducted in Rwanda, 2023 ..... 95**

**57 - Effectiveness and Cost of Community-Based Dried Blood Spot Sample Collection for Early Infant Diagnosis in Angola ..... 96**

**63 - Accelerating Case Finding of New Children and Adolescents Living with HIV During a National "Find the Child" Campaign in Uganda: Experience from Uganda Protestant Medical Bureau..... 97**

**64 - Optimizing Pediatric Index Case Testing Outcomes Through Pediatric Accelerated Case Finding Effort's (PACE) Family Tree Card ..... 98**

**65 - Leaving No Child Behind: Sungani Bana - A Local Initiative to Optimize Paediatric and Adolescent HIV Treatment Outcomes in Eastern Province of Zambia..... 99**

**66 - Intensified HIV Index Testing to Close the Children Living with HIV (CLHIV) Treatment Gap in Zimbabwe: Lessons Learnt Through Program Implementation 2023-2024 ..... 100**

**67 - The Importance of Offering HIV Testing Services to Exposed Children of Sex Workers Living with HIV and Reducing the Rate of HIV Transmission: Case of Alcondoms Cameroon..... 101**

**68 - Evaluating Pediatric HIV Testing and Linkage Under the Munonye Campaign: A 25-Week Performance Review in Uganda..... 102**

**69 - The Importance of Targeted Enhanced Identification of Biological Children of Women Living with HIV: The Tanzania Experience..... 103**

**70 - Early-Treated Children with Perinatal HIV Show Elevated Monocyte Activation into Adolescence ..... 104**

**71 - High Burdens of Pretreatment and Acquired Drug Resistance in Children Living with HIV-1: A Systematic Review and Meta-Analysis ..... 105**

**72 - Integrase Inhibitor Resistance among Adolescents and Young People Living with HIV in Sub-Saharan Africa: A Descriptive Case Series from 4 Pediatric HIV Centers of Excellence ..... 106**

**73 - Baseline Viral Load Impacts the Aging Process in Infants with Perinatally Acquired HIV Enrolled in the EARTH Cohort..... 107**

**74 - Factors Associated with Viral Unsuppression among Children and Adolescent Clients on Antiretroviral Therapy in Oyo State Nigeria: A Mixed Method Study ..... 108**

**75 - Jua Mtoto Wako (JMW) Initiative to Improve Viral Suppression among Children Living with HIV at Moi Teaching and Referral Hospital..... 109**

**76 - Two-Year Virological Outcomes of Dolutegravir-Based ART in Children and Adolescents Living with HIV in Cameroon..... 110**

**77 - Clinical and Virological Outcomes among Children and Adolescents with HIV After Initiation of Antiretroviral Therapy: A Five-Year Cohort Analysis in Cameroon, 2019–2024..... 111**

**78 - Factors Associated with Viral Load Non-Suppression among Adolescents in HIV Management Facilities in Eswatini..... 112**

**79 - Durability of Viral Suppression and Risk of Rebound among Children in a Trial Using Real-Time Medication Monitoring to Improve ART Adherence in a Randomized Control Trial..... 113**

**80 - Safety Monitoring of Children (3 Months-<15 Years) Initiating and Transitioning to Dolutegravir in Uganda from January 2022 to December 2022 ..... 114**

**81 - Optimizing Pediatric HIV Care: Community-Led Models for Enhancing Adherence and Viral Suppression among Children in Kenya ..... 115**

**82 - Early Insights from the Implementation of the WHO STOP AIDS Package in Zimbabwe: Advancing Paediatric Advanced HIV Disease Service Delivery..... 116**

**83 - Strengthening Caregiver Engagement and Improving Mental Health Services for Pediatrics .. 117**

**84 - Optimizing HIV Care for Children and Adolescents with HIV in India: Insights from a Six-Year National Analysis of Treatment Outcomes..... 118**

**85 - Tracking Transitions: Cohort-Based Perspectives on HIV Management from Childhood to Adulthood..... 119**

**86 - Mortality Rates and Associated Factors among People Living with Perinatally Acquired HIV in Europe and Thailand..... 120**

**91 - Infectious and Noninfectious Comorbidity in Adolescents Initiated on ART Within the First 3 Months of Life ..... 122**

**92 - Health-Related Quality of Life among HIV-Infected Youth (15 - 24 Years) in Kigali, Rwanda: A Cross-Sectional Study..... 123**

**93 - Promoting Equity for Pregnant Adolescents in Research: Ethics Guidance from the PREPARE Working Group ..... 124**

**94 - Building Capacity to Assess Neurocognition in Ugandan Adolescents With and Without HIV . 125**

**95 - Trends and Factors Associated with Viral Load Non-Suppression among Treatment-Experienced Preadolescent Children Living with HIV in Kenya, 2015-2021 ..... 126**

**96 - Determining Propensity for Sustaining Undetectable Viraemia among Persons Living with HIV Who Attained Undetectable Viraemia in Nigeria: A Retrospective Cohort Study ..... 127**

**97 - Care Interruptions During the First Year on Antiretroviral Therapy among Youth Aged 15-24 Years in Khayelitsha, South Africa..... 128**

**98 - Adolescents with Confirmed Virological Failure Stand at Risk of Acquiring Resistance to Dolutegravir and Need Novel Treatment Options: Findings During the Early Stage of TLD Transition in the CIPHER-ADOLA Study ..... 129**

**99 - Effectiveness of Enhanced Adherence Counselling among Adolescents Receiving Dolutegravir-Containing Regimens with Detectable Viremia in Cameroon: Optimizing Virological Outcomes in Paediatric Settings ..... 130**

**100 - Caregiver Sociodemographic Characteristics and Mental Health Are Associated with Viral Non-Suppression among Adolescents and Young Adults Living with HIV..... 131**

**101 - Implementation and Impact of the BLOOM Project: Strengthening Pediatric and Youth HIV Service Delivery in Uganda ..... 132**

**102 - Leverage on Community Differentiated Service Delivery Models in Provision of HIV Prevention Services to Adolescents: A Retrospective Study in Wakiso District Suburbs ..... 133**

**103 - Improving HIV Care and Treatment Outcomes for Adolescents and Young People (AYPs) Through Tailored Interventions: Insights from the USAID Fahari ya Jamii Project in FY25 Q1..... 134**

**104 - Prevalence of Suicidal Behaviour and Its Associated Factors among Young People Living with HIV Accessing Care at a Primary Healthcare Centre in Zambia ..... 135**

**105 - High Levels of Mental Distress among Youth with HIV in Southern Africa: A Description of Enrollment into IMPAACT 2016 - A Randomized Controlled Trial of a Peer-Led, Group-Based Mental Health Intervention ..... 136**

**106 - Impact of a Community-Led Physical Activity Intervention on Resilience and Mental Health among Indian Adolescents with Perinatally Acquired HIV..... 137**

**107 - Strengthening Integration of Mental Health Care into HIV Services among the Adolescent and Young People in Kenya ..... 138**

**108 - "I Can Be a Source of Motivation": Multiple Perspective Qualitative Analysis of the I'mPossible Fellowship for Adolescents and Young Adults with Perinatally-Acquired HIV in South India..... 139**

**109 - Empowerment for Transition: A Pilot Psychosocial Intervention for Adolescents and Young Adults Living with HIV in Uganda ..... 140**

**110 - A Mixed Methods Evaluation of a Stepped Care Model Integrating HIV and Mental Health Services for Adolescents and Young Adults Living with HIV (AYLHIV) in Western Kenya ..... 141**

**111 - Empowering Adolescents for Zero New HIV Infections and STIs: Lessons from the Operation Triple Zero (OTZ) Model in Kilifi, Kenya..... 142**

**112 - "Hello BINTA": A Youth-Led Intervention to Advancing HIV PrEP Awareness and Acceptability amongst Youths in Yaba, Lagos, Nigeria ..... 143**

**113 - Not Disclosing Their HIV Status to Adolescents Negatively Affects Their Mental Health in West Africa: Results from the OPTIMISE-AO Study ..... 144**

**114 - Can Social Media Advocacy End HIV Stigma among Adolescents?..... 145**

**115 - Caregiver Disclosure of HIV Status to Adolescents Who Are HIV-Exposed and Uninfected in Botswana..... 146**

**116 - Uptake and Retention of Contraception and Relevant Health Outcomes among Adolescent Girls and Young Women with Predominantly Perinatally-Acquired HIV: A Cohort Study of Youth in the United States ..... 147**

**117 - Gamified Mobile Health Interventions to Promote HIV/STI Risk Reduction among Adolescents: A Mixed-Methods Assessment of Acceptability and Preliminary Outcomes ..... 148**

**118 - Engagement and Retention in Care of Adolescents and Young Adults Referred for Pre-Exposure Prophylaxis to Specialized HIV Program in Washington, DC ..... 149**

**124 - Point-of-Care Ultrasound for the Diagnosis of Tuberculosis in Mozambican Infants Hospitalized with Severe HIV-Associated Pneumonia..... 150**

**125 - Survival Analysis of Tuberculosis Infection in HIV-Positive Children Receiving Antiretroviral Therapy ..... 151**

**126 - Improving TB Control among TB/HIV Co-Infected Children in Kisenyi Slums Through Integration of TB/HIV Services in Kampala District ..... 152**

**127 - High Treatment Success Rates among Children Treated for Tuberculosis in Primary and Secondary Health Facilities in Malawi ..... 153**

**129 - Characteristics and Treatment Outcomes of Adolescents and Young Adults Living with HIV with Drug-Resistant Tuberculosis Co-Infection in Uganda: A Retrospective Cohort Study..... 154**

**130 - Infant SARS-CoV-2 Antibody Detection at 6-Weeks Not Associated with Subsequent Neurodevelopmental Scores During 2-Year Follow-Up among Children with and Without in Utero HIV Exposure ..... 155**

**131 - Kidney Impairment in Children with HIV on Antiretroviral Therapy (ART) in Zambia: A Retrospective Cross-Sectional Study..... 156**

**132 - Cloud-Based African Brain Powered Games Apps Can Be Used to Dynamically Assess Brain/Behavior Integrity and Neurocognitive Performance in African School-Aged Children at the Community Level in Response to HIV Exposure and Treatment ..... 157**

**133 - A Prospective Cohort Study of Adverse Birth Outcomes in Infants Who Are HIV-Exposed Uninfected and HIV Unexposed Uninfected, Western Cape, South Africa ..... 158**

## E-Poster Abstracts:

**Paper # - Paper Title** **Page #**

**134 - Using a Pediatric Prescription Tool for ART Optimization: Improving Treatment Outcomes in Children Living with HIV in Tanzania..... 160**

**135 - Time to Undetectable Viraemia among Children Newly Initiating Dolutegravir-Based Antiretroviral Therapy: A Programmatic Analysis ..... 161**

**136 - Effects of Music and Counseling Programs on Mental Health and Antiretroviral Treatment Adherence of Adolescents and Young Adults Living with HIV in Northern Thailand ..... 162**

**137 - Enhancing Adherence, Emotional Well-Being, and Psychological Resilience: Exploring Expressive Art Therapy for Children and Adolescents Affected by HIV ..... 163**

**138 - One-Stop Shop Model and Triple Elimination of Vertical Transmission of HIV, Syphilis, and Hepatitis B Infection Services at a Regional Referral Hospital Antenatal Clinic: Lessons from Northern Uganda..... 164**

**139 - Assessment of Uptake of Isoniazid Preventive Therapy (IPT) and Its Associated Factors among Children Living with HIV (CLHIV) at Queen Elizabeth Central Hospital (QECH) in Blantyre, Malawi 165**

**140 - Six-Month Outcomes among 0- to 14-Year-Old Children with Advanced HIV Disease in Côte d'Ivoire ..... 166**

**141 - Perspectives on Family Resilience and Implications for Adolescent HIV Care in Kenya: Findings from a Human-Centered Design Study..... 167**

**142 - Photovoice Insights on Factors Contributing to Persistent Non-Adherence to ART among Youth Living with HIV ..... 168**

**143 - Overcoming Intersectional Barriers: A Gender-Transformative Physical Activity Intervention for Adolescents and Young Adults with Perinatally Acquired HIV in India..... 169**

**144 - The Effect of U.S. Government Freeze on Foreign Aid on HIV Programs in Nairobi, Kenya ..... 170**

**145 - Strengthening the Circle of Care: Male Caregiver Involvement Improves Viral Load Suppression in Children on Antiretroviral Therapy at Lighthouse, Umodzi Family Centre Clinic ... 171**

**146 - Impact of the Previous COVID-19 Misinformation on Health-Seeking Behaviors among Pregnant and Lactating Mothers in Uganda..... 172**

**147 - Uptake of Test and Treat Strategy among Adolescent Girls and Young Women at High Risk of Acquiring HIV in a Rural Ugandan Setting..... 173**

**148 - Predictors of HIV Testing and Status Disclosure among Young Adolescents in Post-Conflict Settings: Findings from a Pre-Post Study Design in Nimule Peri-Urban Town of South Sudan ..... 174**

**149 - Possible Reasons Behind HIV Vertical Transmission: Use of Clinical Mentorship to Inform the PMTCT Program in Rwanda ..... 175**

**150 - From Data to Action: Addressing Disparities in Early Infant Diagnosis and Maternal Retesting in Nigeria..... 176**

**151 - Influence of Community-Based Oral 'PrEP' Refill Model on Adherence and Retention among Adolescents in Homabay County Kenya ..... 177**

**152 - Implementing a Peer Navigator Program for Street-Connected Youth in Kenya and Canada to Increase Access to HIV Prevention and Treatment..... 178**

**153 - The Role of Men in the Disproportionate Burden of HIV among Adolescent Girls in Mulago, a Suburb in Kampala, Uganda: A Male Perspective ..... 179**

**154 - Responsive Caregiving in HIV-Exposed and Unexposed Children: Preliminary Data from a Modified HOME-21 Assessment in South Africa ..... 180**

**155 - Enhancing Comprehensive Care and Support for Paediatrics and Adolescents Living with HIV Through Primary Healthcare Integration and Community-Based Strategies ..... 182**

**156 - Risk of Virologic Failure Increases with Failure on Initial Viral Load and with Increased Levels of Past Viremia in Children and Adolescents Living with HIV in Tanzania..... 183**

**157 - Assessing the Effectiveness of Cabotegravir Injection Pre-exposure Prophylaxis Method for HIV Prevention in Livingstone, Zambia: A Retrospective Cohort Study ..... 184**

**158 - Acceptability, Appropriateness, and Preferences of HIV Self-Testing among Adolescent Girls and Young Women in Rural Northern Uganda: A Cross-Sectional Study..... 185**

**159 - Adolescent and Young Adults' Experiences with an In-Person Peer Navigation Intervention for HIV Care Engagement in Western Kenya..... 186**

**160 - Using Full Blood Count in Monitoring Immune Status and Identifying Hematological Anomalies in Adolescents Living with HIV on TLD in Cameroon: Evidence from the CIPHER-ADOLA Study .... 187**

**161 - Enhancing Access to HIV Prevention Information and Services Through Peer-to-Peer Digital Dissemination in Peri-Urban Zimbabwe ..... 188**

**162 - Predictors of Viral Load Unsuppression among Adolescent Patients on Antiretroviral Therapy in North-Central and South-West Nigeria ..... 189**

**163 - Effect of Digital Adherence Tools on Adherence to Antiretroviral Treatment and Viral Load Suppression among Children Living with HIV in Tanzania ..... 190**

**164 - Ensuring Quality in Early Infant Diagnosis of HIV through Local Proficiency Testing Panels Production for GeneXpert Point-of-Care Testing ..... 191**

**165 - Father-to-Child Transmission of HIV: Expanding the Evidence and Mechanisms ..... 192**

**166 - The Effect of Age-Appropriate Disclosure on Adherence to ART and Viral Load Suppression among Adolescents Living with HIV in Edo State, Nigeria..... 193**

**167 - Prevalence of Exclusive Breastfeeding among Basotho Mothers Living with and Without HIV in Maseru Rural, Lesotho..... 194**

**168 - Ensuring Every Dose, Every Day: The Effectiveness of Directly Observed Therapy for Children with High Viral Load at Umodzi Family Centre Clinic, Blantyre, Malawi ..... 195**

**169 - HIV and Syphilis Testing at Antenatal Care in Lubumbashi, the Democratic Republic of Congo: Insights from Public and Private Facilities ..... 196**

**170 - Clinical Management Issues Specific to Adolescents ..... 197**

**171 - Parental and Non-Gestational Parent Consent in Biomedical HIV Research Participation During Pregnancy: A Qualitative Comparison of Adolescent Perspectives from the US and Southern Africa..... 198**

**172 - Biomedical HIV Research Participation During Pregnancy: Perspectives of US Adolescents 199**

**173 - Compliance with Maternal HIV Retesting for Pregnant Women Attending Care in Selected Health Facilities in Namutumba District, Uganda ..... 200**

**174 - Symptoms of Depression, Anxiety, and Post-Traumatic Stress among Adolescents and Young Adults Living with HIV at Enrolment in the Sauti ya Vijana Randomized Clinical Trial in Tanzania.. 201**

**175 - Improving Retention in Care and Viral Load Suppression among Children and Adolescents Living with HIV Using Modified Community Client Led ART Delivery Groups at Taso Tororo ..... 202**

**176 - Sustained Retention and Enhanced Viral Load Coverage for Optimal EMTCT Outcomes Through Community Differentiated Service Delivery Models: A Cross-Sectional Study in Kampala..... 203**

**177 - Stakeholder Engagement Enhances Viral Load Suppression among Adolescent and Young People Living with Human Immunodeficiency Virus in Kitale County Hospital Trans Nzoia County204**

**178 - Vision 2030: Scaling-Up of Early Infant Diagnosis (EID) Point of Care Testing Towards Elimination of HIV in Zambia..... 205**

**179 - Early Infant Diagnosis of HIV in Mombasa, Kenya: A Retrospective Analysis of 2024 Laboratory Data ..... 206**

**180 - Rapid Results, Healthier Futures: Point-of-Care Viral Load Testing in Lesotho's Maternal and Pediatric HIV Response..... 207**

**181 - Integration of HIV/TB Healthcare Services for Children Under Five Years with Severe Acute Malnutrition in Rural Health Facilities in Rwanda..... 208**

**182 - Assessing the Cost-Effectiveness of Households Visitation on HIV-Affected Children's Health Outcomes in Eswatini..... 209**

**183 - Characteristics and Clinical Outcomes of Mother-Infant Pairs with HIV Exposure and Breastfeeding Experience: Observational Cohort in the United States ..... 210**

**184 - Barriers to Antiretroviral Treatment Success: Exploring Predictors of Virologic Failure among Adolescents Living with HIV in Kilimanjaro, Tanzania..... 211**

**185 - Improving Viral Load Coverage among Pregnant and Breastfeeding Women Living with HIV on Treatment Through Focused Site Support in Zimbabwe: Lessons Learned for Program Implementation, 2024 ..... 212**

**186 - Improving Viral Load Coverage Initiative among Children 0-14 Years Living with HIV on Treatment Through Intensified Site Support in Zimbabwe 2024: Lessons Learnt Through Implementation ..... 213**

**187 - "We Want Our Clients to Be as Comfortable in Themselves as the Peer Navigators Are": The Role of Peer Navigators in Adolescents Living with HIV's Disclosure and Self-Worth..... 214**

**188 - "It Is the Foundation for the Child": Caregiver Perspectives on the Nurturing Care Framework in Kenya and Botswana..... 215**

**189 - "It's Not About Money to Be a Perfect Father, It's About Love": A Qualitative and Photovoice Study on Father Engagement in Kenya and Botswana..... 216**

**190 - Sustained Improvement in Infant Prophylaxis Coverage for HIV-Exposed Infants at a Rural Health Facility in Malawi with Continuous Quality Improvement (CQI) Interventions..... 217**

**191 - Bridging Gaps in Pediatric HIV Prevention: PMTCT Challenges among Female Sex Workers in Isiolo County, Kenya..... 218**

**192 - Assessing the Impact of Peer Interventions on the PMTCT Cascade in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis..... 219**

**193 - Audit of Health Records Improved Viral Load Coverage for Pregnant and Breastfeeding Women Living with HIV at Rural Health Facilities in Malawi..... 220**

**194 - Advancing Adolescent SRHR: A Holistic Approach to Integrated Care and Service Delivery for Young People in Tanzania ..... 221**

**195 - Enhancing Pediatric HIV Viral Load Suppression Through Specialist-Led Individualized Care: A Case Study from Central Hospital Benin, Edo State, Nigeria..... 222**

**196 - Local Implementation of Argentina's First National Guideline to Support Breastfeeding for Women Living with HIV in Buenos Aires..... 223**

**197 - Improving Treatment Outcomes of Children, Adolescents and Young Persons Living with HIV Through Operation Triple Zero ARV Refill Clubs in Northern Nigeria ..... 224**

**198 - Outcomes of Paediatric and Young Adolescents Receiving pABC/p3TC+pDTG Treatment at Largest Public ART Clinic in Lilongwe, Malawi..... 225**

**199 - Designing a Community of Practice for Healthcare Workers to Adopt Integrated PrEP Delivery in Maternal and Child Health Clinics ..... 226**

**200 - Differentiated Service Delivery and Guideline Recommendations for Pregnant and Postpartum Women with HIV: A Scoping Review ..... 227**

**201 - Using Continuous Quality Improvement Approach to Improve HIV Viral Suppression among Children and Adolescents Living with HIV in a National Teaching Referral Hospital in Kenya..... 228**

**202 - A Peer Support Approach to Client Management Is Not Inferior to Traditional Case Management: A Study among Young Persons Living with HIV in Nigeria..... 229**

**203 - The Hidden Crisis: Pediatric HIV Risks among Children of Key Populations in Marsabit, Kenya ..... 230**

**204 - Assessing the Impact of Community-Driven Approaches to Prevention of Mother-to-Child Transmission (PMTCT) in Resource-Limited Settings: Lessons from North-West Nigeria..... 231**

**205 - Tanzanite Girls Program: Empowering Adolescent Girls Living with HIV in Tanzania..... 232**

**206 - Empowering Adolescent Girls Through Integrated SRHR and HIV Care..... 233**

**207 - Enhancing the "Know Your Child's HIV Status Plus" Testing Through Different Testing Modalities to Address HIV Testing Backlogs in Health Facilities in Lusaka Province, Zambia ..... 234**

**208 - Reaching Adolescents and Young People Using HIV Self-Testing Approach, Mozambique 2024 ..... 235**

**209 - Challenges of Recruiting Children and Adolescents Living with HIV with Multi-Drug Resistance into a Prospective Clinical Trial..... 236**

**210 - Community Health Workers' Acceptability of a Directly Observed Antiretroviral Therapy (DOART) Programme for Children and Adolescents Living with HIV in Nigeria: A Mixed Method Study ..... 237**

**211 - "Each Individual Is Unique, and Not Every Intervention Will Accommodate All the Clients, We Need to Be Flexible": Healthcare Provider Perspectives on Supporting Youth to Adhere to Antiretroviral Medication..... 238**

**212 - Role of the Social Worker in Following Participants from CHER Cohort..... 239**

**213 - A Systematic Review of Metabolic Syndrome (MetS) and Its Risk Factors amongst Young People Living with Perinatally-Acquired HIV ..... 240**

**214 - Prescribing Practices for Dolutegravir in West Africa for Children Under 10 Years of Age Living with HIV: The DAISY Cohort..... 241**

**215 - Achieving 100% Viral Suppression in Children and Adolescent Living with HIV (CALHIV): A Case Study of Usao Health Centre, Homabay County, Kenya..... 242**

**216 - Factors Associated with Advanced HIV Disease among Pregnant Women Living with HIV in Kinshasa, the Democratic Republic of Congo ..... 243**

**217 - Surge 2.0 Intervention to Enhance Pediatric HIV Cascades in Nairobi and Kajiado Counties, Kenya ..... 244**

**218 - Enhancing Viral Load Suppression and Disclosure Rates through Multidisciplinary Case Conferences in Eastern Province, Zambia: A Retrospective Study ..... 245**

**219 - Improving HIV Case Identification among Children and Adolescents in Supported Health Facilities Across Six Districts in Eastern Uganda: A Cross-Sectional Study from HTS Community of Practice (CoP), March 2025 ..... 246**

**220 - Viral Load Testing Outcomes of HIV-Positive Children on Antiretroviral Treatment by Caregiver HIV Status Under a Family-Centered Care Model in Western Kenya, June 2024 ..... 247**

**221 - Addressing HIV and Sexually Transmitted Infections (STIs) in Adolescents: The Role of Traditional Health Practitioners in South Africa ..... 248**

**222 - Enhanced Viral Load Coverage for Optimal EMTCT Outcomes ..... 249**

**223 - Evaluating the Level of Knowledge of HIV Prevention Methods and Associated Sociodemographic Factors among Adolescents Before and After Participating in Health Education in Nimule Town of South Sudan..... 250**

**224 - Using Commcare Digital Health Application in Community-Based Healthcare Interventions for HIV-Exposed Children in Eswatini ..... 251**

**225 - Missed Opportunities for Preventing Mother-to-Child Transmission: Geographic and Programmatic Gaps in ANC HIV Testing and Retesting in Nigeria (2023) ..... 252**

**226 - Community Fellows: A Sustainable Alternative to Case Management Expansion to Assist Vulnerable Adolescents Living with HIV in Karnataka and Tamil Nadu, India ..... 253**

**227 - Identification and Prioritization of Barriers and Ranking of Strategies for Depression Screening in Adolescent HIV Clinics in Kenya..... 254**

**228 - High Burden of Mental Health Disorders among Adolescents and Young People Living with HIV (AYPLHIV) in Nigeria: A Cross-Sectional Study ..... 255**

**229 - Implementation of Jua Mtoto Wako Strategy (JMWS) at Kitale County Hospital to Improve Re-Suppression Status amongst Children and Adolescents Living with Human Immunodeficiency Virus (CALHIV)..... 256**

**230 - Road to Elimination of Vertical Transmission: Optimizing Maternal Retesting to Identify Seroconversion among Women in Southern Nigeria..... 257**

**231 - Improving Pre-Exposure Prophylaxis (PrEP) Uptake among Adolescent Girls and Young Women at Risk of Acquiring HIV in North Kadem Ward, Nyatike Subcounty, Migori County, Kenya: A Quality Improvement Approach..... 258**

**232 - Teen-Acted Dramas as a Social Marketing Tool for HIV Awareness and Stigma Reduction.... 259**

**233 - Lessons from the "Munonye" Campaign: An Intensified Case Finding Approach to Improving HIV Testing and Care among Children of Female Sex Workers in Kampala, Uganda..... 260**

# ORAL ABSTRACT PRESENTATIONS

International Workshop
on Pediatrics & HIV

Hybrid Meeting

11 – 12 July 2025
Kigali, Rwanda

1

# Gestational Exposure to an Efavirenz-Containing Compared to a Dolutegravir-Containing Antiretroviral Regimen Is Associated with Lower Anthropometrics at 18 Months of Life among Children HIV-Exposed Uninfected in Botswana

Masasa G[1], Kgole S[1], Mmasa N[2], Schenkel S[3], Legbedze J[4], Bitran D[3], Phale B[1], Elija G[1], Maano P[1], Setlhabi K[1], Baotsenye L[1], Kgathi C[1], Moyo S[1,5], Makhema J[1], Jao J[4,6], Powis K[1,5,7]

*[1]Botswana Harvard Health Partnership, Gaborone, Botswana, [2]Country Durham and Darlington NHS Foundation Trust, Darlington, United Kingdom, [3]Massachussetts General Hospital, Division of Pediatric Global Health, Boston, United States, [4]Ann & Robert Lurie Children's Hospital of Chicago, Chicago, United States, [5]Harvard T.H Chan School of Public Health, Department of Immunology and Infectious Diseases, Boston, United States, [6]Northwestern University Feinberg School of Medicine, Chicago, United States, [7]Massachusetts General Hospital, Department of Internal Medicine and Pediatrics, Boston, United States*

**Background**: Children with gestational exposure to HIV and antiretrovirals (ARVs) who remain HIV uninfected (CHEU) experience risk of suboptimal growth compared to children born to persons without HIV. We evaluated growth outcomes at 18-months of life among CHEU with gestational exposure to efavirenz (EFV)- versus dolutegravir (DTG)-containing ARV regimens.

**Methods**: Pregnant women with HIV were enrolled in the Botswana-based Tshilo Dikotla (Aug-2016 – May-2019) and FLOURISH (Jul-2021 – Feb-2023) studies, with mother-infant pairs prospectively followed. Infant birth anthropometrics were abstracted from medical charts and trained study staff obtained child weight and length at 18-months. Z scores for weight (WAZ), length (LAZ), and weight-for-length (WLZ) were calculated using World Health Organization standards. Mixed effects models with study, Tshilo Dikotla or FLOURISH, as random effects were fit to assess differences in infant anthropometrics at 18 months of life.

**Results**: Of 333 CHEU enrolled in the two studies, 110 (33%) were exposed to EFV-containing regimens antenatally (CHEU-EFV) and 223 (67%) to DTG-containing regimens (CHEU-DTG). Median maternal age was higher among CHEU-EFV compared to CHEU-DTG [32.9 years (Interquartile Range (IQR) 27.7, 36.1) vs 29.4 (IQR 25.5, 35.2)]. Infant birth WAZ and LAZ did not vary by ARV exposure. At 18 months CHEU-EFV had lower mean WAZ [-0.39 (Standard Deviation (SD) ±1.17) versus -0.08 (SD ± 1.27); p-value = 0.03] and WLZ [-0.16 (Standard Deviation (SD) ±1.15) versus +0.15 (SD ± 1.31); p-value = 0.03] compared to CHEU-DTG; LAZ was similar between groups. After adjusting for maternal age, marital status, gravidity, timing of antenatal antiretroviral exposure (from conception vs later in gestation), birth WAZ, preterm birth, infant sex, and exclusive breastfeeding duration, CHEU-EFV had lower mean WAZ [β = -0.17 (95% Confidence Interval (CI) -0.34, -0.01); p-value = 0.03] and WLZ [ β = -0.19 (95% CI -0.37, -0.02); p-value = 0.03] at 18-months compared to CHEU-DTG. Mean LAZ at 18-months was similar between groups.

**Conclusions**: Gestational exposure to an EFV- vs. DTG-containing regimen was associated with lower WAZ and WLZ at 18 months. Future studies are warranted to understand mechanistic pathways and monitor the long-term implications of these early growth differences by gestational ARV regimen exposure.

2

# Infant Safety Following Exposure to Maternal TDF/FTC for HIV Prevention in Utero and Through Breast Milk: IMPAACT 2009

Stranix-Chibanda L[1,2], Huang S[6], Kacanek D[6], Whitton M[4], Nematadzira T[2], Korutaro V[3], **Horne E**[5], Nakabiito C[7], Mandiwa V[12], Johnston B[10], Rooney J[9], Spiegel H[13], Amico K[11], Anderson P[14], Chi B[8]

*[1]University of Zimbabwe, Harare, Zimbabwe, [2]University of Zimbabwe Clinical Trials Research Centre, Harare, Zimbabwe, [3]Baylor College of Medicine Children's Foundation, Kampala, Uganda , [4]FHI360, Durham, USA, [5]Wits RHI, Faculty of Health Sciences, Johannesburg, South Africa, [6]Harvard University TH Chan School of Public Health, Boston, USA, [7]MU-JHU Research Collaboration, Kampala, Uganda, [8]University of North Carolina , Chapel Hill, USA, [9]Gilead Sciences, Foster City, USA, [10]Frontier Science Foundation, Amherst, USA, [11]University of Michigan, Michigan, USA, [12]Johns Hopkins Research Project-Kamuzu University of Health Sciences, Blantyre, Malawi, [13]Kelly Government Solutions, Contractor to NIAID/NIH/HHS, Rockville, USA, [14]University of Colorado , Anschutz Medical Campus, USA*

**Background**: Daily oral pre-exposure prophylaxis (PrEP) with tenofovir disoproxil fumarate and emtricitabine (TDF/FTC) is an important component of HIV prevention for pregnant and postpartum populations. While the safety profiles of these drugs are reassuring, TDF exposure in utero and through breastmilk may disrupt infant bone formation, kidney function, and somatic growth.

**Methods**: IMPAACT 2009 enrolled pregnant adolescents and young women aged 16-24 years testing HIV-negative, and who either initiated or declined daily oral TDF/FTC for HIV prevention at study sites in Malawi, Uganda, South Africa, and Zimbabwe. Maternal participants were permitted to go on and off PrEP throughout follow-up. Infants were assessed at birth and weeks 6, 14, and 26. We measured bone mineral content (BMC) by dual-energy X-ray absorptiometry (DXA), creatinine clearance by modified Schwartz criteria, and length-for-age z-scores (LAZ) at birth and week 26. Infant adverse events (AEs) reported between live birth and week 26, were classified as grade 3 or higher (3+) AEs (including death) per the current NIAID DAIDS Table for Grading the Severity of Adult and Pediatric Adverse Events. Exposure was defined as any maternal prescription of TDF/FTC throughout pregnancy and follow-up. At week 26, we compared mean (standard deviation [SD]) BMC, creatinine clearance, and LAZ. We calculated the incident rate ratios (IRRs) and 95% confidence intervals (CI) of cumulative AEs for PrEP-exposed versus unexposed liveborn infants.

**Results**: All 329 liveborn infants were included in this analysis; 230 were PrEP-exposed (including 13 initially unexposed with later uptake of maternal PrEP), and 99 were unexposed. Birth characteristics were similar by group, except PrEP-exposed infants had a higher proportion of males (55%) and higher median birth weight (3100g; Q1 2800g, Q3 3400g) versus unexposed infants (44%, and median 3000g; IQR: 2740g, 3300g, respectively). At week 26, mean lumbar spine BMC was 3.2g (SD=0.6) in PrEP-exposed infants and 3.1g (SD=0.7) in unexposed infants; mean creatinine clearance was 143.3 (SD=42.5) versus 140.1 (SD=37.3) mL/min; and mean LAZ was -0.6 (SD=1.2) versus -0.8 (SD=1.1), respectively. In unadjusted analyses, none of these comparisons appeared significantly different. Overall, 58 infants experienced grade 3+ AEs in the period following PrEP exposure (incidence: 42.6 per 100 person years, 95%CI: 29.6, 61.2) compared to 22 infants while unexposed to PrEP (incidence: 33.1 per 100 person years, 95%CI: 18.4, 59.7). Most frequently reported grade 3+ AEs were nutrition disorders (mostly underweight), infections (e.g., neonatal sepsis), respiratory conditions, and perinatal conditions (e.g., jaundice, birth asphyxia). Of the nine deaths reported among infants after PrEP exposure and five deaths among infants while unexposed to PrEP, none were reported as related to TDF/FTC exposure. The IRR of cumulative AEs in PrEP-exposed versus unexposed infants was 1.29 (0.70, 2.38).

**Conclusion**: We found that peri- and postnatal TDF/FTC exposure appears safe for infants, further supporting recommendations for its use to prevent maternal HIV during pregnancy and postpartum in settings where HIV exposure risk is high.

3

# The Impact of Daily Oral PrEP on Maternal Bone Mineral Density During Pregnancy and Postpartum: IMPAACT 2009

Horne E[1], Malonga G[2], Kazemi L[3], Kacanek D[2], Shepherd J[3], Vhembo T[4], Zanga A[5], Mukwasi-Kahari C[6,7], Ndyanabangi V[8], Mirembe B[9], Chimbaka A[10], Brown E[11], Johnston B[12], Spiegel H[13], Rooney J[14], Chi B[15], Stranix-Chibanda L[4,16]

*[1]Wits RHI, Faculty of Health Sciences, University of Witwatersrand, Johannesburg, South Africa, [2]Harvard University TH Chan School of Public Health, Boston, USA, [3]University of Hawaii Cancer Center, Honolulu, USA, [4]University of Zimbabwe Clinical Trials Research Centre, Belgravia, Zimbabwe, [5]Radiology Department, University of Zimbabwe Faculty of Medicine and Health Science, , Zimbabwe, [6]Department of Infectious Diseases Epidemiology Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, Bloomsbury, UK, [7]The Health Research Unit Zimbabwe (THRU-Zim) Biomedical Research and Training Institute , , Zimbabwe, [8]Baylor College of Medicine Children's Foundation Uganda, , Uganda, [9]Makerere University, MU-JHU Research collaboration, , Uganda, [10]Johns Hopkins Research Project, , Malawi, [11]FHI360, Durham, USA, [12]Frontier Science Foundation, Amherst, USA, [13]Kelly Government Solutions, Contractor to NIAID/NIH/HHS, Rockville, USA, [14]Gilead Sciences, Foster City, USA, [15]University of North Carolina at Chapel Hill, Chapel Hill, USA, [16]Department of Peadiatrics and Child Health, Faculty of Medicine and Health Sciences, University of Zimbabwe, , Zimbabwe*

**Background**: While safe and effective for pre-exposure prophylaxis (PrEP) during pregnancy and postpartum, daily oral tenofovir disoproxil fumarate and emtricitabine (TDF/FTC) can exacerbate bone loss related to physiological changes inherent to these periods.

**Methods**: IMPAACT 2009, a parallel observational cohort study, was conducted in Malawi, South Africa, Uganda and Zimbabwe. Pregnant women aged 16-24 years, at ≤ 32 weeks gestation, were offered daily oral TDF/FTC at study entry; women were permitted to stop and start PrEP over the course of follow-up. Follow-up continued to 26 weeks postpartum. PrEP adherence was assessed periodically and categorized by tenofovir diphosphate concentrations in dried blood spots. Maternal bone mineral density (BMD) of the lumbar spine and hip was assessed using dual-energy x-ray absorptiometry (DXA) scans at delivery and 26 weeks postpartum. PrEP-exposure was defined as any use of TDF/FTC during pregnancy. We compared maternal BMD between PrEP-exposed and -unexposed participants at both timepoints using mean (SD) difference (PrEP-exposed and unexposed) and 95% confidence intervals (CIs).

**Results**: Between May 2022 to December 2022, 350 pregnant women were enrolled in the study, comprising of 229 PrEP-exposed and 121 unexposed participants. Median maternal age was 21 years ( IQR 19-22); 94% reported breastfeeding. Hip and lumbar spine DXA scans were obtained for most participants at delivery (87%) and postpartum (86%). When comparing women with and without PrEP exposure, the mean difference in hip BMD was 0.02g/cm2 (95% CI: -0.01,0.05; p=0.23) at delivery and 0.01 g/cm2 (95% CI: -0.03, 0.04; p=0.72) at week 26 postpartum. Similarly, the mean differences in spine BMD was 0.02g/cm2 (95% CI: -0.01,0.05; p=0.13) at delivery and 0.01 g/cm2 (95% CI: -0.02, 0.04; p=0.39) at week 26 postpartum. No meaningful differences were detected according to breastfeeding or adherence.

**Conclusion**: In this rigorously conducted cohort study, no differences in maternal BMD were detected at delivery and postpartum week 26 by PrEP exposure. These findings are reassuring and support the safety of daily oral TDF/FTC for PrEP during pregnancy and postpartum.

4

# Impact of Maternal HIV Status on Maternal and Child Peripheral Blood Immune Markers and Associations with Neurometabolite Profiles at Age 6–7 Years: A South African Birth Cohort Study

Bertran-Cobo C[1,2], Robertson F[2,3,4], Williams S[2,5], Kangwa T[1,2], Annandale J[1,2], Ringshaw J[2,5], Bradford L[2,5], Hoffman N[1,2], Zar H[5,7], Stein D[1,2,8], Donald K[2,5], Naudé P[1,2], Wedderburn C[2,5]

*[1]Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa, [2]Neuroscience Institute, University of Cape Town, Cape Town, South Africa, [3]Department of Human Biology, University of Cape Town, Cape Town, South Africa, [4]Cape Universities Body Imaging Centre (CUBIC), Cape Town, South Africa, [5]Department of Paediatrics and Child Health, Red Cross War Memorial Children's Hospital, University of Cape Town, Cape Town, South Africa, [6]Departments of Neurology and Bioengineering, UCLA, University of California, Los Angeles, Los Angeles, United States, [7]SAMRC Unit on Child & Adolescent Health, University of Cape Town, Cape Town, South Africa, [8]SAMRC Unit on Risk and Resilience in Mental Disorders, University of Cape Town, Cape Town, South Africa*

**Background & Objectives**: Children who are HIV-exposed and uninfected (CHEU) are at increased risk of neurodevelopmental delays compared to HIV-unexposed (CHU) peers, potentially due to early-life immune dysregulation impacting brain development. We previously found that maternal pro-inflammatory cytokines were associated with myo-inositol (neuroinflammatory marker) in parietal brain regions of CHEU at age 2–3 years. This study investigates the effect of maternal HIV on mother and longitudinal child immune markers and their associations with child neurometabolites (myo-inositol, glutamate) in these same regions at 6–7 years. We hypothesised that pro-inflammatory cytokines in mothers living with HIV and their CHEU would be associated with child myo-inositol levels at 6–7 years.

**Methods**: The Drakenstein Child Health Study is a South African birth cohort that enrolled pregnant women between 2012–2015 and follows their children. Serum marker concentrations were measured using Luminex and ELISA in a subset of mothers during pregnancy, and their children at 6 weeks, 2, 3, and 5 years of age. At 6–7 years, 266 children (93 CHEU, 173 CHU) underwent magnetic resonance spectroscopy, obtaining high-quality parietal spectra in grey (n=188) and white matter (n=163) regions. We assessed group differences in marker concentrations using Benjamini–Hochberg (BH) correction and modelled child marker trajectories with linear mixed-effects models (LMMs). Adjusted robust linear regressions tested cross-sectional associations between marker concentrations and child parietal brain metabolite levels.

**Results**: All mothers living with HIV received ART preconception (41.5%) or during pregnancy (58.5%); 86.2% were on a fixed-dose combination of lamivudine, efavirenz, and tenofovir. Mothers with HIV during pregnancy had higher sCD14, and lower GM-CSF, NGAL, and MMP-9 compared to mothers without HIV ($p<0.05$). BH-corrected LMMs revealed longitudinally higher sCD14 and lower IL-1β, IL-5, and YKL-40 in CHEU compared to CHU. Maternal associations: In adjusted linear models, maternal IL-8 was negatively associated with child neurometabolites (glutamate β=–0.77; N-acetyl-aspartate β=–0.58) in the parietal white matter of CHEU at 6–7 years, while maternal IL-13 was associated with white matter glutamate in this group (β=–0.38). Child associations: CHEU sCD14 at 6 weeks (β=1.74) and 2 years (β=1.11) were positively associated with parietal grey matter myo-inositol at 6–7 years, while associations in CHU were negative (6-week β=–1.43; 2-year β=–0.74). CHU sCD14 at 2 years (β=–0.86) and 3 years (β=–0.71) were negatively associated with grey matter glutamate, with no associations in CHEU. IL-13 at 2 years (β=–0.68) and 3 years (β=–0.79) were negatively associated with parietal white matter glutamate in CHEU, and positively associated in CHU (2-year β=0.28). Grey matter myo-inositol was associated with multiple 5-year serum marker concentrations, including IL-13, which was positive in CHEU (β=0.37) and negative in CHU (β=–0.20).

**Discussion**: Our findings show that alterations in neuroimmune crosstalk persist into mid-childhood in CHEU, with a developmental shift from maternal to child serum marker influence over time. These results point to evolving neuroimmune dynamics in CHEU, shaped by both maternal and child serum profiles. The consistent associations between sCD14, IL-13, IL-8, and parietal brain neurometabolites myo-inositol and glutamate across timepoints highlight candidate pathways for further investigation, including possible links to neurodevelopmental outcomes.

5

# Validation of a Ministry of Health (MoH) HIV Risk Screening Tool for Breastfeeding Women (BFW) in Northern and Central Mozambique (2022 to 2024)

Urso M[1], Da Conceicao Eliseu N[2], Amane G[2], Roberto Timane K[3], De Schacht C[4], Killam W[5], Casavant I[3], Abecassis A[1], Lucas C[4], Ngale K[6], Adolfo Bila D[7], Lain M[7], Uaeca A[6], Tomo de Deus M[3], Couto A[2], Gutreuter S[5]

*[1]Universidade Nova de Lisboa, Lisbon, Portugal, [2]MISAU, Mozambican Ministry of Health, Maputo, Mozambique, [3]Division of Global HIV & TB, US Centers for Disease Control and Prevention, Maputo, Mozambique, [4]Centro pela Saúde Global, Maputo, Mozambique, [5]5. Division of Global HIV & TB, US Centers for Disease Control and Prevention, Atlanta, United States of America, [6]ICAP Columbia University, Maputo, Mozambique, [7]Fundação Ariel Glaser contra o SIDA Pediátrico, Maputo, Mozambique*

**Background**: Timely case-finding of HIV in breastfeeding women (BFW) is essential to eliminate vertical HIV transmission. Despite Mozambique Ministry of Health (MoH) recommendation for retesting BFW, implementation faces challenges due to resource constraints. A new HIV risk screening tool was piloted by MoH for BFW with unknown HIV status who attend healthy child services with infants aged 0–9 months. This evaluation assessed sensitivity and specificity of this new HIV risk screening tool.

**Methodology**: The pilot was implemented in 48 health facilities in three provinces with high vertical transmission rates. The tool, administered by counsellors, used 11 questions to predict HIV positivity. All BFW not known to be HIV-positive were retested every three months until their infants were nine months old, independently of the screening tool result. Risk scores were dichotomized, and logistic regression was applied to find the partial Area Under the Curve (pAUC)-best model. Sensitivity and specificity were estimated for the tool.

**Results**: A total of 86,896 screening records among BFW were collected. The data used for validating the HIV test screening tool consisted of 75,639 records from BFW who had a prior HIV-negative test result, that were not on pre-exposure prophylaxis (PrEP ) before the dates that they were screened and re-tested, and who responded to all screening questions. Associations between 11 binary screening predictors (e.g., partner HIV status, history of blood transfusion, previous sexually transmitted infection , sex work, >1 sexual partner last three months) and the HIV testing results were generally weak. Having an HIV-positive partner with high or unknown viral load was strongly associated with incident HIV infection (adjusted odds-ratio 38.67, 95% CI 26.74–54.88). The screening tool's pAUC was 0.574. Despite modest performance, the tool's sensitivity could reach 95%, but with very low specificity (12.25%).

**Conclusion**: Our risk-based HIV screening tool showed high specificity, however, low sensitivity among BFW with the pAUC near 0.5, indicating performance comparable to random chance. Given the high prevalence of HIV in Mozambique, universal routine testing for all eligible BFW remains a key strategy to effectively identify incident HIV infections during the postpartum period and highlights the importance of more cost-effective case finding strategies.

6

# Did HIV-1 Incidence Decline During the DREAMS Program? Lack of Progress for Adolescent Girls and Young Women

Enders K[1], Shook-Sa B[1], Stranix-Chibanda L[2], Phiri S[3], Bekker L[4], Justman J[5], Chi B[1], Rosenberg N[1]

*[1]University Of North Carolina At Chapel Hill, Chapel Hill, United States, [2]University of Zimbabwe, Harare, Zimbabwe, [3]Partners In Hope, Lilongwe, Malawi, [4]Desmond Tutu HIV Foundation, University of Cape Town, Cape Town, South Africa, [5]Columbia University, , United States*

**Background**: The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) launched an initiative to reduce HIV incidence among adolescent girls and young women in Southern and Eastern Africa in 2014. The initiative, known as DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) initially included 10 countries, including Eswatini, Lesotho, Malawi, Uganda, Zambia, and Zimbabwe. This analysis examines changes in HIV-incidence in these six countries overall and among four age-sex groups in the years after DREAMS was introduced.

**Material and Methods**: We utilized the Population-based HIV Impact Assessment (PHIA) household surveys, which provide nationally representative estimates of HIV-1 incidence and quantify progress towards UNAIDS targets. First-wave PHIAs were conducted in 2015-2017 and second-wave PHIAs were conducted from 2020-2021 in each of the six countries. Recent HIV-1 was classified using a cross-sectional algorithm consisting of HIV-1 limiting antigen avidity enzyme immunoassay, HIV-1 viral load, and antiretroviral detection, and was used for estimation of incidence. We pooled data from all countries in each wave and assessed change in HIV incidence between the two waves among adult men (age 25-59), adolescent boys and young men (age 15-24), adult women (age 25-59), and adolescent girls and young women (age 15-24) over the 4-6-year time period between waves. All analyses accounted for the complex sample designs of the PHIA surveys and applied sampling weights for representative estimates.

**Results**: Overall, HIV-1 incidence declined from 0.50 to 0.35 per 100 PYs a change of -0.15/100 PYs (95% CI: -0.03, -0.28). Among men, HIV-1 incidence declined from 0.36 to 0.19 per 100PYs. Declines were observed among adult men [-0.22/100 PYs (95% CI: -0.47, 0.03)] and adolescent boys and young men [-0.13/100 PYs (95% CI: 0, -0.26)]. Among women, overall HIV-1 incidence declined from 0.63 to 0.50 per 100 PYs, but changes differed by age group. HIV-1 incidence among adult women declined from 0.65 to 0.36 per 100 PYs, a change of -0.29/100 PYs (95% CI: -0.06, -0.52). Incidence for adolescent girls and young women modestly increased from 0.61 to 0.69 per 100 PYs, a change of +0.09/100 PYs (95% CI: -0.23, 0.41).

**Conclusions**: HIV incidence declined in six African countries during the period after DREAMS was introduced. However, this progress occurred in all age-sex groups except for adolescent girls and young women, the population the initiative was designed to reach. Further research is needed to understand the reasons for this unexpected finding and to determine how to improve large-scale prevention efforts for the next generation of adolescent girls and young women.

7

# Ugandan Teenage Females with PHIV on DTG Have a Distinct Phenotype Concerning for Future Cardiometabolic Risk

Dirajlal-Fargo S[1], Shan S[2], Ailstock K[3], Cummings M[3], Lucas N[3], Nazzinda R[4], Karungi C[4], Funderburg N[3], Musiime V[4,5], Kityo C[4], McComsey G[6]

*[1]Northwestern University Feinberg School Of Medicine, Chicago, United States, [2]Ann and Robert Lurie Children's Hospital, Chicago, United States, [3]Ohio State University, Columbus, USA, [4]Joint clinical Research Center, Kampala, Uganda, [5]Makerere University, Kampala, Uganda, [6]Case Western Reserve University, Cleveland, USA*

**Background**: We have previously highlighted evidence of ongoing immune activation and cardiometabolic complications in Ugandan children with perinatally acquired HIV (PHIV) in Uganda despite viral suppression on PI or NNRTI-based regimen. Data on body composition and metabolic measures in post pubertal youth on contemporary ART are lacking in Sub-Saharan Africa.

**Methods**: We assessed body composition by whole-body dual energy x-ray absorptiometry (DXA) and metabolic outcomes including: body mass index (BMI), waist/height ratio, fasting lipids (high density lipoprotein (HDL), low density lipoprotein (LDL), total cholesterol (TC)/HDL ratio, triglycerides), and homeostatic model assessment of insulin resistance (HOMA-IR)] in youth with perinatally acquired HIV (YPHIV), HIV-seronegative youth (HIV unexposed) enrolled at the Joint Clinical Research Center in Uganda. Markers of systemic inflammation, immune activation, gut integrity [intestinal fatty acid binding protein (IFAB), a marker of gut epithelial integrity] and translocation [lipopolysaccharide binding protein (LPB), beta d glucan (BDG) a marker of fungal translocation) were measured in the plasma by ELISA. Hierarchical cluster with heat maps were performed using R to identify potential clusters, visualize the distribution of each feature, and characterize the proportion of females and HIV status. The associations between body composition, metabolic outcomes, and inflammatory markers were analyzed using Metscape within Cytoscape.

**Results**: Overall, 50 YPHIV and 50 HIV seronegative youth were enrolled. Median age was 16 years, 52% were females, 58% were post pubertal by Tanner stage. Amongst YPHIV, 96% had HIV RNA <50 copies/mL, 96% were on TDF/3TC/DTG and median ART duration was 13 years (specifically INSTI duration was 1.5 years). Socioeconomic variables were similar between the groups, including economic insecurity, access to clean water and electricity, and education. Dietary diversity scores were lower in YPHIV ($p<0.016$), reflecting a lower dietary variety and nutrient intake. Physical activity questionnaires were used to estimate weekly moderate activity minutes and energy expenditures in kcal/week by questionnaires, and were both higher in YPHIV ($p<0.049$).
Compared to HIV seronegative youth, YPHIV had higher HOMA ($p=0.019$). YPHIV had higher levels of BDG, and IFAB ($p<0.05$ for both), consistent with our previous findings. Two distinct clusters were identified: 1) composed of females with more YPHIV than the other cluster. These participants had higher total body fat and trunk fat, and higher HOMA ($p<0.001$). This cluster also had higher markers of systemic inflammation hsCRP, and higher LBP, sCD14 and BDG ($p\leq0.036$). 2) The second cluster was primarily composed of males with less YPHIV than cluster 1 and with higher lipids including total cholesterol, non-HDL cholesterol and LDL ($p\leq0.008$). The network analysis revealed positive correlations between trunk fat, body fat and HOMA with BDG, as well as HOMA with sCD14 and IFAB.

**Conclusion**: In Uganda, teenage females with YPHIV have evidence of ongoing systemic inflammation, gut barrier dysfunction, bacterial translocation, and metabolic disturbances. This ongoing inflammation and translocation may be associated with body composition and insulin resistance despite viral suppression on DTG. This is clinically significant, as this phenotype has been associated with future risk of cardiometabolic complications and all-cause mortality. Long-term follow-up and future studies are warranted.

8

# Minimising Risk, Maximising Retention: A Cascade Analysis of Vertical HIV Transmission Prevention among Adolescent Mothers and Their Children in the Eastern Cape Province, South Africa

Tolmay J[1], Toska E[1,2], Zhou S[2], Edun O[3], Sherman G[4,5], Cluver L[1,2]

*[1]University of Oxford, Oxford, United Kingdom, [2]University of Cape Town, Cape Town, South Africa, [3]Imperial College London, London, United Kingdom, [4]National Institute of Communicable Diseases, Johannesburg, South Africa, [5]University of the Witwatersrand, Johannesburg, South Africa*

Adolescent mothers living with HIV (LHIV) and their children face significant health and socio-economic risks, compounded by higher rates of non-adherence to antiretroviral treatment (ART) and increased likelihood of vertical HIV transmission compared to adult mothers. However, research on the structural barriers and individual factors influencing access to vertical transmission prevention (VTP) services among this vulnerable population remains sparse. In this study, we use a cascade approach to quantify engagement with VTP services among young mothers and their children, while identifying the most critical sociodemographic factors shaping successful HIV prevention and retention in care.

We analysed data from 1,028 adolescent mothers and their first-born children in a high HIV prevalence, peri-urban area of South Africa's Eastern Cape province. Participants (<20 years at the birth of their first child), were enrolled in the HEY BABY longitudinal cohort study. Between 2017-2019, researchers administered questionnaires covering sociodemographic factors, pregnancy and birth experiences, HIV prevention, health system engagement, and child health. We linked mother-child dyads to HIV test results from the National Health Laboratory Service and abstracted data from children's Road-to-Health (immunisation, health, and development) booklets. Informed by national guidelines, we adapted a four-step cascade for mothers and a two-step cascade for children, calculating engagement and attrition at each step. Finally, we used logistic regression and marginal effects analysis to identify maternal sociodemographic factors associated with step-wise cascade engagement.

In this cohort, 28.8% (296/1,028) of mothers were LHIV. At the first step of the cascade, nearly all mothers attended some antenatal care (98%), though only 80.3% made the recommended 5+ visits, and 57.7% initiated care only in their second or third trimester. Coverage of antenatal HIV testing (or already knowing their status before pregnancy) was at 89.2% (Step 2). More than half of those LHIV received their initial diagnosis during pregnancy. Only 43.1% had evidence of sustained viral suppression throughout the perinatal period (conception to 18 months postpartum) (Step 3). Finally, 71.5% of mothers attended at least one postnatal visit by 10 weeks. Among the 296 children exposed to HIV, 90.5% had any record of HIV testing (Step 5).Only 65.2% received any antiretroviral prophylaxis or treatment (Step 6). By 24 months, 12 (4.1%) were diagnosed with HIV - triple the national vertical transmission rate. Regression analyses revealed that living in urban areas, in informal housing, and alone or with partners, decreased the odds of postnatal care attendance (OR=0.36, p<0.001; OR=0.57, p=0.002; and OR=0.51, p=0.041, respectively). Interaction analysis revealed that the predicted probability of these mothers accessing postnatal care was half as high (37%) as for those in rural, formal housing, living with family (85%). Younger maternal age at pregnancy (<16 years) was associated with lower odds of children accessing testing and treatment (OR=0.43, p=0.005).

Adolescent mothers and their children face unique challenges to service access, especially very young mothers, those in urban areas, and those living in informal housing without the support of their families. These women and children require additional, tailored support to reduce vertical transmission risk and maximise retention in care.

9

# Mental Health Challenges and Substance Use Associated with Poor Viral Suppression and Transition Readiness among Adolescents with HIV Transitioning to Adult Care

Zanoni B[1,5], Sibaya T[2], Magut F[3], Baisley K[3], Upton J[3], Gathers C[1], Marconi V[1,5], Sewnarain L[2], Haberer J[4], Archary M[2,3]

*[1]Emory University School of Medicine, Atlanta, United States, [2]University of KwaZulu-Natal, Durban, South Africa, [3]Africa Health Research Institute, Durban, South Africa, [4]Massachusetts General Hospital, Boston, United States, [5]Emory University Rollins School of Public Health, Atlanta, United States*

**Background**: Adolescents with perinatally-acquired HIV (APHIV) often engage in substance use and experience mental health issues contributing to lower retention and viral suppression after transitioning to adult care.

**Methods**: We are conducting a type 1, hybrid implementation-effectiveness, stepped-wedge, cluster-randomized trial to assess the effectiveness of in-person and mHealth based adolescent-friendly transition intervention (InTSHA-VIP) on viral suppression among APHIV aged 15-19 years in 16 clinics in urban and rural KwaZulu-Natal, South Africa. At baseline, we evaluated depression (PHQ-9), self-esteem (Rosenberg scale), stigma (Internalized AIDS Stigma Scale), and social support (Child and Adolescent Social Support Scale). We assessed factors associated with baseline viral suppression (viral load <200 copies/ml) and transition readiness (HIV Adolescent Readiness for Transition Scale [HARTS]) using generalised estimating equations and generalised linear mixed models respectively, adjusting for age, sex, schooling, geographic location and factors with p-values less 0.2 on bivariable analysis.

**Results**: We enrolled 380 APHIV. At baseline, 279 (84.3%) had viral suppression and 44 (11.6%) had high transition readiness. Overall, 136 (41.2%) reported feeling depressed or sad most days of the year, 48 (14.3%) met criteria for depression, 156 (41.7%) reported using alcohol in the past 30 days, and 43 (11.3%) reported marijuana or drug use in the past 30 days. After adjustment, marijuana use and depression were both associated with reduced odds of viral suppression (adjusted odds ratio (aOR)=0.38; 95%CI=0.16,0.91; p=0.03 and aOR=0.51; 95%CI=0.27,0.96; p=0.04, respectively).

In the unadjusted analysis, higher self-esteem scores were associated with lower transition readiness (mean difference −0.02; 95%CI= −0.02,−0.01; p=0.002), and higher PHQ-9 scores were associated with higher transition readiness, although that difference was not significant (mean difference 0.03; 95%CI=−0.05,0.11; p=0.452). After adjustment, we found no evidence of association between self-esteem scores or PHQ-9 scores and transition readiness.

**Conclusion**: Mental health and substance use play a critical role in viral suppression for APHIV in South Africa. Studies of interventions such as InTSHA VIP addressing these issues are needed to improve viral suppression and transition readiness.

10

# Outcomes of Children and Young Adolescents Receiving ART Under Family-Based DSD Model at Largest Public ART Clinic in Lilongwe, Malawi

Tembo P[1], Mtemang'ombe E[1], Chiwoko J[1], Kachere L[1], Kudzala A[1], Huwa J[1,2], Thawani A[1], Rambiki E[1]

*[1]Lighthouse Trust, Lilongwe, Malawi, [2]Kamuzu University of Health Sciences, Blantyre, Malawi*

**Background**: Family-centered ART delivery model is a DSD designed to keep family members together by synchronizing their appointment dates to reduce costs and remain in care. Lighthouse supported sites adopted family-based DSD clinic in response to challenges observed in children not achieving good retention and viral load (VL) suppression. We compared retention and virological suppression rates at 24months, among children aged (0-14) years, attending a family-based DSD clinic model to standard of care at a largest public ART clinic in Lilongwe, Malawi.

**Material and Methods**: This was a retrospective cohort analysis of CLHIV receiving ART at Martin Preuss Centre through family-based DSD model and standard of care (SoC) between January 2021 and June 2024. Children in SoC group were matched to enrolment date of children into family model. Descriptive analysis was conducted to describe client's clinical and demographic characteristics. Kaplan–Meier was applied to compare outcomes at 24months. Log-rank test was conducted at 5% significance level.

**Results**: The analysis had a total of 749 children receiving ART with mean age 7years (SD=±4) and 380 (51%) females. The reasons for ART initiation included 246(33%) being under 5 children, 321 (43%) WHO (3&4) and 181 (24%) WHO (1&2). The enrolment into service delivery models were 222 (30%), 241 (32%) and 286 (38%) with age groups of (0-4) years, (5-9) years and (10-14) years respectively. A total of 454 (61%) were registered in family-based DSD model whilst 295 (39%) were in standard of care. A total of 743 (99%) children were on Dolutegravir (DTG) based regimen. The average duration in service models was 18months(SD=±12). Retention rate at 24 months post-intervention was 97% (95%CI: 94%-98%) in family DSD model against 90% (95% CI:82%-94%) in standard of care. Log-rank test for equality of survivor functions had p-value = 0.001. The Viral load suppression rate at 24 months post-intervention was 84% (95%CI: 80%-87%) in family DSD model against 68% (95% CI:57%-77%) in standard of care. Log-rank test had p-value = 0.001.

**Conclusion**: The family-based DSD model demonstrated a potential to improve retention and viral load suppression among families with CLHIV struggling to attain better health outcomes. We recommend enrolling many children from families struggling with retention and VL suppression into family DSD model.

11

# Predictors of Treatment Failure in Children Living with HIV Starting First-Line Antiretroviral Therapy in the ODYSSEY Trial

Wyncoll J[1], Archary M[2], Kamolrattana R[3], Mujuru H[4], Kekitiinwa A[5], Violari A[6], Na-Rajsima S[7], Lugemwa A[8], Variava E[6], Cotton M[9], Kityo C[10], Puthanakit T[11], Konigs C[12], Behuhuma O[13], Welch S[14], Saidi Y[15], Marques L[16], Ahimbisibwe G[17], Holden L[1], Giaquinto C[18], Rojo P[19], Gibb D[1], Turkova A[1], White E[1], Ford D[1]

*[1]MRC Clinical Trials Unit at UCL, Institute of Clinical Trials and Methodology, London, United Kingdom, [2]Enhancing Care Foundation, Victoria Mxenge Hospital, Durban, South Africa, [3]Department of Pediatrics, Nakornping Hospital, Chiang Mai, Thailand, [4]University of Zimbabwe, Harare, Zimbabwe, [5]Baylor College of Medicine Children's Foundation, , Uganda, [6]Perinatal HIV Research Unit, University of the Witwatersrand, Johannesburg, South Africa, [7]Pediatric Department, Mahasarakam Hospital, Maha Sarakham, Thailand, [8]Joint Clinical Research Centre (JCRC), Mbarara, Uganda, [9]Family Center for Research with Ubuntu, Department of Paediatrics & Child Health, Stellenbosch University, Tygerberg, South Africa, [10]Joint Clinical Research Centre (JCRC), Kampala, Uganda, [11]HIVNAT, Thai Red Cross AIDS Research Center, Bangkok, Thailand, [12]Goethe University Frankfurt, Department of Paediatrics and Adolescent Medicine, , Germany, [13]Africa Health Research Institute (AHRI), Kwazulu-Natal, South Africa, [14]University Hospitals Birmingham NHS Foundation Trust , Birmingham, United Kingdom, [15]INSERM/ANRS SC10-US19, Essais thérapeutiques et maladies Infectieuses, Villejuif, France, [16]Centro Materno-infantil do Norte, ULSSA , Porto, Portugal, [17]Makerere University-Johns Hopkins University (MU-JHU) Research Collaboration, Kampala, Uganda, [18]University of Padova, Department of Women and Child Health, Padova, Italy, [19]Pediatric Infectious Diseases Unit, Hospital 12 de Octubre, Madrid, Spain*

**Background**: Rates of treatment failure are higher in children living with HIV compared to adults. There are few data on predictors of treatment failure in children starting antiretroviral therapy (ART), especially on dolutegravir-based regimens (DTG).

**Methods**: The ODYSSEY trial demonstrated superior efficacy for DTG versus standard-of-care(SOC). The prognostic value of baseline characteristics across four domains (anthropometrics: weight, middle-upper arm circumference(MUAC), height-for-age and BMI-for-age; HIV clinical indicators: CD4%, CD4/CD8 ratio, viral load and WHO stage; haematology: neutrophils, haemoglobin and platelets; demographics: sex, male caregiver and region) for treatment failure by 96 weeks in children starting first-line ART was investigated using Cox models. All models were adjusted for trial arm and age; fractional polynomials were considered for continuous covariates. Model selection was assessed using bootstrap resampling.

**Results**: 381 children started first-line ART (82% Africa, 13% Thailand, 5% Europe), 309 weighing ≥14kg (154 DTG, 155 SOC (92% efavirenz-based)) and 72 <14kg (35 DTG, 37 SOC (78% boosted lopinavir-based)). At ART-initiation, median age was 10.5 years (IQR:6.5-14.0), CD4% 20%(IQR:12-28), BMI-for-age z-score -0.58(IQR:-1.48-+0.25) and 73(19%) children had ongoing WHO stage 3/4 events (including 40(55%) tuberculosis). 75 children experienced treatment failure by 96 weeks (24 DTG, 51 SOC). The risk of treatment failure decreased with DTG-based ART (HR=0.45, 95%CI:(0.27-0.73), p=0.001), and increasing age (HR=0.92 per year, 95%CI:(0.88-0.96), p<0.001). Within domain-specific models, after adjustment for age and trial arm, low BMI-for-age (HR=0.73 per unit, 95%CI:(0.63-0.85), p<0.001), low CD4% (HR=0.97 per percent, 95%CI:(0.95-0.99), p=0.006), ongoing WHO stage 3/4 event at ART initiation (HR=1.92, 95%CI:(1.17-3.16), p=0.01), high neutrophils (HR=1.17 per cell/mm3, 95%CI:(1.05-1.32), p=0.005), and being at an African site (HR=2.01, 95%CI:(0.78-5.20), p=0.15) independently predicted treatment failure (p<0.2). Weight and MUAC were collinear with age, and height-for-age was not predictive after adjustment for age and BMI-for-age. CD4/CD8 ratio was collinear with CD4%, and log viral load was not predictive after adjustment for age and CD4%. Previous WHO stage 3/4 event, if not ongoing, was not predictive. Haemoglobin and platelets were not predictive after adjustment for age. Sex was not predictive and male caregiver was not predictive after adjustment for age. Bootstrapping showed strong support in domain-specific models for BMI-for-age (selected in 97% of models), CD4% (86%), ongoing WHO stage 3/4 event (83%) and neutrophils (84%), but limited support for region (37%). Variables not selected in domain-specific models were selected in <50% of bootstrap samples. In the full multivariable model, DTG-based ART (HR=0.47, 95%CI:(0.29-0.76), p=0.002), age (HR=0.91 per year, 95%CI:(0.87-0.95), p<0.001), BMI-for-age (HR=0.77 per unit, 95%CI:(0.66-0.90), p=0.001) and CD4% (HR:0.98 per percent, 95%CI:(0.96-1.00), p=0.048) were retained (p<0.1). BMI-for-age (78%) and CD4%

(60%) were most frequently selected in bootstrap samples; ongoing WHO 3/4 stage event (48%), neutrophils (52%), region (51%) were also selected at moderately high frequencies. (There was no evidence that predictors differed between trial arms (interaction p-values>0.1).

**Conclusions**: In ODYSSEY, young age, low BMI-for-age and CD4% at ART initiation predicted higher risk of treatment failure and can be used to direct additional support to these vulnerable children. Other indicators of high risk included ongoing WHO 3/4 stage event and high neutrophil count.

12

# Factors Associated with HIV-1 DNA Dynamics in Early Treated Children with Perinatal HIV

Tagarro García A[1], Reddy K[2], Dominguez-Rodriguez S[3], Smit T[2], Spyer M[4], Barnabas S[5], Lain M[6], Otwombe K[7], Maiga A[8], Nampossa T[9], Moledan C[2], Rojo P[1], Giaquinto C[10], Rossi P[11], Ndung'u T[2]

*[1]Instituto de Investigación 12 de Octubre. Hospital Universitario Infanta Sofía. Universidad Europea De Madrid, Madrid, Spain, [2]Africa Health Research Institute, SA, , , [3]Instituto Investigación 12 de Octubre, Madrid, Spain, , , [4]UCL, UK, , , [5]Stellenbosch University, SA, , , [6]Fundação Ariel Glaser para o Sida Pediátrico, Mozambique, , , [7]PHRU, SA, , , [8]CH Gabriel Toure, Bamako, Mali, , , [9]CISM, Mozambique, , , [10]Penta Foundation, Italy, , , [11]Universitá Tor Vergata, Rome, Italy*

**Background**: This study analyzed the total HIV reservoir, serially for 4 years, in African children who started ART early in life and identified factors associated with reservoir size dynamics.

**Methods**: Participants were infants from the EARTH-EPIICAL Cohort established in South Africa, Mozambique, and Mali where HIV was diagnosed shortly after birth followed by early ART initiation. Total HIV-1 DNA was analyzed longitudinally in all 208 participants, from ART initiation to 4 years (or death or loss to followup), from PBMCs by droplet digital PCR.

**Results**: 155/208 (74%) had a follow-up >12 months and were analyzed. ART was initiated at a median of 34 days [IQR, 26-73] with median follow-up time of 44.1 months [IQR 37.6-45.5]. A total of 19/155 (12%) children achieved undetectable HIV-1 DNA after 4 years of follow-up. Overall, total HIV DNA levels decreased over time from pre-ART to 4 years post-ART. The median decay slope was -0.020 [IQR:-0.042 to 0.00] log10 total HIV-1 DNA copies/mL per month (-0.212 [IQR:- 0.503 to 0.077] per year). A total of 114/155 (73.6%) presented a negative slope, decreasing their HIV-DNA over time, and 38/155(24.5%) a positive slope. Determinants of faster HIV-1 DNA decay were lower pre-ART viral load (p<0.001) and region (Mali, p=0.001). Children with who achieved sustained viral load undetectable for >12 months showed a faster virological decay. Factors associated with a smaller reservoir after 3 years of ART were lower pre-ART viral load (p<0.01), faster rate of total HIV-1 DNA decay in the first year (p<0.05) and female sex (p<0.05).

**Conclusions**: Early virological parameters such as pre-ART viral load and initial HIV-1 DNA decay rate are important predictors of total viral reservoir size in early treated children living with HIV. A smaller reservoir in females highlights that sex differences should be explored to understand mechanisms of HIV reservoir control.

13

# Efficacy and Safety of Emtricitabine/Tenofovir Alafenamide (F/TAF) Plus Cobicistat-Boosted Protease Inhibitors in Children with HIV-1 Aged 2-<12 Years and Weighing 14-<40 kg: Week 48 Outcomes

Mujuru H[1], Strehlau R[2], Kosalaraksa P[3], Deville J[4], Pan M[5], Okware B[5], Vieira V[5], Rakhmanina N[6]

*[1]University of Zimbabwe, Harare, Zimbabwe , [2]University of the Witwatersrand, Johannesburg, South Africa, [3]Khon Kaen University, Khon Kaen, Thailand, [4]UCLA Mattel Children's Hospital, University of California Los Angeles, Los Angeles, USA, [5]Gilead Sciences, Inc., Foster City, USA, [6]Children's National Hospital, The George Washington University, Washington DC, USA*

**Background**: Tenofovir alafenamide (TAF) is a nucleoside reverse transcriptase inhibitor with improved renal and bone safety compared with tenofovir disoproxil fumarate (TDF). Emtricitabine (F)/TAF is approved in Europe and the US for use with boosted protease inhibitors in adults and older children, and is being evaluated with cobicistat-boosted atazanavir (ATV/co) or darunavir (DRV/co) in younger children in an ongoing open-label Phase 2/3 trial (NCT02016924). Here, we report efficacy and safety outcomes through 48 weeks in children with HIV aged 2-<12 years and weighing 14-<40 kg.

**Material and Methods**: Participants aged 6-<12 years, weighing 25-<40 kg, received 200/25 mg F/TAF + ATV/co or DRV/co (Cohort 2). Participants aged ≥2 years and weighing 14-<25 kg received 120/15 mg F/TAF + ATV/co or DRV/co (Cohort 3). Baseline characteristics, virologic suppression, changes in clinical parameters, and changes in bone mineral density (BMD; assessed by dual-energy X-ray absorptiometry) are reported.

**Results**: Twenty-three participants were enrolled into Cohort 2 and 26 participants were enrolled into Cohort 3. In Cohort 2, 61% of participants were female and 91% were Black; at baseline, median (range) age was 10 (8-12) years, 96% of participants had HIV-1 RNA <50 copies/mL, and median (Q1, Q3) CD4 cell count and percentage were 876 (671, 1063) cells/µL and 36.2% (31.1, 41.0), respectively. In Cohort 3, 54% of participants were female and 92% were Black; at baseline, median (range) age was 6 (3-10) years, 92% of participants had HIV-1 RNA <50 copies/mL, and median (Q1, Q3) CD4 cell count and percentage were 940 (705, 1259) cells/µL and 34.8% (29.5, 40.8), respectively. At Week 48, 100% (23/23) of participants in Cohort 2 and 96% (25/26) in Cohort 3 had HIV-1 RNA <50 copies/mL; CD4 cell counts remained stable, with a median (Q1, Q3) CD4 cell count and percentage of 785 (630, 1133) cells/µL and 38.7% (32.5, 42.1), respectively for Cohort 2, and 769 (618, 1064) cells/µL and 37.4% (32.4, 39.6), respectively, for Cohort 3. Two participants, both in Cohort 3, each experienced two Grade 3/4 study drug–related treatment-emergent adverse events (TEAEs). All four TEAEs were of elevated bilirubin/hyperbilirubinemia (Grade 3) and were considered related to ATV; one was classified as a serious TEAE.

From evaluable data, no clinically significant changes were observed from baseline to Week 48 in renal parameters (estimated glomerular filtration rate), height and weight parameters (height, weight, and BMI Z-scores), and BMD (spine, and total body less head).

**Conclusions**: Over 48 weeks of treatment, F/TAF + ATV/co or DRV/co in children aged 2-<12 years and weighing 14-<40 kg maintained high rates of virologic suppression, with an acceptable safety profile. There were no renal, bone, or weight gain/loss concerns, supporting further evaluation of these drug combinations in pediatric populations.

14

# Effectiveness and Safety of Dolutegravir (DTG) in Infants and Children Aged Under 12-Years at Start of DTG in Europe and Thailand

Scott K[1], Castro H[1], O'Rourke J[1], Edgar K[1], Ene L[2], Galli L[3], Goetghebuer T[4], Henegar C[5], Hoffmann T[6], Koenigs C[7], Marczyńska M[8], Naver L[9,10], Noguera-Julian A[11], Paioni P[12], Puthanakit T[13], Rojo P[14], Spoulou V[15], Tantawarak N[16], Vannappagari V[5], Volokha A[17], Turkova A[1], Judd A[1,18], Collins I[1], Crichton S[1]

*[1]MRC Clinical Trials Unit at University College London, London, United Kingdom, [2]"Dr. Victor Babes" Hospital for Infectious and Tropical Diseases, Bucharest, Romania, [3]Infectious Disease Unit, Meyer Children's Hospital, IRCCS; Department of Health Sciences, University of Florence, Florence, Italy, [4]Hospital St Pierre Cohort, Brussels, Belgium, [5]Epidemiology and Real World Evidence, ViiV Healthcare, Durham, United States, [6]Department of Pediatrics, Hvidovre University Hospital, Copenhagen, Denmark, [7]Goethe University, University Hospital Frankfurt, Department of Paediatrics and Adolescent Medicine, Frankfurt, Germany , [8]Department of Children's Infectious Diseases, Medical University of Warsaw, Warsaw, Poland, [9]Department of Pediatrics, Karolinska University Hospital, Stockholm, Sweden, [10]Department of Clinical Science, Intervention and Technology (CLINTEC), Karolinska Institutet, Stockholm, Sweden, [11]Servei de Malalties Infeccioses, Hospital Sant Joan de Deu, Universitat de Barcelona, Barcelona, Spain, [12]Division of Infectious Diseases and Hospital Epidemiology, University Children's Hospital Zurich, Zurich, Switzerland, [13]Department of Pediatrics, and School of Global Health, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [14]Hospital La Paz and La Paz Research Institute, Madrid, Spain. CIBERINFEC, Madrid, Spain, [15]First Dept of Paediatrics, "Agia Sofia" Children's Hospital, Athens, Greece, [16]Khon Kaen University, Khon Kaen, Thailand, [17]Shupyk National Healthcare, University of Ukraine, Kyiv, Ukraine, [18]Fondazione Penta ETS, , Italy*

**Background**: There are limited detailed data on safety and virological response to dolutegravir(DTG) in infants and children living with HIV(CLHIV) in routine care settings.

**Methods**: Data on CLHIV aged <12 years at DTG start were pooled from 15 cohorts in the Epidemiology of Paediatric and Pregnancy Infections Cohort Collaboration(EPPICC). Effectiveness outcomes were proportion virally suppressed(VS) <50copies/mL at 24/48/96/144/192(±12) weeks after DTG start, and cumulative incidence of viral failure (≥2 viral load(VL) ≥400c/mL or 1 VL≥400c/mL followed by DTG discontinuation). Safety outcomes were frequency of clinical adverse events(AEs) and serious AEs(SAEs) causally associated with DTG, all SAEs irrespective of relationship to DTG, incidence of DAIDS grade laboratory abnormalities, and DTG discontinuation (all-cause and treatment-related).

**Results**: Of 524 CLHIV ever on DTG, characteristics at DTG start were: median[IQR] age 9[6,11] years, 234/501(47%) were male, 429/461(93%) perinatal HIV, 187/384(36%) Black ethnicity; 73(14%) ART-naïve, 247(47%) ART-experienced/suppressed (VL<200c/mL), 60(11%) ART-experienced/viraemic (VL≥200c/mL), and 144(27%) ART-experienced/unknown VL. Median [IQR] duration on DTG was 118[56, 190] weeks. Viral suppression on DTG ranged from 83-96% between 24-192 weeks; highest among those ART-experienced/suppressed and lowest among ART-experienced/viraemic at DTG start (91-99% and 64-77%, respectively). At 48 and 96 weeks after DTG start, the overall percentage (95% CI) suppressed <50c/mL was 87%(83%,90%) and 90%(86%,94%) respectively. VS was significantly higher in those ART-experienced/suppressed at DTG start, at 48 weeks (92%(88%,96%)) and 96 weeks (96%(91%,99%)), than in those ART-naïve (68%(50%,82%) and 81%(62%,94%) respectively) and those ART-experienced/viraemic (70%(53%,84%) and 77%(56%,91%)) (overall ART/VL status p<0.01 for VS at 48 and 96 weeks). Overall cumulative incidence (95% CI) of viral failure by 96 and 144-weeks was 4%(3%-7%) and 6%(4%-9%), respectively. Incidence varied by ART/VL status at DTG start (p<0.001); lowest in ART-experienced/suppressed (2%(0%-5%) for both timepoints), and higher among ART-naïve (7%(3%-19%) and 10%(4%-24%) respectively) and ART-experienced/viraemic (16%(7%-32%) and 25%(13%-46%) respectively). 12(2%) CLHIV experienced 17 AEs and 1 SAE (headache) causally related to DTG. There were 4 further SAEs, 2 not related to DTG (dermatoid cysts, HIV encephalopathy), and 2 with unknown relationship to DTG (candida skin rash, parasuicide); 2/5 cases with SAEs discontinued DTG. No deaths were reported. Among 447/524(85%) with laboratory data, 19(4%) experienced 22 DAIDS grade ≥3 events (<1 event per 100 person-years for all markers). Rates of grade 1 and 2 events were higher but were ≤15 per 100 person-years. Overall, 52(10%) discontinued DTG at a median of 101[34, 155] weeks: 2/52(4%) due to viral failure, 6/52(12%) toxicity, 17/52(33%) treatment simplification and 27/52(52%) other/unknown reasons. Cumulative incidence of all-cause discontinuations was 6%(4%-9%) and 10%(8%-

14%) by 96 and 144-weeks, respectively, and 1.4%(0.6%-2.8%) for both timepoints for treatment-related discontinuations (viral failure and toxicity).

**Conclusions**: This is one of the largest cohorts of infants and children on DTG with up to 4 years follow-up. Overall, high levels (>80%) of viral suppression were sustained through 4 years on DTG, although the proportions suppressed were markedly lower among those ART-naive and ART-experienced/viraemic at DTG start. Similarly, these subgroups had significantly higher incidence of viral failure. There were few SAEs, low rates of laboratory AEs and low incidence of treatment-related discontinuations.

15

# Efficacy of Second-Line Dolutegravir- versus Boosted Protease Inhibitor-Based ART in Children and Adolescents Living with HIV at 96 and 144 Weeks: Pooled Analysis of the ODYSSEY and CHAPAS-4 Trials

Amuge P[1], Jackson C[2], Bwakura-Dangarembizi M[3], Kityo C[1], Lugemwa A[4], Chabala C[5], Nyathi M[6], Nduna B[7], Musoke P[8], Yawe I[4], Kaudha E[1], Musoro G[3], Ankunda R[4], Bbuye D[9], Violar A[10], Variava E[10], Archary M[11], Cotton M[12], Cressey T[13], Ndebele W[5], Mulenga V[14], Mwamabazi M[7], Szubert A[2], White E[2], Walker A[2], Elyanu P[9], Kekitiinwa A[9], Bamford A[2,15], Rojo P[16], Crichton S[2], Gibb D[2], Turkova A[2,15], Musiime V[1,17], Ford D[2]

*[1]Joint Clinical Research Center, Kampala, Uganda, [2]Medical Research Council Clinical Trials Unit at University College London, Institute of Clinical Trials and Methodology, London, UK, [3]University of Zimbabwe Clinical Research Centre, Harare, Zimbabwe, [4]Joint Clinical Research Center, Mbarara, Uganda, [5]University of Zambia, School of Medicine, Lusaka, Zambia, [6]Mpilo Central Hospital, Bulawayo, Zimbabwe, [7]Arthur Davidson Children's Hospital, Ndola, Zambia, [8]Makerere University–Johns Hopkins University Research Collaboration, Kampala, Uganda, [9]Baylor College of Medicine Children's Foundation-Uganda, Kampala, Uganda, [10]Perinatal HIV Research Unit, University of the Witwatersrand, Johannesburg, South Africa, [11]Department of Paediatrics and Children Health, King Edward VIII Hospital, University of KwaZulu–Natal, KwaZulu–Natal, South Africa, [12]Family Centre for Research with Ubuntu, the Department of Paediatrics and Child Health, Stellenbosch University , Tygerberg, South Africa, [13]AMS-PHPT Research Collaboration, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, Thailand, [14]University Teaching Hospital, Lusaka, Zambia, [15]University College London Great Ormond Street Institute of Child Health, London, UK, [16]Pediatric Infectious Diseases Unit, Hospital Universitario 12 de Octubre, Madrid, Spain, [17]Paediatrics and Child Health Department, Makerere University, Kampala, Uganda*

**Background**: Dolutegravir (DTG)-based antiretroviral therapy (ART) is being rolled out globally for adults and children. The ODYSSEY and CHAPAS-4 trials showed superior 96-week efficacy of DTG-based ART compared to boosted protease inhibitor (bPI)-based ART in children and adolescents living with HIV switching to second-line treatment. Limited data exists on longer-term efficacy of DTG for children. Here we report pooled 96- and 144-week, efficacy results.

**Material & Methods**: Children weighing ≥14kg, aged <18years, initiating second-line DTG-, or atazanavir (ATV/r)- or lopinavir (LPV/r)-based ART (grouped as bPI) were included. Children randomised to ritonavir-boosted darunavir were excluded as there were none in ODYSSEY. The primary outcome was the proportion of children alive with viral load (VL)<400 copies/mL. Logistic regression models adjusted for trial, baseline age, CD4% and NRTI backbone, followed by marginal estimation of risk differences, were used to estimate the difference between treatment groups (DTG-bPI) in intention-to-treat proportions meeting the primary outcome at 96 and 144 weeks. We describe treatment switches due to treatment failure. This work is part of the EDCTP2 programme supported by the European Union (grant number RIA2019PD-2882). Views expressed are not necessarily those of EDCTP.

**Results**: Outcome data was available for 1058 participants at 96 and/or 144 weeks: 418 (192 in ODYSSEY, 226 CHAPAS-4) allocated to DTG and 640 (188 ODYSSEY, 452 CHAPAS-4) bPI. Overall, 55% were male, 95% acquired HIV vertically, and 49% were enrolled in Uganda, 30% Zimbabwe, 14% Zambia, 6% South Africa, 1% Thailand, 0.4% Europe. Median [IQR] age at enrolment was 11.2 years [8.4,13.7], lower in CHAPAS-4 (10.6 years [8.1,13.1]) than ODYSSEY (12.5 years [9.2,14.9]). Baseline characteristics were similar between treatment groups, except for CD4% and NRTI backbone. Median CD4% was 24.7% [13.5,34.0] in the DTG group and 27.6% [18.8,35.0] in the bPI group. NRTI backbones were tenofovir disoproxil fumarate (12% DTG;8% bPI), tenofovir alafenamide (26% DTG;35% bPI), abacavir (38% DTG;33% bPI), zidovudine (23% DTG;24% bPI).

In intention-to-treat analyses at 96 and 144 weeks, 1057 (417 DTG; 640 bPI) and 720 (309 DTG; 411 bPI) participants, respectively, had outcome data. There were two deaths, one on DTG (week12) and one on LPV/r (week33). At 96weeks, 90% children (95%CI 87-93%) were alive with VL<400 copies/mL in the DTG group and 83% (80-85%) in the bPI group; adjusted difference 8% (4-12%, p<0.001, test for heterogeneity between ODYSSEY/CHAPAS-4 p=0.12). Corresponding figures at 144weeks were 86% (83-90%) in DTG and 81% (78-85%) in bPI; adjusted difference 5% (0-11%, p=0.048, heterogeneity p=0.48). By week 144, 13 children (1 DTG;12 bPI) had switched ART for treatment failure. The child failing on DTG started ATV/r in addition to DTG. In the bPI group, 8 children switched to DTG (including 3 to DTG+DRV/r).

**Conclusions**: Virological suppression was superior on DTG-based second-line ART vs. LPV/r or ATV/r over 144weeks. Differences at 144weeks may be underestimated due to switching from bPI to DTG following guideline changes. By 144weeks, only one child on second-line DTG had switched to third-line ART, potentially because children resuppressed spontaneously, or due to lack of alternative treatment options.

16

# Silent Threats and Missed Opportunities: Rethinking Pediatric TB/HIV Co-Infection Diagnosis in the Era of Advanced HIV Treatment and Universal Test-and-Treat

Ahanonu U[1], **Ojiaku C**[2]

*[1]Cook County Health, Chicago, United States, [2]STRIPES, Abuja City, Nigeria*

**Background**: Despite the global scale-up of universal test-and-treat (UTT) for HIV, pediatric TB remains underdiagnosed and underprioritized. Newer diagnostic platforms and preventive therapy regimens exist, yet data suggest persistent underutilization and implementation bottlenecks—especially in children living with HIV (CLHIV). This study evaluates diagnostic patterns, preventive therapy coverage, and clinical profiles of TB/HIV co-infection in children and adolescents in the context of differentiated HIV care and expanding molecular diagnostics.

**Methods**: A multicenter prospective cohort study was conducted across four pediatric HIV care centers in South Africa, Malawi, Nigeria, and Kenya from 2021–2024. Children (0–18 years) living with HIV were enrolled and followed over 24 months. TB screening incorporated symptom screening, chest X-ray, GeneXpert MTB/RIF Ultra, and stool-based molecular diagnostics. We assessed TB preventive treatment (TPT) coverage, ART status, immune recovery (CD4 counts and viral suppression), and TB diagnosis and outcomes. Multivariate regression identified predictors of missed or delayed TB diagnosis.

**Results**: Among 1,038 CLHIV, 198 (19.1%) were diagnosed with active TB during follow-up. Notably, 38% of cases had no symptoms at screening, highlighting limitations of symptom-based algorithms. Stool-based molecular testing yielded 23% additional cases not captured by sputum or symptom-based testing. TPT coverage remained suboptimal at 47%, despite policy endorsement. Children with unsuppressed viral load or CD4 <500 cells/mm³ had higher odds of TB (OR 2.4, 95% CI 1.7–3.3). Adolescents (ages 10–18) had the lowest TPT uptake and highest rate of rifampicin resistance. TB diagnosis was missed or delayed in 31% of cases, leading to 11% mortality in that group.

**Conclusions**: Even in the era of UTT and differentiated service delivery, pediatric TB/HIV co-infection remains a persistent blind spot—exacerbated by reliance on symptom screening, missed TPT, and limited uptake of innovative diagnostics. Adolescents living with HIV are especially vulnerable to rifampicin-resistant TB and poor outcomes.

**Implications for Practice**: Pediatric TB detection strategies must evolve beyond symptom screening, incorporating stool-based diagnostics, digital adherence tools for TPT, and adolescent-specific TB/HIV service delivery models. As ART access increases, programs must not assume TB risk is diminished—early detection and tailored prevention remain essential to reducing mortality and interrupting transmission in high-burden regions.

17

# Effect of TB Preventive Treatment on TB Incidence and Non-TB-Related Mortality among Children and Adolescents Living with HIV Initiated on Antiretroviral Therapy in Cameroon, 2020-2022

Tchounga B[1], Tchendjou P[1], Simo L[1], Tchakounté Youngui B[1], Tabiayuk A[2], Kana R[1], Shu E[1], Djikeussi T[1], Ajeh R[3,4], Lekeumo S[1], Moussa Fadil Y[2], Takem E[2], Fabou M[1], Bosh K[2], Casenghi M[5], Fokam J[4,6], Denoed-Ndam L[5], Ditekemena J[7], Bhatt N[8], Jalloh M[2], Tiam A[8,9]

*[1]Elizabeth Glaser Pediatric Aids Foundation, Yaounde, Cameroon, [2]Division of Global HIV and TB, US Centers for Disease Control and Prevention, Yaoundé, , Yaoundé, Cameroon, [3]Global Funds and Partners' subvention unit, Ministry of Public Health, Yaoundé, Cameroon, [4]Faculty of Health Sciences, University of Buea , Buea, Cameroon, [5]Elizabeth Glaser Pediatric AIDS Foundation, , Geneva, Switzerland, [6]National AIDS Control Committee, Ministry of Health, Yaoundé, Cameroon, [7]Elizabeth Glaser Pediatric AIDS Foundation , Kinshasa, DRC , [8]Elizabeth Glaser Pediatric AIDS Foundation, , Washington, D.C., USA, [9]George Washington University Milken Institute School of Public Health, Washington, D.C., USA*

**Background**: Tuberculosis (TB) remains the major cause of death among children and adolescents living with HIV (CALHIV). Systematic screening for TB symptoms before antiretroviral therapy (ART) initiation and early initiation of TB preventive treatment (TPT) were identified as game changers to prevent TB disease and mortality among CALHIV. We assessed the effect of TPT on TB incidence and non-TB related mortality and estimated the TB-free survival probability among CALHIV in Cameroon.

**Methods**: This was a retrospective cohort study of CALHIV (aged 0-19 years) initiated on ART between October 2020 and September 2022, in the Littoral and South regions, where a six-month course of daily isoniazid (INH) was the available TPT regimen. TPT uptake categories included initiated and completed INH (TPT-completers), initiated but not completed INH (TPT-non-completers), and never initiated INH (TPT-non-initiators). For TB incidence and mortality (all causes excluding incident TB), we considered the time at risk started three months following ART initiation to exclude undiagnosed TB missed during ART initiation. We used the Poisson regression model to estimate TB incidence and Kaplan Meier method to estimate TB-free survival probabilities.

**Results**: Overall, 1,079 newly diagnosed CALHIV initiated ART, among which 457 (42.3%) aged [0-10] years, and 681 (63.1%) were females. The 1,079 CALHIV, included 500 (46.3%) TPT-completers, 410 (38.0%) TPT-non-completers, and 169 (15.7%) TPT-non-initiators. After median follow up of 21 (IQR 10.4 - 28.9) months, 11 TB incident cases were reported (7.1/1,000-person-year), including 3 (3.3/1,000-person-year) among TPT-completers, 7 (13.9/1,000-person-year) among TPT-non-completers, and 1 (7.1/1,000-person-year) among TPT-non-initiators. During the same period, 61/1,079 (5.7%) deaths occurred, lower among TPT-completers (9/500; 1.8%) than TPT-non-completers (22/410; 5.4%) and TPT-non-initiators (28/169; 16.6%), p<0.001. The TB-free survival probability at 33 months following ART initiation was higher among TPT-completers (96.8%, 95%CI: 94.2-98.2) compared with TPT-non-completers (90.7%, 95%CI: 86.6-93.6) and TPT-non-initiators (72.6%, 95%CI: 61.0-81.3), p-value <0.001.

**Conclusion**: CALHIV who initiate and complete TPT had lower TB incidence, reduced mortality and higher TB-free survival probability compared to those who did not initiate or did not complete TPT. These programmatic results emphasized the importance of systematic TB screening, TPT initiation at the time of ART initiation, and effective TPT completion among CALHIV.

18

# Infectious Morbidity among Children HIV-Exposed, Uninfected in South Africa: Elevated Risk in Infancy but Not Thereafter

Anderson K[1], Madlala H[2], Nyemba D[2,3], Dinkele R[1,4], Boulle A[1,4,5], Myer L[2], Davies M[1,4,5], Kalk E[1]

*[1]Centre for Integrated Data and Epidemiological Research, School of Public Health, Faculty of Health Sciences, University Of Cape Town, Cape Town, South Africa, [2]Division of Epidemiology & Biostatistics, School of Public Health, University of Cape Town, Cape Town, South Africa, [3]Wits RHI, University of the Witwatersrand, Johannesburg, South Africa, [4]Health Intelligence, Western Cape Department of Health and Wellness, Cape Town, South Africa, [5]Division of Public Health Medicine, School of Public Health, Cape Town, South Africa*

**Background**: Increased risk of infectious morbidity and hospitalisation has been reported during infancy among children HIV-exposed uninfected (CHEU) compared to children HIV-unexposed uninfected (CHUU). However, limited data exist on the risks beyond infancy.

**Methods**: We enrolled pregnant women, with and without HIV, from a primary healthcare facility in a lower-income area in Cape Town, South Africa (2017-2018). We tracked their children's HIV test results and hospitalisations using routine electronic healthcare data. Whereas we previously described hospitalisation in their first year of life, in this analysis we describe admissions from age 1 to <5 years. We used random-effects Poisson regression to calculate adjusted incidence rate ratios (aIRR) for infectious-cause hospitalisation among CHEU vs CHUU, clustered by infant and adjusted for child sex and vaccination status, maternal age and education, and type of housing. Second-born twins and children with major congenital anomalies regarded as high-risk for infection-related hospitalisation were excluded from regression analyses. We performed a sensitivity analysis with additional adjustment for prior infectious-cause hospitalisation during infancy.

**Results**: Among 446 CHEU and 455 CHUU, 146 admissions occurred from age 1 to <5 years: 58% of admissions (n=85) were due to infectious causes. Reasons for infectious-cause hospitalisations included lower respiratory tract infections (47%, n=40, including 3 with tuberculosis), acute gastroenteritis (22%, n=19), upper respiratory tract infections (11%, n=9), skin infections or abscesses (9%, n=8), urinary tract infections (4%, n=3), meningitis (2%, n=2) and other causes (5%, n=4). Reasons for non-infectious hospitalisations included elective surgery (39%, n=24), trauma (16%, n=10, including 5 with burns), accidental poisoning (11%, n=7), chemotherapy (n=4) and other reasons (26%, n=16).
All-cause hospitalisation from age 1 to <5 years occurred in 9.2% of CHEU and 10.5% of CHUU, whereas infectious-cause hospitalisation occurred in 6.5% of CHEU and 7.3% of CHUU. Crude incidence rate for infectious-cause hospitalisation was 2.4 (CHEU) vs. 2.4 (CHUU) per 100 child-years from age 1 to <5 years (IRR=1.0; 95% CI 0.6-1.6), compared to 15.6 (CHEU) vs. 7.6 (CHUU) per 100 child-years from age 29 days to <1 year (IRR=2.1; 95% CI 1.3–3.2).
Adjusted analyses showed no evidence of increased hospitalisation rates among CHEU compared to CHUU from age 1 to <5 years (aIRR=0.75; 95% CI 0.37-1.50; sensitivity analysis with adjustment for prior admissions in infancy aIRR 0.70; 95% CI 0.35-1.41). This is in contrast with our previous findings, when post-neonatal infectious-cause hospitalisation at age <12 months occurred among 10.3% of CHEU and 5.9% of CHUU. Using the same methodology and covariate adjustment, we previously found increased infectious-cause hospitalisation rates during infancy among CHEU vs CHUU (aIRR=2.8; 95% CI 1.5–5.4).

**Conclusions**: Although CHEU are at higher risk of infectious-cause hospitalisation during infancy, this elevated vulnerability does not appear to persist beyond the first year of life. These findings highlight infancy as a critical window for targeted interventions, while offering reassurance about the longer-term infectious morbidity risk in this population.

19

# Growth Trajectories Before and After Switching to Dolutegravir in Children Living with HIV in the ODYSSEY Trial

Chan M[1], Crichton S[1], Mujuru H[2], Kekitiinwa A[3], Lugemwa A[4], Kityo C[5], Ahimbisibwe G[6], Variava E[7], Violari A[7], Cotton M[8], Archary M[9], Cressey T[10], Puthanakit T[11], Bandi S[12], Bwakura-Dangarembizi M[2], Bbuye D[3], Atwine L[4], Kaudha E[5], White E[1], Giaquinto C[13], Rojo P[14], Gibb D[1], Turkova A[1], Ford D[1], and the ODYSSEY Trial Team .[1]

*[1]MRC Clinical Trials Unit at UCL, Institute of Clinical Trials and Methodology, London, United Kingdom, , , [2]University of Zimbabwe, Harare, Zimbabwe, , , [3]Baylor College of Medicine Children's Foundation, Uganda, , , [4]Joint Clinical Research Centre (JCRC), Mbarara, Uganda, , , [5]Joint Clinical Research Centre (JCRC), Kampala, Uganda, , , [6]Makerere University-Johns Hopkins University (MU-JHU) Research Collaboration, Kampala, Uganda, , , [7]Perinatal HIV Research Unit, University of the Witwatersrand, Johannesburg, South Africa, , , [8]Family Center for Research with Ubuntu, Department of Paediatrics & Child Health, Stellenbosch University, Tygerberg, South Africa, , , [9]Enhancing Care Foundation: King Edward VIII Hospital, Durban, South Africa, , , [10]AMS-PHPT Research Collaboration, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, Thailand, , , [11]HIVNAT, Thai Red Cross AIDS Research Center, Bangkok, Thailand, , , [12]Leicester Royal Infirmary, UK, , , [13]University of Padova, Department of Women and Child Health, Padova, Italy, , , [14]Pediatric Infectious Diseases Unit, Hospital 12 de Octubre, Madrid, Spain, ,*

**Background**: Growth changes in children living with HIV on antiretroviral treatment have been reported. However, growth trajectory data before and after switching to a dolutegravir (DTG)-based regimen in children are limited.

**Methods**: The ODYSSEY trial completed extended follow-up on 01May2023, with most children switching to DTG-based regimens between 06April2017 and 26April2023, as per local guidelines. Children in the standard-of-care (SOC) arm ≥14Kg cohort who switched to a DTG-based regimen with body-mass-index z-score (zBMI) data available in the 96 weeks before and after switch were included. Adjusted linear spline mixed-models with random intercept for children, random time slopes and correlated residuals were used to estimate and compare rates of change in zBMI (growth rate) before versus after DTG switch across subgroups by characteristics at DTG switch: sex, age, ethnicity, mode of transmission, country, viral load (VL) status (<400/≥400cp/ml), zBMI, previous anchor and backbone drugs. Data were censored at the earliest of DTG stop or censoring date.

**Results**: Of the 239 children included, 54% were male, 92% Black-African (52% Uganda, 20% Zimbabwe, 21% South Africa, 7% EU/Thailand) and 89% vertically infected. Prior to DTG switch, 85% had VL<400cp/ml, 65% were on a protease inhibitor (PI) anchor drug, 33% on non-nucleoside-reverse-transcriptase-inhibitor (NNRTI); 66% were on abacavir (ABC) backbone, 14% zidovudine (ZDV) and 18% tenofovir (TDF). At DTG switch, median [IQR](range) age was 15.4 [12.3,18.0](7.8,20.8) years and zBMI -0.7 [-1.5,+0.1](-4.4,+1.9).

Overall, the adjusted mean rate of change in zBMI in the 96 weeks before DTG switch was unchanged [0.00 (95%CI:-0.02,+0.02)] and increased to +0.03 (95%CI:0.00,+0.06) per 12 weeks in the 96 weeks after switch, with fastest increase in the first 48 weeks [+0.04 (95%CI:+0.02,+0.06)]. The estimated mean zBMI at 96 weeks before, at and after switch was -0.63 (95%CI:-0.72,-0.54), -0.62 (95%CI:-0.69,-0.54) and -0.48 (95%CI:-0.61,-0.35), respectively.

Across subgroups, females experienced the largest rate increase in the 96 weeks after switch [+0.08 (95%CI:+0.04,+0.12)] compared to before switch [+0.02 (95%CI:-0.01,+0.05)] and males [-0.03 (95%CI:-0.08,+0.02)] after switch. Children aged ≥15 years at DTG switch had the greatest rate increase in the 96 weeks after switch [+0.07 (95%CI:+0.02,+0.12)] compared to before switch [0.00 (95%CI:-0.03,+0.03)].

In children with zBMI at DTG switch <-1, rate decreased in the 96 weeks before switch [-0.03 (95%CI:-0.06,+0.01)] and increased significantly after switch [+0.11 (95%CI:+0.05,+0.16)]; in those with zBMI ≥+1, rate increased in the 96 weeks before switch [+0.16 (95%CI:+0.09,+0.24)] and stabilised after switch [-0.01 (95%CI:-0.11,+0.04)].

Children on TDF or ZDV prior to DTG switch experienced the fastest zBMI increase in the 48 weeks after switch [+0.09 (95%CI:+0.04,+0.14); +0.08 (+0.03,+0.12)] compared to before switch [-0.03 (95%CI:-0.07,+0.02); -0.01(-0.06,+0.03)] and compared to rate in children on ABC prior to DTG switch [+0.03 (95%CI:+0.01,+0.05)] in the 48 weeks after switch.

**Conclusion**: Children ≥15 years, female, on prior TDF/ZDV and with lower zBMI (<-1) at DTG switch were estimated to achieve faster zBMI increase on

DTG. Growth in children with zBMI ≥+1 (≥overweight) stabilised on DTG following increases before switch. Altogether, these findings support the beneficial growth effect of DTG in these subgroups of children consistent with the literature.

# ORAL POSTER ABSTRACT PRESENTATIONS

## International Workshop on Pediatrics & HIV

Hybrid Meeting

11 – 12 July 2025
Kigali, Rwanda

20

# Telomere Length and Neurodevelopmental Outcomes among Children Exposed and Not Exposed to HIV in Kenya

Neary J[1], Pan T[1], Njuguna I[1,2], King'e M[3], McBride F[1], Matemo D[2], Onyango A[2], Bulterys M[1], Owiti P[3], Adogo C[2], Wamalwa D[3], Benki-Nugent S[1], Eisenberg D[1], John-Stewart G[1]

*[1]University of Washington, Seattle, United States, [2]Kenyatta National Hospital, Nairobi, Kenya, [3]University of Nairobi, Nairobi, Kenya*

**Background**: Telomere length (TL) is an important biomarker of biological aging. Studies measuring the association between TL and neurodevelopment in childhood have yielded mixed results, with some studies indicating that shorter TL was associated with lower neurodevelopmental scores and other studies finding no association. Additionally, there was some evidence that children who were HIV exposed and uninfected (CHEU) may have shorter TL and poorer neurodevelopmental outcomes compared to children who were HIV unexposed and uninfected (CHUU). This analysis determined the association between 6-week TL and repeated neurodevelopmental scores among CHEU and CHUU.

**Methods**: The HOPE cohort enrolled CHEU and CHUU at 6 weeks who were attending 7 maternal and child health clinics between 2021-2022 in Kenya. Of 1,000 CHEU and 1,000 CHUU enrolled in the HOPE cohort, a random subset was selected for TL assessment among participants who had dried blood spots collected at 6 weeks and 24 months. TL was measured from dried blood spots at enrollment using a modified version of the monochrome multiplex qPCR assay. Neurodevelopment was measured by the Malawi Developmental Assessment Tool (MDAT), which focuses on four domains: social, language, fine motor, and gross motor. MDAT assessments were conducted at 6 weeks, 6 months, 12 months, 18 months, and 24 months of age. We used linear mixed effects models with random effects for participant and clinic to assess the association between TL z-score and each of the four MDAT domain scores over time. Models were adjusted for HIV exposure, infant sex, maternal age, and maternal education and included MDAT time point as an interaction term. Additionally, models were stratified by child exposure to HIV. We adjusted for multiple comparisons using the Benjamini-Hochberg approach. The statistical analysis plan was pre-registered prior to conducting the analysis.

**Results**: Of 250 CHEU and 250 CHUU with TL measurement, half (51%) were female and median age at TL measurement was 6.6 weeks. The majority (65%) of participants were enrolled from clinics in Western Kenya and 35% were enrolled from clinics in Nairobi. Compared to CHUU, CHEU had older mothers (median: 31 vs 26 years) and mothers with less years of education (median: 8 vs 12 years).
Mean TL z-score was not significantly associated with language, fine motor, or gross motor scores at 6 weeks, 6, 12, 18 or 24 months in simple or adjusted models including all children. Higher mean TL z-score was associated with lower mean social scores at 12 months (p=0.02), but TL z-score was not associated with social scores at 6 weeks, 6 months, 18 months, or 24 months. In stratified analyses of CHEU and CHUU, TL z-score was not correlated with neurodevelopmental scores after Benjamini-Hochberg adjustments.

**Conclusions**: In this large cohort of CHEU and CHUU, TL at 6 weeks was not significantly associated with neurodevelopmental outcomes measured at multiple timepoints. Future analyses will assess whether TL decline between 6 weeks and 24 months or TL at 24 months correlate with child neurodevelopmental scores.

21

# Switching Off Dolutegravir in Pregnancy During the Safety Signal Period: A Multi-Cohort European Study

Fernandes G[1], Chappell E[2], Sconza R[1], Bailey H[3], Dalla Valle G[4], Aebi-Popp K[5], Ene L[6], Floridia M[7], Gamell A[8], Illán Ramos M[9], Peters H[1], Samarina A[10], Bamford A[1,2,11], Thorne C[1], for the EPPICC Pregnancy Study Group

*[1]UCL Great Ormond Street Institute of Child Health, University College London, London, United Kingdom, [2]MRC Clinical Trials Unit at UCL, London, United Kingdom, [3]UCL Institute for Global Health, University College London, London, United Kingdom, [4]Fondazione Penta ETS, Padova, Italy, [5]Department of Infectious Diseases, Bern University Hospital, Bern, Switzerland, [6]HIV Department, Victor Babes Hospital, Bucharest, Romania, [7]National Center for Global Health, Istituto Superiore di Sanità, Rome, Italy, [8]Infectious Diseases Department, Hospital Sant Joan de Déu, Barcelona, Spain, [9]Department of Paediatrics, Hospital Universitario Clínico San Carlos, Madrid, Spain, [10]Department of Motherhood and Childhood, St Petersburg Centre for AIDS and Infectious Diseases, St Petersburg, Russian Federation, [11]Great Ormond Street Hospital for Children NHS Foundation Trust, London, United Kingdom*

**Background**: In 2018, a neural tube defect safety signal was detected among infants exposed to dolutegravir at conception. Consequently, guidelines recommended switching to an alternative agent if pregnancy was confirmed in the first trimester. We explored factors associated with switching off dolutegravir during the safety signal and the impact of switching on virological suppression.

**Methods**: This analysis used pooled individual patient data from studies participating in the Epidemiology of Paediatric and Pregnancy Infections Cohort Collaboration (EPPICC). Individuals on dolutegravir at conception whose pregnancy ended in a live or stillbirth between 25/06/2015-04/01/2022 were included. A pregnancy was considered to have safety signal exposure if any part of it occurred in 18/05/2018-22/07/2019. Among those pregnant during the safety signal period, factors associated with switching off dolutegravir were examined using flexible parametric survival models. The adjusted model included trimester of pregnancy during the safety signal period, cohort, and age at conception. Delivery viral load (VL) was compared between those who did and did not switch using Fisher's exact test.

**Results**: A total of 440 pregnancies were included across six countries (Switzerland, Romania, Italy, Spain, Russia, and the UK), with 143 having safety signal exposure. During the safety signal period, in 33% (47/143) of pregnancies there was a switch off dolutegravir, compared to 16% (48/297) in pregnancies outside the safety signal period. There was very strong evidence that those in the first trimester of pregnancy at any point during the safety signal period had an increased hazard of switching off dolutegravir compared to those in the second or third trimester when the safety signal was released (adjusted hazard ratio (aHR): 7.29, 95% confidence interval (CI): 3.05-17.43, p<0.001). There was moderate evidence that people from non-UK cohorts had an increased hazard of switching off dolutegravir during the safety signal period (aHR: 2.28, CI: 1.01-5.16, p=0.048). There was weak evidence that those <25 (aHR: 2.27, CI: 0.91-5.68, p=0.080) and >34 (aHR: 1.76, CI: 0.95-3.26, p=0.072) years old at conception had an increased hazard of switching off dolutegravir compared with those aged 25-34 years.
Of the 47 pregnancies with a switch during the safety signal period, dolutegravir was most commonly replaced with raltegravir (32%, 15/47), darunavir/ritonavir (21%, 10/47), atazanavir/ritonavir (13%, 6/47), and efavirenz (9%, 4/47).
Among the 121 pregnancies with safety signal exposure and available VL data, there was no evidence of a difference in the proportion with a delivery VL>50 copies/ml between those who switched (5%, 2/39) and those who did not (4%, 3/82) (p=0.657).

**Conclusions**: As expected, there was a higher proportion of pregnancies switching off dolutegravir during the safety signal period. Consistent with recommendations, individuals in their first trimester at any point during the safety signal period were more likely to switch off dolutegravir. Notably, geographical differences in switching off dolutegravir during the safety signal period were observed, with individuals from non-UK cohorts more likely to switch. Although caution is required due to the small sample size, switching off dolutegravir during the safety signal period was not associated with a detectable VL at delivery.

22

# Causes of Death among Sub-Saharan African Infants Living with HIV and Hospitalized with Severe Pneumonia Using Minimally Invasive Autopsies in the EMPIRICAL Trial

Madrid L[1], Rakislova N[2,7], Buck C[3,4], Sacaral J[3], Chabala C[5,6], Hurtado J[2,8], Cassia U[3], Dominguez S[1], Carrilho C[3,10], Varo R[2,9], Torres D[2,9], Ballesteros A[1], Tagarro A[1,12], Fernandez-Luis S[1,2], Fernandes F[3,10], Tembo J[5,6], Namuziya N[5,6], Navero J[8], Ordi J[10], Tivane A[3,10], Martins S[3], Cossa A[9], Moraleda C[1], Rojo P[1,11,12], Bassat Q[2,9]

*[1]Innovation in Global Pediatric Infectious Diseases. Instituto de Investigación Hospital 12 de Octubre, Madrid, España, [2]ISGlobal - Hospital Clínic, Universitat de Barcelona, Barcelona, Spain, [3]Universidade Eduardo Mondlane, Faculdade de Medicina, Maputo, Mozambique, [4]University of California Los Angeles David Geffen School of Medicine, Los Angeles, USA, [5]Herpez, Lusaka, Zambia, [6]University Teaching Hospitals-Children's Hospital, Lusaka, Zambia, [7]Department of Pathology, Hospital Clinic - Universitat de Barcelona, , Spain, [8]Department of Microbiology, Hospital Clinic - Universitat de Barcelona, , Spain, [9]Centro de Investigação em Saúde de Manhiça, Manhiça, Mozambique, [10]Department of Pathology, Maputo Central Hospital, Maputo, Mozambique, [11]Universidad Complutense, Madrid, Spain, [12]Penta, Padova, Italy*

**Background**: Mortality in infants living with HIV is high, but the full chain of clinical events leading to death remain poorly characterized. We analysed causes of death (CoD) in African infants with HIV presenting with severe pneumonia in the EMPIRICAL trial using minimally invasive autopsies (MIAs).

**Methods**: EMPIRICAL enrolled infants living with HIV aged 28-365 days hospitalised with severe pneumonia across 20 hospitals in six African countries, from March 2020 to January 2024, with up to one year of follow-up. In Mozambique and Zambia, we collected post-mortem samples, including blood, cerebrospinal fluid, nasopharyngeal swab and tissue from the lungs, brain and liver using biopsy needles. CoD was determined by an expert panel integrating clinical data, molecular and conventional microbiology, and histopathology and immunohistochemistry on tissue biopsies. An underlying cause was identified for all deaths, defined as the initial condition leading to death. If multiple conditions contributed, we documented the entire chain of events, noting underlying and triggering comorbid conditions that resulted in the immediate cause.

**Results**: Among 558 participants included, 253 (45%) died. A total of 18 MIAs were performed, 15 in Mozambique and 3 in Zambia. 13 were female, with a median age at death of 3.9 months, and 12 were newly diagnosed with HIV. The median CD4 count was 11.6%, with a median HIV viral load (VL) at the upper limit of detection. All deaths occurred in hospitals, with 13 dying during their first admission. HIV resulting in wasting syndrome was the most common underlying CoD found in 50% of the cases. Pneumonia was the most common immediate CoD 94%, and 53% were due to Pneumocystis jirovecii (PJ). A co-infection CMV-PJ in the chain of events was documented in half of the cases. CMV infection was considered to contribute to death in 81% of the cases. 94% of the cases were deemed preventable or potentially preventable through enhanced PMTCT and proactive HIV diagnosis and treatment.

**Conclusions**: Among infants living with HIV and presenting with severe pneumonia mortality was very high. Pneumonia due to Pneumocystis jirovecii and CMV disease are leading CoD, and the most common underlying CoD was wasting syndrome.

23

# Association Between Reservoir Size and Markers of Cardiovascular Inflammation in Perinatally Infected Children Living with HIV

Fougère Y[1,2], Hawkes M[3], Brophy J[4], Read S[5], Bitnun A[5], Soudeyns H[1], Kakkar F[1]

*[1]University Of Montreal, CHU Sainte-Justine, Montreal, Canada, [2]CHUV de Lausanne, Lausanne, Switzerland, [3]University of British Columbia, Vancouver, Canada, [4]University of Ottawa, Ottawa, Canada, [5]University of Toronto, Toronto, Canada*

**Background**: There are limited data on predictors of cardiovascular disease risk among perinatally infected children living with HIV (CHIV). Our objective was to assess the association between HIV reservoir size and biomarkers of cardiovascular inflammation among Canadian CHIV.

**Methods**: Sub-study of the « Early Pediatric Initiation, Canada Child Cure Cohort Study » (EPIC4, 2014-2019). In CHIV with sustained viral suppression (SVS) in whom the inducible HIV-1 reservoir in CD4+ T cells was previously measured (prostratin stimulation assay), serum levels of CRP, IL-1β, IL-6, IL-18, VEGF-1, TNF-α and IFN-γ were measured using the Luminex 200TM XMAP multiplex assay at the time of reservoir measurement. Multiple linear regression was used to assess potential associations. To avoid overadjustment, factors predictive of reservoir size (age at treatment initiation, duration of sustained viral suppression [SVS]) were not included in the models.

**Results**: Out of 225 EPIC4 participants, 121 had measures of inducible HIV-1 RNA (iRNA) at baseline. Median age was 13 years (range=6 months-23 years), age at CART initiation was 1.6 years (IQR=4 months – 4.7 years), and duration of SVS was 5.6 years (IQR=2.1–8.3). There was an equal distribution of female and male participants (50%), and overall, 81% were CMV seropositive. Median number of copies of iRNA produced by $10^6$ CD4+ T cells was 5.8 (IQR=1.1-57.5). Age at cART initiation, duration of cART and proportion of life with SVS were all predictors of iRNA levels (p=0.004, p=0.02, and p=0.01, respectively). There was a significant association between levels of iRNA and serum levels of CRP (p=0.009), IL-6 (p=0.04), IL-1β (p=0.002), and IL-18 (p=0.014), though no association with IFN-γ, VEGF-1 or TNF-α were observed. These associations all remained significant after adjusting for age and CMV serostatus.

**Conclusions**: Reservoir size as measured by iRNA was strongly associated with biomarkers of cardiovascular inflammation among children with well-controlled HIV infection. These data reinforce the importance of early and SVS in CHIV to minimize reservoir size and mitigate long-term co-morbidities.

# POSTER WALK ABSTRACT PRESENTATIONS

International Workshop
on Pediatrics & HIV

Hybrid Meeting

11 – 12 July 2025
Kigali, Rwanda

24

# Higher Prevalence of Depression and Anxiety among Postpartum Women with HIV than Women Without HIV During 3-Year Follow-Up

Jiang W[1], Njuguna I[1,2], Wamalwa D[3], King'e M[3], Onyango A[2], Kumar M[3], Bulterys M[1], Neary J[1], Moraa H[2], John-Stewart G[1]

*[1]University of Washington, Seattle, United States, [2]Kenyatta National Hospital, Nairobi, Kenya, [3]University of Nairobi, Nairobi, Kenya*

**Background**: There are few longitudinal studies comparing risk and cofactors of psychological disorders in postpartum women with and without HIV.

**Methods**: We enrolled Kenyan mothers living with HIV (MLHIV) or without HIV and their infants at 6-week postnatal visits. Depression (Patient Health Questionnaire-9 [PHQ-9] score ≥5) and anxiety (Kessler Psychological Distress Scale [K-10] score ≥16) were collected every 6 months for 3 years. Distress was defined as PHQ-9 ≥5 or K-10 ≥16. We used multivariate linear mixed effects models to identify predictors of psychological disorders, clustered by individual and site.

**Results**: Of 2,000 mothers (1000 MLHIV, 1000 without), median age was 29 (IQR 25-33). Most MLHIV (98.7%) received antiretroviral treatment (ART) during pregnancy; 77% with a DTG-regimen. MLHIV were older, less likely to be partnered, and experienced more food insecurity (p<0.001 for each). At baseline, psychological disorders were more prevalent among MLHIV (depression: 22.1% vs. 18.5%, p=0.046; anxiety: 24.6% vs. 15.8%, p<0.001; distress: 31.6% vs. 24.4%, p<0.001). Prevalence of depression and distress decreased during 3-year follow-up among all mothers (depression: 20.3% baseline vs. 10.9% at 3-years, distress: 28.0% vs. 22.8% respectively p<0.001); in both subgroups by HIV status for depression and among MLHIV for distress.

In longitudinal models, MLHIV had higher risks of all outcomes (depression: prevalence ratio [PR] 1.30 [95% confidence interval 1.17-1.45], p<0.001; anxiety: PR 1.15 [1.02-1.30], p=0.025; distress: PR 1.22 [1.11-1.33], p<0.001). Adjusted for maternal HIV, distress was lower among mothers who were younger (PR 0.87 [0.78-0.98], p=0.022), partnered (PR 0.72 [0.63-0.83], p<0.001) and with secondary education (PR 0.81 [0.73-0.89], p<0.001). Higher risk was associated with hospitalization during pregnancy (PR 1.27 [1.03-1.57], p=0.025) and food insecurity (PR 1.54 [1.37-1.72], p<0.001). Results were similar for depression and anxiety.

**Conclusions**: Our findings highlight need for integrated mental health care in maternal-child healthcare, with attention among MLHIV and selected subgroups.

25

# Predictors of Mother-to-Child Transmission of HIV among Pregnant and Breastfeeding Women Living with HIV in Rwanda

Nisingizwe P[1], Umutesi D[1], IKUZO B[1], Rwibasira G[1]

*[1]Rwanda biomedical center, Institute of HIV/AIDS Disease Prevention and Control (IHDPC), Kigali, Rwanda, kigali, Rwanda, [2]University of Rwanda, school of public health, kigali, Rwanda*

**Background**: Mother-to-child Transmission (MTCT) has declined in Rwanda since implementation of universal coverage of prevention of mother-to-child transmission (PMTCT) program in all health facilities across the country. The transmission rate has been maintained below 2% for the last 10 years. However, exposed infants remain at high risk of acquiring HIV infection from their mothers. We assessed predictor of transmission and remaining gap to be closed toward elimination of mother to child transmission.

**Methods**: We conducted a retrospective cohort study to review clinical and demographic characteristics of pregnant and breastfeeding women living with HIV enrolled in PMTCT follow up, from July 2016 to June 2020 at 283 health facilities across the country. Eligible were all mothers of all ages who consulted antenatal care (ANC) living with HIV, mothers who tested positive in ANC and their infant after delivery. We used STATA 17 for data analysis. Logistic regression analysis was used to assess predictors of mother to child transmission.

**Results**: A total of 9,734 pair mother-infants have been enrolled and mother's mean age was 35 ± 6.56 years. About 84.25% were living with HIV before first antenatal care (ANC1) with 99.69% on ART, 15.75% tested HIV positive in ANC1 with 99.33% initiated on the ART. Among, 66(1.1%) infants were identified HIV positive during 24 months follow up. Mothers with 25 – 34 years showed a higher transmission to their infant 44% (p 0.001) and living with male partner had association with transmission at 75% (p < 0.001). In multivariate analysis, mother to child transmission was associated with being negative or with unknown HIV status in ANC1 (aOR:2,36, 95% CI: 1,31 – 4,26), having viral load > 1000 copies/ml at 6-month post-delivery (aOR:17, 95% CI: 9.71 -33) and infant birth weight below 2.5kg (aOR: 2.17 95% CI: 1.02 – 4.59).

**Conclusions**: Despite Rwanda has significantly reduced the MTCT rate, identified predictors still contribute to transmission. Interventions should focus on viral load suppression, providing appropriate support to mothers with infant born small, and supporting mothers who knew their positive status in ANC. Addressing these predictors is vital for eliminating mother-to-child transmission.

26

# Association Between Maternal Antenatal HIV Service Engagement and Well-Child Visit Utilisation in the Western Cape, South Africa

De Beer S[1,2,3], Phelanyane F[1,3], Ingle S[2], Slogrove A[4], Eley B[5], **Anderson K**[1], Kalk E[1], Heekes A[1], Boulle A[1,3,6], Davies M[1,3,6], Jones H[2]

*[1]The Centre for Integrated Data and Epidemiological Research, School of Public Health, University of Cape Town, Cape Town, South Africa, [2]Population Health Sciences, University of Bristol, Bristol, United Kingdom, [3]Western Cape Government Health and Wellness, Cape Town, South Africa, [4]Department of Paediatrics and Child Health, Stellenbosch University,, Cape Town, South Africa, [5]Paediatric Infectious Diseases Unit, Red Cross War Memorial Children's Hospital and the Department of Peadiatrics and Child Health, University of Cape Town,, Cape Town, South Africa, [6]Division of Public Health Medicine, School of Public Health and Family Medicine, University of Cape Town,, Cape Town, South Africa*

**Background**: Morbidity rates among children who are HIV-exposed remain high in South Africa and routine well-child visit attendance (i.e., routine health visits for health prevention and promotion e.g. vaccination, growth monitoring) provides opportunities for early intervention. Little is known about the relationship between maternal engagement in HIV-related services and well-child healthcare engagement. We assessed whether well-child visit attendance, up to age 18 months, differed by level of maternal engagement in antenatal HIV services, among HIV-negative children exposed to maternal HIV (HEU) born in the Western Cape (WC) province.

**Material and Methods**: This retrospective analysis included children born at WC public-sector facilities in 2017/2018 who were HEU at age 10 weeks. We used routinely-collected electronic data from the WC Provincial Health Data Centre on maternal and child use of public-sector services to assess engagement in care. Electronically recorded child primary healthcare encounters were used as a proxy for well-child visits. We described a) well-child visit attendance at ages six, ten, and fourteen weeks, and six, nine, twelve and eighteen months, and b) the proportion of children who missed 0 – 7 visits, by maternal antiretroviral therapy (ART) engagement status. Maternal ART engagement was categorised by timing of maternal ART start, relative to pregnancy, and gaps in ART dispensed during pregnancy. Gaps in ART were defined as a period of >28 days between previous "last ART in hand" date and the next ART dispensing date, during pregnancy. The association between maternal ART engagement and number of missed well-child visits was assessed using mixed effects Poisson regression.

**Results**: We included 28,947 mother-child pairs. Electronically recorded well-child visit coverage was highest among children whose mothers started ART before pregnancy and had no gaps in ART, with 76.6% attendance at ages 10 weeks. Among children whose mothers started ART at delivery/postpartum, well-child visit coverage at 10 weeks was 61.7%. The proportion of children with 0 missed visits was highest among those whose mothers started ART before pregnancy with no gaps (38.2%) and lowest among children whose mothers started ART at delivery/postpartum (20.6%). Children whose mothers started ART during pregnancy or later, with or without gaps in ART dispensing, or had no evidence of starting ART, had an estimated 35% to 67% higher rate of missed well-child visits compared to those whose mothers started ART before pregnancy and had uninterrupted antenatal ART: ART start before pregnancy with gaps, adjusted incidence rate ratio (aIRR)= 1.35 (95%CI 1.30, 1.40); ART start during pregnancy without gaps, aIRR= 1.37 (95%CI 1.32, 1.43); ART start during pregnancy with gaps, aIRR= 1.42 (95%CI 1.37, 1.47); ART start at delivery/postpartum, aIRR= 1.65 (95%CI 1.56, 1.75); unknown ART, aIRR= 1.37 (95%CI 1.32, 1.43); no ART evidence ever, aIRR= 1.67 (95%CI 1.57, 1.78).

**Conclusions**: Healthcare utilisation among children HEU is associated with the extent of maternal engagement in antenatal HIV services. Addressing underlying vulnerabilities (e.g. extreme poverty, substance abuse, and gender-based violence) that have been shown to be associated with maternal HIV acquisition and late ART initiation may help improve well-child visit attendance.

27

# Neurodevelopmental Outcomes of HIV-Exposed Uninfected and HIV-Unexposed Children in Kenya

Tiwari R[1], Benki-Nugent S[1], Collett B[2], Oucho I[3], Otieno C[3], Lihanda P[3], Diakhate M[1], John-Stewart G[1,4,5], Aldrovandi G[6], Singa B[3], McGrath C[1]

*[1]University of Washington Department of Global Health, Seattle, United States, [2]University of Washington School of Medicine, Seattle, USA, [3]Center for Clinical Research Kenya Medical Research Institute, Nairobi, Kenya, [4]University of Washington Department of Epidemiology, Seattle, USA, [5]University of Washington Department of Paediatrics, Seattle, USA, [6]University of California Department of Pediatrics, Los Angeles, USA*

**Background**: Children who are HIV-exposed and uninfected (CHEU) may be at an increased risk of neurodevelopmental delay compared to children who are born to mothers without HIV (CHUU). There are limited data comparing neurodevelopment of CHEU who are exposed to currently recommended maternal dolutegravir (DTG)-based ART in utero and who have higher breastfeeding rates—each factor that may influence neurodevelopment—with CHUU. We compared neurodevelopmental outcomes of breastfed CHEU exposed to maternal DTG-based ART and CHUUs.

**Methods**: A prospective cohort of pregnant women living with and without HIV was enrolled in two antenatal clinics in Migori, Kenya and followed with their infants to age 2 years. Neurodevelopmental assessments were conducted at 2 years of age using the Bayley Scales of Infant and Toddler Development Fourth edition (Bayley-4). Assessments included cognitive, expressive language, receptive language, fine motor, and gross motor domains, and were administered in either Kiswahili or Dholuo. Raw scores for the entire cohort were used to calculate Bayley-4 Z-scores for each domain and compared between CHEU and CHUU using unadjusted and adjusted linear regression models. Covariates in the adjusted models included household wealth index, maternal education, child sex, preterm birth, stunting, and breastfeeding at 12 months. Neurodevelopmental delay, defined as Z-score<-1 standard deviation (SD) for each domain, was compared between CHEU and CHUU using unadjusted and unadjusted modified Poisson regression models.

**Results**: Three hundred children (HEU=154; HUU=146) underwent Bayley-4 assessment. Child characteristics at assessment were similar (overall, median age was 24 months, 48% were female, and 9% preterm birth). CHEUs breastfed for a median of 15 months compared to median of 18 months for CHUUs (p<0.001). The majority of CHEU (88%) were exposed to DTG in utero. Mean (SD) Bayley-4 Z-scores for CHEUs and CHUUs were similar and respectively as follows: cognitive, 0.04 (0.74) vs. 0.15 (0.70); expressive language, 0.04 (1.01) vs. -0.02 (0.98); receptive language, 0.24 (0.67) vs. 0.21 (0.69); gross motor, 0.15 (0.46) vs. 0.16 (0.48); and fine motor, 0.15 (0.47) vs. 0.12 (0.47). No difference in cognitive, expressive language, receptive language, fine motor, or gross motor domain Z-scores were observed between CHEU and CHUU in adjusted or unadjusted models. Among CHEUs, no differences were found in Z-scores for any domain based on maternal ART regimen, duration of maternal ART, or whether ART was initiated before pregnancy. Overall, 26% of children had neurodevelopmental delay (25% CHEU and 27% CHUU) in any domain. The risk of neurodevelopmental delay between CHEU and CHUU was not statically significant, and DTG-based ART, initiating ART before pregnancy, or longer duration of ART did not impact developmental delay among CHEU.

**Conclusion**: Neurodevelopmental outcomes at 2 years of age were similar among CHEU and CHUU. These findings are reassuring and underscore the importance of adhering to current guidelines regarding optimal DTG-based regimens and sustaining breastfeeding among CHEU. Extended follow-up of CHEU is necessary to assess their long-term neurodevelopment.

28

# Stunting and Neurodevelopmental Delays in HIV-Exposed Uninfected Children at 18 Months of Age in South Africa

Nyofane M[1,2], Hoffman M[2], Mulol H[2], Ndlangamandla Q[3], Feucht U[2]

*[1]National University of Lesotho, Roma, Lesotho, [2]University of Pretoria, Pretoria, South Africa, [3]Biostatistics Research Unit, South African Medical Research Council , Pretoria, South Africa*

**Background and objective**: Children who are HIV-exposed-and-uninfected (CHEU) are regarded as high risk populations for suboptimal growth and neurodevelopment as well as short- and long-term complications in terms of morbidity and mortality. The study compared the growth and neurodevelopmental outcomes of CHEU aged 18 months.

**Methods**: The cross-sectional study investigated 260 South African mother-child pairs, who were grouped into HIV-unexposed-uninfected children (CHUU) (control group): n=198 vs CHEU (test group): n = 62, using available pregnancy and birth information. The World Health Organization (WHO) standard procedures were used for anthropometric measurements and WHO Anthro Survey Analyser was employed for z-score calculations. Bayley III was used to test child cognitive, motor and language development at the corrected aged. Chi-squared and Fisher exact tests were used to compare outcomes between groups, and regression models were used to determine associations.

**Results**: At the age of 18 months, CHEU had lower length (80.2 ± 3.4 vs 81.8 ± 3.8 cm; p = 0.023) and length-for-age z-scores ( 0.7 ± 1.2 vs -0.1 ± 1.3; p = 0.014) compared to their CHUU counterparts. The stunting rate was high in CHEU vs CHUU (16.1 vs 4.8%; p<0.001). Bayley tests demonstrated lower cognitive, language and motor developmental composite scores among CHEU vs CHUU, but these were not statistically significant. Nonetheless, the language composite scores were low across study children (88.8 ± 12.4), indicating a risk for possible delays. In CHEU, cognitive and motor development were associated with stunting: β=3.34, 95% CI (1.13,5.54), p = 0.004 and β=3.39 95% CI (0.41, 6.38), p = 0.027, respectively.

**Conclusion**: Maternal HIV infection poses a risk of stunting in CHEU. More effort is required to strengthen nutrition specific interventions and improve rates of stunting. The findings were reassuring and suggested that maternal HIV infection may not influence child neurodevelopment.

58

# Enhancing Pediatric HIV Screening Coverage in Côte d'Ivoire and Togo: Preliminary Results from an Intervention Led by Community Associations - The RaDAR Project

Sadio A[1], Kambou D[4], Desmonde S[4], Djaha J[5], Degbe D[6], Atsou Alley J[7], Diarra B[8], Dao S[8], Msellati P[5], Leroy V[4], Ekouevi D[1]

*[1]Faculty of Health Sciences, Department of Public Health, Center for Training and Research in Public Health, University of Lomé, Lomé, Togo, [2]African Center for Research in Epidemiology and Public Health (CARESP), Lomé, Togo, [3]National Institute for Health and Medical Research (INSERM), Research Institute for Sustainable Development (IRD), University of Bordeaux, Bordeaux Population Health Centre, UMR 1219, , France, [4]Centre d'Epidémiologie et de Recherche en santé des POPulations (CERPOP), French National Institute for Health and Medical Research (Inserm), University of Toulouse 3, UMR 1295, France Research Associate, Toulouse, France, [5]PAC-CI Research Center, CHU de Treichville, , Côte d'Ivoire, [6]NGO Action communautaire pour la Santé (ACS), Lomé, Togo, [7]NGO Espoir Vie Togo (EVT), Lomé, Togo, [8]NGO Centre Solidarité et Action Sociale (CSAS), , Côte d'Ivoire*

**Background**: Provider-initiated HIV testing is recommended in children but is underutilized in West Africa, particularly in primary care. This results in 73% of missed opportunities for HIV diagnosis in children living with HIV in West Africa. The RaDAR project aimed to evaluate community associations' involvement and the introduction of a simple targeting tool in outpatient care to improve the identification of HIV in children under 15 years in Côte d'Ivoire and Togo.

**Methods**: The intervention deployed community agents from three associations (EVT and ACS in Togo, CSAS in Côte d'Ivoire) supporting counseling and testing for children attending 18 primary care centers (6/association) and answering "yes" to at least one of six questions from a tailored targeting tool: i) parent deceased, ii) parents' positive HIV status, iii) hospitalization history, iv) recurrent skin problems, v) chronic health issues, and vi) growth disorders. The implementation's quasi-experimental design was one week of intervention, followed by seven weeks of non-intervention. We report intervention and non-intervention HIV testing coverage in children <15 years, number of positive diagnoses, and number of tests needed to identify one child living with HIV. Incidence rate ratios (IRR) of HIV-positive tests in the intervention compared to the non-intervention period were derived using a mixed-effects zero-inflated negative binomial regression model accounting for possible temporal clustering.

**Results**: Between August 2023 and December 2024, 56,676 attended outpatient care during the non-intervention period, of whom 1,730 were tested for HIV; testing coverage was 3% (95%CI: 2.9%-3.2%). During the intervention period, 6,940 children were seen, of whom 3,217 were tested for HIV, increasing the testing coverage to 46.4% (95%CI: 45.2%-47.5%). The number of HIV diagnoses increased from two in the non-intervention period to 11 in the intervention period, with fewer tests needed per case detection (807 vs 283). Adjusted for site, number of tests, and year period, the probability of HIV-positive case detection was 20 times higher during the intervention period (aIRR = 20.5; 95%CI: [6.0-73.0]).

**Conclusion**: We report a significant benefit in the involvement of community associations in increasing pediatric HIV testing through routine outpatient care in West Africa. These preliminary results should be interpreted with caution, considering the specific context of each country, qualitative, and health economic evaluations.

59

# Effectiveness of Layered Interventions in Improving Viral Load Suppression among Children and Adolescents (0-19 Years) Living with HIV in Western Kenya, 2021 - 2023

Wasilwa A[1], Amadi E[1], Mumbi M[1], Oyuga R[1], Wafula S[1], Gachau S[2], Nyabiage L[2], Mutisya I[3], Koech E[1], Bisera A[1]

*[1]Center for International Health, Education, and Biosecurity (CIHEB), Kenya, NAIROBI, Kenya, [2]Division of Global HIV&TB (DGHT), U.S. Centers for Disease Control and Prevention (CDC), Kisumu, Kenya, Kisumu, Kenya, [3]Division of Global HIV&TB (DGHT), U.S. Centers for Disease Control and Prevention (CDC), Nairobi, Kenya, NAIROBI, Kenya*

**Background**: Despite Kenya's progress towards the UNAIDS' 95-95-95 targets for epidemic control, viral load suppression (VLS) among children and adolescents living with HIV (CALHIV) on antiretroviral treatment (ART) remains low at 84% compared to 94% among adults. We implemented layered interventions and assessed its impact on VLS among CALHIV within CIHEB supported sites in western Kenya.

**Methodology**: We conducted a retrospective cohort analysis of data from electronic medical records of CALHIV (0-19yrs) on ART between October 2021 and September 2023 in 93 facilities. The layering approach included five multiple interventions such as expert parent-led sessions during family clinic days, adolescent peer support, Papa-Mama (PAMA) club meetings with fun days, linking orphans and vulnerable children to community support programs and expressive art therapy during enhanced adherence counseling. Full layering was defined as receiving all eligible interventions, while missing at least one was categorized as not fully layered. VLS was defined as viral load <200cp/ml. Descriptive summary statistics described the outcomes and covariates. Chi-square tests assessed VLS differences at baseline and end-term. A multivariable logistic regression model, adjusted for sex, age, and facility clustering, was used to evaluate the association between layering status and VLS.

**Results**: The analysis included 7,291 CALHIV with a median age of 13 years [interquartile range (IQR) 10-16], 3,841 (53%) were female, 5,646 (77%) being on ART for 5+ years and 6,234 (86%) were on a dolutegravir based regimen. Overall, 4,174 (57%) received all the eligible interventions while 3,117 (43%) missed at least 1 intervention. CALHIV with VLS improved from 5,569 (76%) to 6,386 (88%) at the end of the period (p<0.001). CALHIV who received full layered interventions had a VLS of 88%, compared with 86% among those not fully layered (p=0.82). After adjusting for age, sex, time on ART, type of regimen and VL results at baseline, CALHIV who received all interventions they were eligible for were more likely to achieve VLS (adjusted Odds Ratio 1.18, 95% CI: 1.02-1.37) compared with those who did not.

**Conclusions**: Full uptake of layered interventions was associated with improved VLS among CALHIV. Implementing structured multiple interventions could enhance treatment outcomes and support efforts towards epidemic control.

60

# Viral Failure by 48 Months on Dolutegravir in Children and Adolescents in Uganda

Namusoke Magongo E[1], Kalibbala D[1,2], Crichton S[3], Mulowoza C[1,2], Kayaga J[2], Nyamaizi P[4], Kiwewa F[5], Karen S[3], Le Prevost M[3], Dalla Valle G[6], Henegar C[7], de Ruiter A[8], Vannappagari V[7], Collins I[3]

*[1]Ministry of Health, AIDS Control Program, Kampala, Uganda, [2]Mildmay Research Center Uganda, Wakiso, Uganda, [3]MRC Clinical Trials Unit, University College London, London, United Kingdom, [4]Hoima Regional Referral Hospital, Hoima, Uganda, [5]Lira Regional Referral Hospital,, Lira, Uganda, [6]Fondazione Penta ETS, Padua, Italy, [7]ViiV Healthcare, Durham, United States, [8]ViiV Healthcare, London, United Kingdom*

**Background**: Dolutegravir (DTG)-based antiretroviral therapy (ART) is the preferred treatment for children and adolescents living with HIV. However, little is known about viral failure (VF) on DTG in children/adolescents in routine-care settings in Sub-Saharan Africa. This study assesses the incidence of VF and associated risk factors in children/adolescents on DTG in Uganda.

**Methods**: A prospective observational cohort study including children/adolescents in routine HIV care in 3 health facilities in Uganda. Inclusion criteria were: age ≤18 years at DTG start, on DTG for ≥6 months with ≥2 VL measurements. We estimated the cumulative incidence of VF (defined as ≥2 consecutive viral load (VL) measurements ≥1000 copies/mL at ≥6 months after DTG start) using Kaplan-Meier methods. Hazard ratios (HR) were calculated using Cox proportional hazards regression to explore associations with characteristics at DTG start: age, sex, time since ART initiation, ART and VL status, NRTI backbone and WHO immunological stage. Due to small number of VF events, separate partially adjusted models were fitted for each variable adjusting for age and sex a-priori, and allowing for clustering within centres. Follow up was censored at earliest of last suppressed VL, DTG discontinuation or 19th birthday.

**Results**: Of 1,297 ever on DTG, 1,121 (86.4%) participants met the inclusion criteria for analysis. Half (52.5%) were female, median age at ART initiation was 3.6[IQR: 1.6-7.3] years. At DTG start, 5.1% were ART-naive, 75.1% ART-experienced/suppressed (VL <1000 copies/mL), 5.9% ART-experienced/viremic (VL≥1000copies/mL), and 13.9% ART-experienced/unknown VL status. Among those ART-experienced, the median duration on ART at DTG start was 10[7.2-13.2] years. Median duration of follow up after DTG start was 48.6[36.5-52.6] months. At time of data cut-off (31/12/2024), 96.4% were in follow-up (3 died, 3 lost to follow-up, and 33 transferred out).

Overall, 59 children/adolescents experienced VF. The cumulative incidence (95% CI) of VF by 24, 36, 48 months was 4.4% (3.3-5.8), 5.6% (4.3-7.2), and 6.4% (4.9-8.3), respectively. Incidence of VF by 36 months (insufficient numbers (n<10) in some subgroups at 48 months) varied by ART/VL status at DTG start: 4.8% (1.2-18.1) in ART-naive, 4.1% (2.9-75.8) in ART-experienced/suppressed VL, 20.9% (12.0-35.0) in ART-experienced/viremic, and 8.2% (4.6-14.5) in ART-experienced/unknown VL (log rank test p<0.001). After adjusting for age and sex, there remained an association with ART/VL status at DTG start (p =0.002). Compared to children/adolescents who were ART-experienced/suppressed VL at DTG start, those ART-experienced/viremic at DTG start had significantly higher hazard of VF (HR: 3.9, 95% CI: 1.9,-7.9), while the hazard of VF was similar for those ART-naïve (HR=1.1(0.3-4.5)) or ART-experienced/unknown VL (HR=1.6(0.8-3.1)). There was an association with older age (HR=1.1(1.1-1.2)) per year increase, p=0.003) and NRTI Backbone at DTG start (AZT/3TC HR=2.9(1.2,7.2), ABC/3TC HR=2.1(0.9,5.2), compared to TDF/3TC, p=0.036) but no association with sex (p=0.252) or WHO stage t (p= 0.398).

**Conclusion**: Overall, there were low rates (~6%) of confirmed VF by 4 years of DTG in routine-care settings. However, children/adolescents who were older, ART-experienced/viremic at DTG start and on NRTI backbone combinations had significantly increased risk of failure, warranting closer clinical monitoring and personalized management strategies.

61

# Characteristics of Antiretroviral Resistance in Participants from the SHIELD Trial: A Pharmacokinetic and Safety Study Evaluating Fostemsavir in Children and Adolescents Living with Multi-Drug Resistant HIV

Archary M[1], Frigati L[2], Violari A[3], Patel F[4], Strehlau R[5], Camacho-Gonzalez A[6], Maboa R[7], Rakhmanina N[8], Grasa C[9,10], Salvadori N[12], Nardone A[9], Than-In-At K[13], Parry C[14], Keegan M[14], López Varela E[14], Giaquinto C[9], Cressey T[12], Rojo P[9,11]

*[1]Durban International Clinical Research Site, Victoria Mxenge Hospital, Durban, South Africa, [2]FAM-CRU Stellenbosch University, Tygerberg Children's Hospital, Cape Town, South Africa, [3]Perinatal HIV Research Unit (PHRU) New Nurses Home, Chris Hani Baragwanath Academic Hospital, Johannesburg, South Africa, [4]Wits Reproductive Health and HIV Institute, Johannesburg, South Africa, [5]Rahima Moosa Mother and Child Hospital, Johannesburg, South Africa, [6]Children's Healthcare of Atlanta, Atlanta, United States of America, [7]Kalafong Hospital, Pretoria, South Africa, [8]The George Washington University, Children's National Health System, Washington DC, United States of America, [9]Penta Foundation ETS, Padova, Italy, [10]Hospital Universitario La Paz, Madrid, Spain, [11]Hospital Materno Infantil 12 de Octubre, Madrid, Spain, [12]AMS-PHPT Research Collaboration, Chiang Mai University, Chiang Mai, Thailand, [13]PHPT Foundation, Chiang Mai, Thailand, [14]ViiV Healthcare, ,*

**Background**: Resistance to HIV antiretroviral (ARV) drugs is increasing worldwide and new classes of ARVs available for children are limited. Fostemsavir (FTR) is a new, first-in-class drug approved for adults with multi-drug resistant (MDR) HIV. The SHIELD trial is the first study in children and adolescents to evaluate FTR safety and pharmacokinetics, recruiting patients failing current antiretroviral therapy (ART) and with resistance to at least 1 ARV in ≥2 ARV classes. We describe the characteristics of participants enrolled in this ongoing study.

**Material and Methods**: Eight sites are currently open and recruiting participants in South Africa and the United States. Eligible participants are aged 6 to <18 years, weigh ≥20 kg, are failing current ART and have HIV resistance in ≥2 ARV classes. Resistance testing at the screening visit iss performed centrally (which included: PhenoSense® Entry, PhenoSense® GT Plus Integrase or component assays, Tropism assay for CCR5 (MVC), Phenotypic susceptibly to TMR and gp160 envelope sequencing), with additional local testing in some cases (Genotypic resistance testing); for discrepant results, mutations conferring resistance prevailed over sensitive results.

**Results**: Between June 2022 and March 2025, 45 children were screened and 19 enrolled. At enrollment, median age was 12 years (interquartile range [IQR], 10-15) and body weight 30 kg (26-38). Eight (42%) had a history of AIDS-defining events. Median viral load was 8,459 copies/mL -IQR, 1,509-53,216- (3.93 log10 copies/mL -IQR, 3.18-4.73-) and CD4 cell count 503 cells/µL (217-708). Fourteen (74%) participants were failing a current protease inhibitor (PI) and 17 (89%) a current dolutegravir (DTG) based regimen; 13 (68%) had history of prior PI use; and none used DTG in a previous regimen. Rates of drug resistance or decreased drug sensitivity at screening were as follows: NRTIs – emtricitabine/lamivudine 95%,abacavir 74%, zidovudine 37%, tenofovir 26%; NNRTIs – nevirapine 58%, efavirenz 53%, rilpivirine 26%; PIs – lopinavir/ritonavir (/r) 37%, atazanavir/r 32%, darunavir/r 32%; INSTIs– bictegravir 30%, dolutegravir 30%, elvitegravir 30%, raltegravir 30%; and CCR5RA – maraviroc 50%. No baseline resistance to fostemsavir was detected.

**Conclusions**: A high proportion of our cohort of treatment-experienced children and adolescent participants with current ART failure, had resistance to DTG and INSTIs overall. This highlights the urgent need for new classes of ARVs for the management of pediatric HIV infection.

*This study is sponsored by Fondazione Penta ETS. Funder, ViiV Healthcare.

62

# Determinants of Successful ART Outcomes in Children and Adolescents in Kenya, 2021-2023

Jiang W[1], Kangai J[2], Adhiambo Onditi C[2], McGrath C[1], Ojwang A[3], Irene F[2], Singa B[4], John-Stewart G[1], Mutisya I[5], Benki-Nugent S[1]

*[1]University of Washington, Seattle, United States, [2]Christian Health Association of Kenya, Nairobi, Kenya, [3]Kenya Medical Research Institute, Nairobi, Kenya, [4]Palladium Kenya, Nairobi, Kenya, [5]US Centers for Disease Control and Prevention, , Kenya*

**Background**: Children and adolescents living with HIV (CALHIV) face unique challenges in achieving viral suppression, yet there is limited programmatic data to fully understand determinants of virologic failure (VF) and subsequent suppression.

**Methods**: We selected 40 HIV care clinics in Kenya to abstract data for CALHIV aged 0-19 years on antiretroviral therapy (ART) ≥6 months from 2021-2023. We abstracted clinical characteristics from electronic medical record system and routine viral load (VL) data from the National AIDS & STI Control Programme. We used clinic-clustered generalized estimating equations to identify regimens associated with VF (≥1,000 copies/mL). Among CALHIV with VF, we used Cox proportional hazard models to evaluate factors of achieving suppression (<1,000 copies/mL).

**Results**: Among 7,429 CALHIV, median age was 12 years (interquartile range [IQR] 8-15) and 52% were female. A total of 20,386 VL results were obtained (median 3 [IQR 2-3] VL tests per person). Overall, 1,389 (19%) CALHIV ever had VF; risk of VF did not differ by age (0-9 years: 18.4%, 10-14 years: 18.7%, 15-19 years: 18.8%; p>0.9) or sex (female: 18.1%, male: 19.3%; p=0.2). In regression, VF was higher among those initiating lopinavir/ritonavir (LPV/r) than efavirenz (EFV)-based ART (prevalence ratio [PR] 1.29, [95% confidence interval 1.05-1.58]; p=0.01) and was similar between those initiating dolutegravir and EFV-based ART (PR 0.92 [0.69-1.23]; p=0.6). Among 1,389 with VF, 1,117 (80%) had a next VL test and 972 (87%) attained suppression. Adolescents had lower suppression than children (0-9 years) (10-14 years: hazard ratio [HR] 0.80 [0.67-0.96]; p=0.01; 15-19 years: HR 0.83 [0.71-0.98]; p=0.03). Sex was not associated with suppression (males vs. females: HR 0.89 [0.79-1.01]; p=0.08).

**Conclusion**: Our findings highlight the importance of historical use of LPV/r and lower likelihood of maintaining suppression for 10-19 years adolescents. Strengthening care systems with adolescent-centered services may improve viral suppression in pediatric HIV care.

87

# Acceptability and Preferences of Long-Acting HIV Treatment Options among Adolescents and Young Adults Living with HIV in Kenya

Keke J[1], Mwangi P[1], Oluoch L[1], Gacheru J[1], Ngure K[1], Mugo N[1]

[1]PARTNERS IN HEALTH RESEARCH AND DEVELOPMENT, NAIROBI, Kenya

**Background**: Adherence to the current regimen of oral antiretroviral (ART) is a challenge, especially among adolescents and young adults (AYA) in sub-Saharan Africa due to pill burden. The advancement of long-acting treatment options has the potential to address some of these challenges. However, little is known about the preferences of specific formulations. We conducted descriptive research to evaluate acceptability and preferences for LA ART products.

**Methodology**: We conducted quantitative surveys during participants' last study visit in a study assessing effectiveness and B cell response to the Quadrivalent HPV vaccine 9 years post vaccination. We assessed the hypothetical acceptability and preferences of 4 long-acting HIV treatments under development. (injectables [2, 3, 6 and12 monthly], implants [3, 6, 12 monthly] oral pills [weekly and monthly]) focusing on their interest, preferred dosage, packaging, visit schedule, access points and concerns while using the preferred formulation. Data was analyzed descriptively. AYA aged 18-24 years living with HIV who came for their last follow up visit were eligible for the survey.

**Results**: Between July to November 2023, we conducted surveys with 150 AYA; the median age was 22 years (IQR 21 – 23), about half (52.9%) were females, 84 (54.2%) had completed their secondary school education and 91 (58.7%) were not financially independent The most preferred ART formulation was injection (71.6%), followed by oral pill (17.4%) and implants (10.3%). Most AYA preferred a yearly frequency for injectables 48.4%, and for implants 42.5%, while monthly for oral pills 76.8%. Aspects for the most preferred ART formulation included ease of use 21.3%, dosage frequency 41.3%, perceived effectiveness in treating HIV 69.7%, privacy/discreetness 54.8%, and ease of access 84.5%. For packaging most (64.5%) preferred blister packs for oral pills. Most (87.1%) AYA reported that their preferred access point for long-acting ART products was at HIV clinics. Most AYA (44.5%) were concerned about the safety of the LA ART.

**Conclusions**: Our findings indicate that injectable long-acting HIV treatments with extended duration are highly preferred among AYA living with HIV. However, safety remains a critical concern for this population. Prioritizing the availability of long-acting treatments could enhance treatment options and support adherence, ultimately improving health outcomes.

88

# Prevalence and Correlates of Depression and Anxiety among Adolescents and Young Adults Living with HIV in Western Kenya: Social Support, Violence, Drug Use, and Stigma as Key Determinants

Hicks S[1], Jiang W[1], Kibugi J[2], Badia J[2], Richardson B[1], Agot K[2], Kohler P[1], John-Stewart G[1]

*[1]University Of Washington, Seattle, United States, [2]IMPACT Research & Development Organization, Kisumu, Kenya*

**Background**: Adolescents and young adults living with HIV (AYLHIV) are at increased risk for common mental disorders (CMDs). There are few studies longitudinally evaluating correlates of CMDs among AYLHIV. This analysis seeks to determine the prevalence and risk factors of depression and anxiety in a large cohort of Kenyan AYLHIV ages 10-24, specifically evaluating differences between ages, gender, and mode of HIV acquisition.

**Methods**: Data for this analysis originate from the Data-Informed Stepped Care study (DiSC; NCT05007717), a cluster randomized trial in 24 facilities across three counties in Western Kenya. Depression (Patient Health Questionnaire [PHQ-9] ≥5) and anxiety (Generalized Anxiety Disorder-7 [GAD-7] ≥5) were measured every 6 months for 1 year. Correlates of CMDs were assessed in the overall cohort and within age, gender, and mode of HIV acquisition strata using generalized linear mixed effects Poisson models, clustered by facility.

**Results**: Of 1,904 AYLHIV enrolled, baseline prevalence of at least mild depressive symptoms (PHQ ≥5) was 8.3%, with higher prevalence among older age sub-groups (15.0% in 20-24 yrs, 8.4% in 15-19 yrs, and 2.2% in 10-14 yrs) . Older age was associated with an increased prevalence of depression in the overall cohort (adjusted relative risk [aRR]=1.22; 95%CI: 1.16-1.28) and within the male, female, 15–19 year, and perinatal HIV acquisition strata. Having a current sex partner (aRR=2.09; 95%CI: 1.42-3.06); experiences of any physical, emotional, or sexual violence (aRR=3.95; 95%CI: 2.67-5.85); low perceived social support (aRR=2.84; 95%CI: 1.47-5.48); and substance use including alcohol or tobacco use (aRR=2.08; 95%CI: 1.27-3.38) were associated with higher risk of depression. While previous experiences of violence were consistently associated with depression across strata, this risk was highly elevated among males (aRR=6.03; 95%CI: 3.05-11.90) and the 15-19 year subgroup (aRR=9.13; 95%CI: 5.21-16.02), with a particularly high risk among those reporting emotional violence. Stigma was consistently associated with higher prevalence of depression across subgroups. Within the overall cohort, personal experiences of stigma (aRR=1.72; 95%CI: 1.15-2.57), stigma around disclosure (aRR=1.55; 95%CI: 1.09-2.22), and perceived public stigma (aRR=1.90; 95%CI: 1.33-2.72) were associated with increased prevalence of depression. Perceived public stigma was most strongly associated with higher depression prevalence across strata. Correlates of anxiety were similar to depression with differences by age, gender, and mode of HIV acquisition strata. Measured depressive and anxiety symptoms declined significantly from baseline to 12-month follow-up ($p<0.001$ for both).

**Conclusions**: In this cohort of AYLHIV, prevalence and correlates of CMDs were heterogeneous among subgroups, highlighting the need for tailored strategies to prevent and treat CMDs. After accounting for age differences, stigma, experiences of violence, low social support, and substance use were associated with poor mental health, particularly among older AYLHIV. Interventions to address stigma at the community and interpersonal levels may be well positioned to improve AYLHIV mental health in highly stigmatized contexts.

89

# Alcohol and Substance Use among Youth Living with HIV in the Global Adolescent and Young Adult Network of IeDEA (AYANI) Cohort

van Dongen N[1], Technau K[1], Jaguga F[2,3], Murenzi G[4], Machado D[5], Amorissani-Folquet M[6], Ditango R[7], Mureithi F[8], McCoy B[3,9], Brazier E[10], Tulio Luque M[11], Jesson J[12], Phuthanakit T[13], Maxwell N[14], Vreeman R[3,15], Elul B[16], Pinto J[17], Oka G[18], Sudjaritruk T[19], Kanguya T[8], Enane L[20], Ryumugabe D[4], Hilaire G[21], Leroy V[12], Sohn A[22], Brehm A[23], Anderson K[14]

*[1]Empilweni Services And Research Unit, Johannesburg, South Africa, [2]Alcohol & Drug Abuse Rehabilitation Services, Moi Teaching & Referral Hospital, Eldoret, Kenya, [3]Academic Model Providing Access To Healthcare (AMPATH) Kenya, Eldoret, Kenya, [4]Research for Development and Rwanda Referral and Teaching Military Hospital, Kigali, Rwanda, [5]Department of Pediatrics, Pediatric Infectious Diseases Division, Escola Paulista de Medicina-Universidade Federal de São Paulo (UNIFESP), Sao Paulo, Brazil, [6]University hospital Cocody, Abidjan, Côte d'Ivoire, [7]Research Institute for Tropical Medicine, Manila, Phillipines, [8]Centre for Infectious Disease Research in Zambia, Lusaka, Zambia, [9]Department of Psychiatry, and Department of Global Health and Health System Design, Icahn School of Medicine at Mount Sinai, New York, NY, New York, United States of America, [10]City University of New York, Institute for Implementation Science in Population Health, New York, NY, USA, New York, United States of America, [11]Servicio de Infectología, Departamento de Pediatría, Hospital Escuela; Servicio de Infectología, Instituto Hondureño de Seguridad Social, Tegucigalpa, Honduras, [12]CERPOP, Inserm, Toulouse University, Toulouse, France, [13]Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [14]Centre for Integrated Data and Epidemiological Research, School of Public Health, University of Cape Town, Cape Town, South Africa, [15]Arnhold Institute for Global Health, Department of Global Health and Health Systems Design, Icahn School of Medicine at Mount Sinai, New York, United States of America, [16]Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, New York, United States of America, [17]Department of Pediatrics, School of Medicine, Federal University of Minas Gerais, Belo Horizante, Brazil, [18]University hospital Cocody, Abidjan, Côte d'Ivoire, [19]Department of Pediatrics, and Clinical and Molecular Epidemiology of Emerging and Re-emerging Infectious Diseases Research Cluster, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand, [20]The Ryan White Center for Pediatric Infectious Disease and Global Health, Department of Pediatrics, Indiana University School of Medicine, Indianapolis, United States of America, [21]Les Centres GHESKIO, Port-au-Prince, Haiti, [22]TREAT Asia/amfAR, The Foundation for AIDS Research, Bangkok, Thailand, [23]Department of Biostatistics and Health Data Science, Indiana University School of Medicine, Indianapolis, United States of America*

**Introduction**: Alcohol and substance use in youth living with HIV (YLHIV) can influence health and treatment outcomes. We assessed alcohol and substance use and their associations with antiretroviral therapy (ART) adherence among YLHIV.

**Methods**: The Adolescent and Young Adult Network of IeDEA, a cohort study of YLHIV 15-24 years of age from 16 clinical programs across 6 global regions, enrolled YLHIV receiving ART. We assessed the biopsychosocial experiences of YLHIV using validated tools. Adherence was assessed using two separate measures: (A) reports of missed medication doses in the previous month (self-reported adherence difficulties), and (B) unsuppressed viral load (VL >1,000 copies/ml). Alcohol and substance use were assessed with point-of-care urinary tests and by self-report using the WHO Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) tool (recent moderate/high-risk use: alcohol score >10; substances score >3; recent defined as 'in the last 3 months'). Logistic regression models were used to assess associations between moderate/high-risk alcohol and other substance use (separately) and adherence, adjusted for sex, age, geographical region, mode of HIV acquisition and ART regimen.

**Results**: Among 694 YLHIV (enrolled 2021-2024), 83% were living with perinatally-acquired HIV, median age at enrolment was 20 years (interquartile range [IQR] 18-22), 53% were female, and 71% were receiving integrase strand transfer inhibitor (INSTI)-based ART. Among all YLHIV, 49% reported missing medication doses and 14% had unsuppressed VL. Reported substance use ('ever used') included alcohol (47%), cannabis (12%), sedatives/benzodiazepines (3.9%), cocaine (1.9%), amphetamines (1.6%), inhalants (1.5%), opioids (1.3%) and hallucinogens (1.3%). Moderate/high-risk alcohol use and other substance use in the previous 3 months were each reported by 9.1% of YLHIV, with 15% overall (n=106/689) reporting either.
Urine tests were positive for alcohol (n= 46/673; 6.8%), cannabis (n=32/667; 4.8%), benzodiazepines (n=13/657; 2.0%) and amphetamines (n=3/671; 0.4%). Among YLHIV with positive urine tests, 37% reported no recent alcohol use (n=17/46), 38% no recent cannabis use (n=12/32), 100% no recent benzodiazepine use (n=13/13), 67% no recent amphetamine use (n=2/3), and 50% no recent cocaine use (n=1/2). Moderate/high-risk alcohol and other substance use were both significantly associated with (A) self-reported adherence difficulties (adjusted odds

ratio(aOR) 2.37, 95% confidence interval [CI] 1.28-4.38; and aOR 2.13, 95% CI 1.18-3.85, respectively) but not with (B) unsuppressed VL (aOR 0.80, 95% CI 0.34-1.88; and aOR 1.61, 95% CI 0.79-3.29, respectively). ART regimen was not significantly associated with adherence difficulties but was associated with VL: YLHIV receiving protease inhibitor-based regimens (17%) were three times more likely to have unsuppressed VL than those receiving INSTI-based regimens.

**Conclusions**: Moderate/high-risk alcohol and/or substance use was reported by 15% of YLHIV and was associated with self-reported adherence difficulties. Although not significantly associated with unsuppressed VL, this may be due to sample size limitations or because INSTI-based regimens can be more forgiving of missed doses. Based on the proportions of YLHIV with positive urine tests reporting no use, true prevalence of alcohol and other substance use is likely underreported. Screening and interventions to reduce unhealthy substance use are needed for YLHIV.

90

# Low and Decreasing Levels of Tenofovir Diphosphate in Dried Blood Spots in a Prospective Cohort of Adolescents and Young Adults with HIV in Uganda

Adong J[1], Musinguzi N[1], Apio H[1], Matsiko B[1], Nayiga H[2], Nansera D[2], Bebell L[3], Kumbakumba E[1], Haberer J[3]

*[1]Mbarara University Of Science and Technology , Mbarara, Uganda, [2]Mbarara Regional Referral Hospital, Mbarara, Uganda, [3]Massachusetts General Hospital, Boston, United States*

**Introduction**: Adolescents and young adults with HIV (AYWH) have lower adherence to antiretroviral therapy (ART) than other age groups, resulting in concerningly high levels of viremia and ongoing HIV transmission. While HIV viral load is a common proxy for ART adherence, it is monitored infrequently and may not accurately reflect daily adherence behavior. For tenofovir-based ART, tenofovir-diphosphate (TFV-DP) levels provide a better assessment of medication ingestion, yet there is little data on TFV-DP levels in this age group. To objectively and quantitatively evaluate adherence over time in this key population, we measured TFV-DP in a prospective cohort of AYWH in Uganda.

**Methods**: We collected dried blood spots (DBS) at baseline (March-June 2022) and 6 months later from AYWH aged 13-24 receiving tenofovir-based ART at Mbarara Regional Referral Hospital, Uganda. TFV-DP levels in DBS were measured using liquid chromatography-tandem mass spectrometry. Average daily ART adherence was defined as ≥800 fmol/punch. We also collected data on demographics, alcohol use (alcohol use disorders identification test-consumption [AUDIT-C]), depression (Centers of Epidemiologic Studies-Depression Scale [CES-D]), anxiety (a locally validated scale), and HIV viral load (undetectable defined as ≤ 400 copies/mL). We described TFV-DP levels over time using summary statistics, chi-square, and a paired t-test. We also performed linear regression analyses to test for associations between TFV-DP 6 months after enrolment and demographic and clinical factors while controlling for baseline TFV-DP.

**Results**: We enrolled 86 AYWH and collected 167 DBS (86 baseline; 81 follow-up) samples. The baseline median TFV-DP was 902 fmol/punch (interquartile range [IQR] 477-1,227) and declined over 6 months to a median of 647 (IQR 415-947) fmol/punch. 77 (89.5%) had a viral load of <400 copies/ml. At baseline, the proportion of AYWH with TFV-DP levels ≥800mol/punch was 54% and decreased significantly to 34% by 6 months (P=0.002). The paired t-test showed a statistically significant difference between TDF-DP levels at baseline (mean 1,060, SD 719) and 6 months (mean 767, SD 457; t [77] = 3.7, P=<0.001). In unadjusted analyses, lower TFV-DP levels at 6 months were associated with: alcohol use (β=-35.0 per unit AUDIT-C, 95% CI [-61.0, -9.5], P=0.008); depression (β=-3.9 per unit CES-D, 95% CI [-14.0, 6.5], P=0.5); anxiety (β=-1.7 per scale unit, 95% CI [-10.0, 6.6], P=0.7); and viral load >400 copies/ml (β=-175.0, 95% CI [-733.0, 383.0], P=0.5). In adjusted analyses, only alcohol use was significantly associated with TFV-DP (β=-35, 95% CI [-61.0, -9.5], P=0.008).

**Conclusion**: In this sample of AYWH, ART adherence, as quantified by the level of TFV-DP, declined significantly over a six-month period, and approximately two-thirds of participants demonstrated less than daily adherence. These findings may reflect reactions to the COVID-19 pandemic, as data were collected towards the end of the pandemic in Uganda. Although the sample size was limited, the observed trends suggest a need for strategies aimed at improving mental health and addressing alcohol use to improve adherence among AYWH.

119

# Tuberculosis Preventive Treatment Initiation and Factors Associated with Adherence among Newly Diagnosed Children Living with HIV Initiated on ART in Cameroon, 2020-2022

Shu E[1], Simo L[1], Tchakounte Youngui B[1], Kana R[1], Ayuk A[2], Djamilatou S[1], Fokam J[3,4], Fadil Y[2], Rogers A[4,5], Fabou M[1], Keleko C[2], Tchounga B[1], Kuate A[6], Takem E[2], Lekeumo S[1], Bhatt N[8], Ditekemena J[9], Bissemou Z[1], Ndayisaba G[1], Casenghi M[7], Tiam A[8,10], Jalloh M[2], Tchendjou P[1]

*[1]Elizabeth Glaser Pediatric Aids Foundation, Yaounde, Cameroon, [2]Division of Global HIV and TB, U.S. Centers for Disease Control and Prevention, Yaounde, Cameroon, [3]National AIDS Control Committee, Ministry of Health, Yaounde, Cameroon, [4]Faculty of Health Sciences, University of Buea, Buea, Cameroon, [5]Coordination Unit for HIV, TB, and Malaria, Cameroon Ministry of Public Health, Yaounde, Cameroon, [6]National Tuberculosis Control Program, Ministry of Health, Yaounde, Cameroon, [7]Elizabeth Glaser Pediatric AIDS Foundation, Geneva, Switzerland , [8]Elizabeth Glaser Pediatric AIDS Foundation, Washington, D.C., USA , [9]Elizabeth Glaser Pediatric AIDS Foundation, Kinshasa, Democratic Republic of Congo, [10]Department of Epidemiology, The George Washington University Milken Institute School of Public Health , Washington, D.C., USA*

**Background**: Tuberculosis preventive treatment (TPT) is recommended to reduce the burden of tuberculosis (TB) among children and adolescents living with HIV (CALHIV) globally. However, implementation remains challenging in sub-Saharan Africa. Six months of isoniazid preventive therapy (IPT) is the recommended TPT regimen for children in Cameroon. We assessed TPT uptake and factors associated with poor adherence to TPT among CALHIV in two regions of Cameroon.

**Methods**: We performed a retrospective cohort analysis using programmatic data collected between October 2020 and September 2022 from 72 PEPFAR-supported HIV clinics. All newly diagnosed CALHIV aged 0-19 years starting antiretroviral therapy (ART) and for whom active TB disease was excluded were eligible for TPT. We described the initiation rate and adherence to TPT and performed logistic regression analysis to identify factors associated with non-initiation and poor adherence to TPT.

**Results**: Overall, 1,090 CALHIV were eligible for TPT, with a median age of 13 years (IQR: 3.6-18.3), and 63.3% were female. Among the 914 (83.9%) who started TPT, 616 (67.4%) began TPT on the same day as ART initiation, and only 501 (54.8%) completed TPT treatment. The median time to initiate TPT was 0 days (IQR: 0-45 days). In multivariable-adjusted analysis, factors associated with lower odds of non-TPT initiation included being in a private/confessional health facility (aOR: 0.63, 95% CI: 0.42-0.95) compared to being in a public health facility. Females (aOR: 1.51, 95% CI: 1.10-2.08) compared to males and ART interruption during TPT intake (aOR: 2.77, 95% CI: 1.91-4.03), were associated with poor adherence to TPT. Switching to a dolutegravir-based regimen (aOR: 0.52, 95% CI: 0.34-0.79) as part of treatment optimization compared to not being switched and aged 15-19 years (aOR: 0.65, 95% CI: 0.45-0.94) compared to aged 0-4 years were associated with better adherence to TPT.

**Conclusion**: While TPT initiation among children and adolescents initiating ART was high overall, these results emphasize the importance of coupling of ART initiation with TPT initiation after active TB exclusion in public facilities. TPT adherence remained suboptimal, with female CALHIV and ART interruption being the main risk factors for poor adherence.

120

# Trends in Tuberculosis Notifications and Tuberculosis/HIV Co-Infection Rates among Children at a Tertiary Hospital in Zambia: A 15-Year Retrospective Analysis

Simwanza S[1], Shanaube K[1], Chabala C[2,3]

*[1]Zambart, Lusaka, Zambia, [2]University of Zambia - School of Medicine, Lusaka, Zambia, [3]University Teaching Hospitals - Children's Hospital, Lusaka, Zambia*

**Background**: Tuberculosis (TB) is the leading cause of death among children living with HIV (CLHIV). Data on childhood TB and TB/HIV coinfection trends in Zambia are limited. Understanding these trends and their response to interventions and disruptions could help shape future strategies. We assessed childhood TB and TB/HIV coinfection trends from 2007 to 2021.

**Methods**: We conducted a retrospective observational study at the University Teaching Hospitals - Children's Hospital, the largest tertiary hospital in Lusaka, Zambia. We included all children aged 0-15 years from paper-based TB registers (2007–2021). Data on demographics, TB type, bacteriological confirmation, and HIV status were transcribed. Joinpoint analysis software, by the US National Cancer Institute, was used to identify trends.

**Results**: Between 2007 and 2021, 6075 children were diagnosed with TB, with 52% being male and a median age of 3 years (IQR: 1 to 8). HIV prevalence was 46% [95% CI: 45, 47], and 4.1% lacked a documented HIV status. Child TB notifications declined by 4.25% annually ([95% CI: -6.39, -2.04]; p<0.001), driven primarily by a 7.39% ([95% CI: -11.28, -3.22]; p<0.001) average annual decline in HIV-coinfected cases with no evidence of change in the frequency of HIV-negative cases (Average annual percentage change = -1.36 [95% CI: -4.52, 1.90]; p=0.4). While universal ART for children under 2 years was implemented in 2010 and for those aged 2–15 years in 2014, TB/HIV coinfection rates started to decline at the same time across all age groups after 2014. The fastest declines were observed in children aged 0–11 months (Annual percentage change (APC) = -11.91%, p<0.001, from 2015) and 1–4 years (APC = -11.80%, p=0.002, from 2015), with slower declines in those aged 5–15 years (APC = -6.83%, p=0.009, from 2014).

**Conclusion**: Declines in childhood TB notifications were almost exclusively driven by reductions in HIV-associated TB, highlighting the need to sustain efforts to eliminate HIV-associated TB, while developing and scaling up non-HIV-related interventions for childhood TB, like Mycobacterium tuberculosis immunoreactivity surveillance. That TB/HIV coinfection rates declined concurrently across age groups, despite a staggered universal ART introduction, suggests that scaled-up ART, not specific ART policies, caused the declines.

121

Abstract 121 was withdrawn.

122

# Four-Year-Old Children Born to Women Living with Well-Controlled HIV Had Similar Executive Function and Cognition to Children Born to Women Without HIV

Ojee E[1], Adhiambo* J[1,2], Begnel* E[3,4], Mugala H[1], Kamau R[1], Chebet D[1], Mabele E[1], Isavwa B[1], Chohan B[1,2,3], Gantt S[6], Lehman D[5], Benki-Nugent S[7], Collett B[8], Willoughby M[9], Wylie A[9], Magedson A[3], Day** C[10], Kinuthia** J[2,3], Slyker** J[3,4], Wamalwa **(* 1st author,** Joint last author) D[1,2,3]

*[1]Department of Paediatrics and Child Health, University of Nairobi, Nairobi, Kenya, [2]Research and Programs, Kenyatta National Hospital, Nairobi, Kenya, [3]Department of Global Health, University of Washington, Seattle, United States, [4]Department of Epidemiology, University of Washington, Seattle, United States, [5]Fred Hutchinson Cancer Center, Seattle, United States, [6]Microbiology, Infectious Diseases & Immunology, CHU-Sainte Justine, University of Montreal, Montreal, Canada, [7]Department of Medicine, Division of Allergy and Infectious Diseases, University of Washington, Seattle, United States, [8]Division of Developmental Medicine, University of Washington & Seattle Children's Research Institute, Seattle, United States, [9]Department of Psychology and Neuroscience, University of North Carolina, Chapel Hill, United States, [10]Emory Vaccine Center, Emory University, Atlanta, United States*

**Background**: Prior to the current universal test-and-treat era (UTT) where countries aim to provide antiretroviral therapy (ART) to all people living with HIV, several studies found vertical HIV exposure predicted lower neurodevelopmental scores in preschool-age children, including executive function (EF) and cognition. It is unclear whether these differences were due to biological effects of HIV exposure in utero or exposure to maternal ART, or were not biological at all but rather were driven by sociodemographic confounders. In the current era of UTT, where most women will begin ART before pregnancy, or in early pregnancy, it is unclear whether HIV exposure will impact child neurodevlopment.

**Methods**: The Linda Kizazi birth cohort was enrolled at Mathare North Health Centre in Nairobi, Kenya. Between 2018-2020, women living with (WLHIV) and without HIV and their children were enrolled in their third trimester of pregnancy and followed through to 48 months postpartum. WLHIV were eligible if they had received ≥6 months ART at enrollment. At 48 months, the EF-Touch tablet-based assessment was used to measure children's EF (reaction time, inhibitory control, cognitive flexibility, working memory) and the paper-based Kaufman Assessment Battery for Children, Second Edition (KABC-2) was used to assess cognition. Assessments were available in English or Kiwahili, with back-translation and cultural adaptation, as needed. Trained study staff conducted assessments under the supervision of study psychologists and neurocognitive experts. EF-Touch and KABC scores were compared between HIV exposed (CHEU) and unexposed (CHU) children using linear regression, adjusting for gestational age at birth, exclusive breastfeeding for 6 months, and maternal education.

**Results**: Between 2023-2024, 99 children (47 CHEU, 52 CHU) completed the EF-Touch and 105 children (54 CHEU, 51 CHU) completed a KABC assessment. Ninety percent of WLHIV received efavirenz-based regimens and 96% started ART prior to pregnancy as guided by Kenya's Ministry of Health guidelines. HIV exposure was not associated either the EF-Touch composite score (β= -0.04, 95% CI: -0.11-0.02; p=0.02) or any of the KABC sub-scores (Learning/Glr: β= -1.6, 95%CI: -5.3, 2.1; p=0.4; Mental Processing Index: β= -1.6, 95%CI: -5.8, -2.6; p=0.4; Nonverbal Index: β= -2.1, 95%CI: -2.6, 6.9; p=0.4; Sequential/Gsm: β= -2.7, 95%CI: -7.5, 2.2; p=0.6; Simultaneous/Gv: β= -2.7, 95%CI: -7.5, 2.2; p=0.3). However, being a firstborn child was associated with lower EF (β= -0.10, 95%CI: -0.19, 0.00; p=0.042). Male sex assigned at birth was associated with a lower KABC Sequential/Gsm score (β= -4.5, 95%CI: -8.9, -0.11; p=0.045) and higher birthweight was associated with a higher KABC Learning/Glr score (β=5.7, 95%CI: 0.57, 11; p=0.030).

**Conclusions**: In this setting with optimized maternal ART, HIV exposure was not significantly associated with EF or cognition. Further research is needed to explore other neurodevelopmental domains (e.g., motor, language) and to determine whether newer dolutegravir-based ART regimens have different effects on EF and cognition in CHEU and CHU.

123

# Growth Outcomes in Children Living with HIV in Europe and Thailand Before and After Starting Dolutegravir

Edgar K[1], Scott K[1], Castro H[1], O'Rourke J[1], Ene L[2], Galli L[3], Goetghebuer T[4], Henegar C[5], Hoffmann T[6], Koenigs C[7], Marczyńska M[8], Naver L[9,10], Noguera-Julian A[11,12,13], Paioni P[14], Puthanakit T[15,16], Ramos Amador J[17], Spoulou V[18], Tantawarak N[19], Vannappagari V[5], Volokha A[20], Turkova A[1], Judd A[1,2], Collins I[1], Crichton S[1]

*[1]MRC Clinical Trials Unit at University College London, London, United Kingdom, [2]'Dr. Victor Babes' Hospital for Infectious and Tropical Diseases, Bucharest, Romania, [3]Infectious Disease Unit, Meyer Children's Hospital, IRCCS, Department of Health Sciences, University of Florence, Florence, Italy, [4]Hopital St Pierre, Brussels, Belgium, [5]Epidemiology and Real World Evidence, ViiV Healthcare, Durham, United States, [6]Department of Pediatrics, Hvidovre University Hospital, Copenhagen, Denmark, [7]Goethe University, University Hospital Frankfurt, Department of Paediatrics and Adolescent Medicine, Frankfurt, Germany, [8]Department of Children's Infectious Diseases, Medical University of Warsaw, Warsaw, Poland, [9]Department of Pediatrics, Karolinska University Hospital, Stockholm, Sweden, [10]Department of Clinical Science, Intervention and Technology (CLINTEC), Karolinska Institutet, Stockholm, Sweden, [11]Servei de Malalties Infeccioses, Hospital Sant Joan de Deu, Universitat de Barcelona, Barcelona, Spain, [12]Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública (CIBERESP), Madrid, Spain, [13]Departament de Cirurgia i Especialitats Medicoquirúrgiques, Facultat de Medicina i Ciències de la Salut, Universitat de Barcelona, Barcelona, Spain, [14]Division of Infectious Diseases and Hospital Epidemiology, University Children's Hospital, Zurich, Switzerland, [15]Centre of Excellence for Paediatric Infectious Diseases and Vaccines, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [16]Department of Paediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [17]Hospital Clínico San Carlos, Madrid, Spain, [18]First Dept of Paediatrics, "Agia Sofia" Children's Hospital, Athens, Greece, [19]Khon Kaen University, Khon Kaen, Thailand, [20]Shupyk National Healthcare, University of Ukraine, Kyiv, Ukraine, [21]Fondazione Penta ETS, , Italy*

**Background**: Excess weight gain on dolutegravir (DTG) has been reported in some adult studies, but data on children living with HIV (CLHIV) are limited.

**Methods**: CLHIV aged 2-<12 years at DTG start, with >24 weeks follow-up in one of 15 cohorts in the Epidemiology of Pregnancy and Paediatric Infections International Cohort Collaboration (EPPICC) were included. Mixed models were used to estimate changes in body-mass index z-score (zBMI), calculated using the British growth reference.

Firstly, we fitted an unadjusted model to compare the growth rate (i.e. rate of change in zBMI) in the 48 weeks before versus after DTG start. Next in adjusted analyses we explored differences in the growth rate before and after DTG start across subgroups based on characteristics at DTG start: age (2-<6, 6-<9 and 9-<12 years), sex (male, female), region (UK/Ireland, Thailand, Ukraine, Rest of Europe), ART/viral load(VL) status (ART-naïve, ART-experienced/suppressed(VL<200c/mL), ART-experienced/unsuppressed(VL≥200c/mL), ART-experienced/VL unknown), WHO immune status (None/Mild, Advanced/Severe) and zBMI (<-1, -1-<0, 0-<1, ≥1). Variables with a significant interaction with growth before or after DTG start were included in the final model with interactions between age, sex and region, and time also included a-priori.

**Results**: Of 420 eligible CLHIV, 295(70%) had ≥1 zBMI available in both the 48 weeks before and after DTG start and were included; 52% were female, 41% Black, 34% White, 13% Asian, 12% other ethnicity. At DTG start median [IQR] age was 9.1[6.7,10.8] years, 17% aged 2-<6, 31% 6-<9, 52% 9-<12 years, zBMI 0.23[-0.66,1.17], 28% were overweight or obese, 11% ART-naïve, 52% ART-experienced/suppressed, 11% ART-experienced/unsuppressed, 25% ART-experienced/VL unknown. The median number of zBMI observations between 48 weeks before and after DTG start was 5[3,6].

Overall, unadjusted mean change in zBMI in the 48 weeks before DTG start was -0.01(95% CI -0.10,0.08) and increased to 0.15(0.06,0.23) in the 48 weeks after DTG start (p=0.020).

In adjusted analyses, increases in zBMI post-DTG start remained significantly higher than before DTG (p=0.015), however there was an interaction with zBMI at DTG start (p<0.001). A significant increase in the rate of growth post-DTG start (versus pre-DTG) was only observed in those with baseline zBMI<-1. In this group, zBMI decreased in the 48 weeks before DTG start (-0.62(-0.84,-0.41)), and increased in the 48 weeks after (0.45(0.24,0.65)). In contrast, across other baseline zBMI groups combined, mean zBMI change in the 48 weeks pre versus post DTG start was similar (0.11(0.02,0.21) vs 0.09(0.00,0.18)). Overall, the growth rate (both before and after DTG start) varied significantly by age at DTG start (p=0.004) and region (p=0.011), with the largest increases in

zBMI seen in CLHIV age 9-<12 years and in the UK/Ireland. However, the change in growth rate pre vs post DTG start did not differ by any other characteristics (p≥0.05).

**Conclusions**: While CLHIV aged 2-<12 years in EPPICC experienced increases in zBMI on DTG, the increase on DTG compared to before DTG start was higher only for those with a low zBMI. For these CLHIV, zBMI was decreasing before DTG start and growth on DTG may reflect a return to health.

# POSTER ABSTRACT PRESENTATIONS

International Workshop
on Pediatrics & HIV

Hybrid Meeting

11 – 12 July 2025
Kigali, Rwanda

29

# Pregnancies among Adolescents and Young Women on Dolutegravir vs. Standard-of-Care in the ODYSSEY Trial and Effects of the Dolutegravir Neural Tube Defect Safety Alert

Ahimbisibwe G[1], Wyncoll J[2], Mngqibisa R[3], White E[2], Bwakura-Dangarembizi M[4], R. Kekitiinwa A[5], Lugemwa A[6], Kityo C[7], Variava E[8], Liberty A[8], Kataike H[1], Ngampiyaskul C[9], Cotton M[10], Riault Y[11], Archary M[3], Smit T[12], Puthanakit T[13], Shakeshaft C[2], Nhema R[4], Bbuye D[5], Atwine L[6], Kaudha E[7], Giaquinto C[14], Rojo P[15], Bamford [2], Gibb D[2], Turkova A[2], Ford D[2], Musoke P[1,16]

*[1]Makerere University-Johns Hopkins University (MU-JHU) Research Collaboration, Kampala, Uganda, [2]MRC Clinical Trials Unit at UCL, Institute of Clinical Trials and Methodology, London, United Kingdom, [3]Enhancing Care Foundation: King Edward VIII Hospital, Durban, South Africa, [4]University of Zimbabwe, Harare, Zimbabwe, [5]Baylor College of Medicine Children's Foundation, Kampala, Uganda, [6]Joint Clinical Research Centre (JCRC), Mbarara, Uganda, [7]Joint Clinical Research Centre (JCRC), Kampala, Uganda, [8]Perinatal HIV Research Unit, University of the Witwatersrand, Johannesburg, South Africa, [9]Pediatric Department Prapokklao Hospital, Chantaburi, Thailand, [10]Family Center for Research with Ubuntu, Department of Paediatrics & Child Health, Stellenbosch University, Tygerberg, South Africa, [11]INSERM/ANRS SC10-US19, Essais thérapeutiques et maladies Infectieuses, Villejuif, France, [12]Africa Health Research Institute (AHRI), Kwazulu-Natal, South Africa, [13]HIVNAT, Thai Red Cross AIDS Research Center, Bangkok, Thailand, [14]University of Padova, Department of Women and Child Health, Padova, Italy, [15]Pediatric Infectious Diseases Unit, Hospital 12 de Octubre, Madrid, Spain, [16]Department of Paediatrics and Child Health, Makerere University College of Health Sciences, Kampala, Uganda*

**Background**: ODYSSEY randomised children and adolescents <18 years living with HIV and starting first- or second-line antiretroviral therapy(ART), to dolutegravir(DTG)-based ART vs. standard-of-care(SOC) between 09/2016 and 06/2018. Randomised follow-up was until 04/2020. During extended follow-up (04/2020-05/2023) SOC participants switched to DTG-based ART following guidelines. In 05/2018, WHO released a DTG safety alert due to an observed increased neural-tube defect(NTD) risk in pregnancy. We present pregnancy rates and virological outcomes on DTG vs SOC by calendar-time.

**Methods**: Pregnancy and breast-feeding were exclusion criteria at trial enrolment. Effective contraception was encouraged. Post-alert, ODYSSEY strengthened contraceptive provision and counselled pregnant participants on DTG about NTDs. Pregnancy rates in females ≥13 years were compared by current ART using Poisson regression, adjusting for age. ART, viral suppression (<200 copies/mL) prior to pregnancy and during pregnancy, and pregnancy outcomes are described.

**Results**: 295 females (155 aged ≥13 years at randomisation; 140 reached 13 during follow-up), contributed 1183 person-years, 743 on DTG. In the DTG arm, 32(3%) person-years were spent on non-DTG-based ART; 16 person-years due to switching off DTG to conceive or during pregnancy. 21% SOC participants switched to DTG before 06/2021 (before end of 3 years post-alert), 79% before 06/2022. 82 pregnancies occurred (48 on DTG, 34 on SOC) in 62 females; 18 had 2 pregnancies, one had 3. Median age at first pregnancy was 18.5 years (range:13.4–22.1).

Pre-alert, pregnancy rates were low on DTG (4 pregnancies; incidence rate (IR)=5.02 per 100 person-years [95%CI:1.88-13.37]) and on SOC (2 pregnancies; IR=2.52[0.63-10.06]; p=0.24). In the first-year post-alert (06/2018-05/2019) there were 5 pregnancies on DTG (IR=5.59[2.33-13.43]) and 5 on SOC (IR=5.28[2.20-12.69]; p=0.89); in the second-year (06/2019-05/2020) there were 4 on DTG (IR=4.01[1.51-10.70]) and 10 on SOC (IR=9.71[5.22-18.04]; p=0.17); and in the third year (06/2020-05/2021) there were 6 on DTG (IR=5.56[2.50-12.38]) and 9 on SOC (IR=9.15[4.76-17.59]; p=0.55)). Over the 3 years post-alert, pregnancy rates on DTG were 32% lower than SOC (IRR=0.68[95%CI:0.36–1.29]; p=0.24). From four years post-alert to end of follow-up (06/2021-05/2023), most follow-up (85%) was on DTG; there were 29 pregnancies on DTG (IR=7.91[5.50-11.38]) and 8 on SOC (IR=12.53[6.27-25.06]; p=0.34). Three females switched off DTG to conceive, six switched during pregnancy (five in first trimester).

Prior to/at pregnancy, 59/72(82%) females were virologically suppressed. Of 59, 40(68%) remained suppressed through pregnancy: 21/29(72%) on DTG, 13/21(62%) on SOC, 4/4(100%) who switched to DTG during pregnancy and 2/5(40%) who switched off DTG during pregnancy.

Pregnancy outcomes included 52/80(65%) live births (31/47(66%) on DTG at conception, 21/33(64%) SOC), 2 stillbirths (1 DTG, 1 SOC),

9(11%) spontaneous abortions (4/47(9%) DTG, 5/33(15%) SOC), 16(20%) induced abortions (10/47(21%) DTG, 6/33(18%) SOC), 1 ectopic pregnancy (DTG). No congenital abnormalities were reported. One child acquired HIV; mother was unsuppressed on DTG during pregnancy.

**Conclusions**: Pregnancy rates on DTG were lower than on SOC post-alert, suggesting pregnancy avoidance on DTG. Viral suppression during pregnancy was higher on DTG; 2/5 switching off DTG in pregnancy remained suppressed. Careful consideration of risks and benefits of switching treatment in pregnancy is needed in the event of a safety alert.

30

# The Impact of Dolutegravir-Based Antiretroviral Therapy on Maternal HIV Viral Suppression and Vertical Transmission in Pregnant Women Living with HIV in Johannesburg, South Africa, July 2021-March 2025

Patel F[1], Le Roux J[1], Sawry S[1], Malaba T[2], Lavies D[3], Mehta U[3], Fairlie L[1]

*[1]Wits RHI, Faculty of Health Sciences, University of Witwatersrand, Johannesburg, South Africa, [2]Division of Epidemiology and Biostatistics, School of Public Health, University of Cape Town, Cape Town, South Africa, [3]Division of Clinical Pharmacology, Department of Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town , South Africa*

**Background**: Dolutegravir-based (tenofovir disoproxil fumarate/lamivudine/dolutegravir (TLD)) antiretroviral therapy, highly effective at rapidly suppressing HIV viral load (VL) compared to tenofovir disoproxil fumarate/emtricitabine/efavirenz (TEE), has been recommended in pregnant women living with HIV (PWLHIV) in South Africa (SA) since June 2021. Sustained maternal viral suppression prevents vertical transmission of HIV. Maternal VL testing at delivery was included in the SA Vertical Transmission Prevention guidelines since August 2023. We describe the impact of TLD on maternal viral suppression and vertical transmission in infants born to PWLHIV in this cohort.

**Material and Methods**: Pregnant women accessing antenatal care (ANC) at four sites in inner city Johannesburg, SA, who were enrolled in the ongoing UBOMI BUHLE Pregnancy Exposure Registry from July 2021 to March 2025, were included. Routinely collected paper-based maternity case records, clinic-based registers, laboratory results and infant PCR reports were securely collected. Maternal delivery VL (within 45 days pre- or 10 days post-delivery) and infant birth HIV PCR (within 7 days of life) results were included. HIV VL suppression and non-suppression were defined as VL<50 and VL ≥50 copies/ml, respectively. Logistic regression evaluated the association of antiretroviral therapy (ART) type, timing of ART initiation, and the number of ANC visits with viral load non-suppression at delivery. Proportions of cases of vertical HIV transmission, with ART regimen and VL results, are presented.

**Results**: Of 2,648 PWLHIV with pregnancy outcomes, the majority were on TLD at any time during the pregnancy (2,465/2,648: 93.1%, 95% Confidence interval (CI): 92.1-94.0). Among 2,465 PWLHIV taking TLD, 793 (32.2%) were initiated during the pregnancy at a median of 22 (IQR 16-27) weeks gestational age and 228 (9.3%) changed to TLD during the pregnancy at a median of 25 (IQR 17-30) weeks gestational age. Only 898 (33.9%) PWLHIV had a delivery VL recorded, of which 232 (25.8%) were non-suppressed. While most of those non-suppressed had VL levels above 1,000 copies/ml (n=129, 55.6%), 20.3% (n=47) had 50-99 copies/ml, 11.2% (n=26) had 100-199 copies/ml, and 12.9% (n=30) had 200-999 copies/ml at delivery. There was no significant difference in delivery VL non-suppression in PWLHIV on TLD compared to the small cohort on TEE (215/831 vs. 10/41; 25.9% vs. 24.4%; adjusted odd ratio (aOR)1.2, 95% CI: 0.6-2.6). Non-suppression was associated with ART initiation in the third trimester compared to initiation before ANC (aOR 4.3, 95% CI 2.6-7.1); and having <4 ANC visits compared to those having ≥4 ANC visits (aOR=1.8, 95% CI 1.3-2.5). Vertical HIV transmission occurred in 17/2,634 (0.7%) livebirths, with 16 PWLHIV on TLD and 1 (virally suppressed at delivery) on TEE. Of the 16 PWLHIV on TLD, 1 had a VL between 200-499 copies/ml, 2 had a VL ≥1000 copies/ml, and 13 had no VL result at delivery.

**Conclusions**: Despite widespread use of TLD in SA, low rates of maternal delivery VL monitoring and high rates of viral non-suppression at delivery remain concerning. Fewer ANC visits (<4) and late ART initiation during pregnancy were associated with maternal VL non-suppression at delivery.

31

# HIV Prevention & Treatment in Pregnant and Breastfeeding Persons

Kamau J[1]

[1]Boresha Jamii Initiative, Nairobi, Kenya

**Background**: HIV prevention and treatment among pregnant and breastfeeding persons are critical to reducing maternal morbidity and eliminating mother-to-child transmission (EMTCT). While the widespread implementation of prevention of mother-to-child transmission (PMTCT) programs has led to significant progress, challenges such as late antenatal care initiation, suboptimal antiretroviral therapy (ART) adherence, and healthcare access disparities continue to hinder optimal outcomes. This study evaluates the effectiveness of Kenya's PMTCT strategies in ensuring maternal viral suppression and reducing perinatal HIV transmission.

**Materials and Methods**: A retrospective cohort study was conducted across maternal and child health clinics in Kenya from 2020 to 2024. Data were collected from 1,200 pregnant and breastfeeding persons living with HIV who were receiving PMTCT services. Key indicators assessed included ART adherence, viral suppression rates (HIV RNA <50 copies/mL), and infant HIV outcomes at six months postpartum. Statistical analyses, including logistic regression and survival analysis, were used to determine the impact of ART initiation timing, adherence interventions, and healthcare accessibility on maternal and infant health outcomes.

**Results**: Of the 1,200 participants, 88% achieved viral suppression by the third trimester, and perinatal HIV transmission was reduced to 1.4%, compared to 5.6% among those with inconsistent ART adherence. Factors associated with improved maternal and infant health outcomes included early ART initiation (OR 2.5, 95% CI 1.9–3.2), regular viral load monitoring (OR 2.1, 95% CI 1.7–2.6), and participation in community-based support programs (OR 2.4, 95% CI 1.9–2.9). Key barriers to treatment adherence included stigma, socioeconomic constraints, and healthcare system inefficiencies, particularly in rural areas.

**Conclusions**: Comprehensive HIV prevention and treatment strategies have significantly reduced perinatal HIV transmission and improved maternal viral suppression in Kenya. Early ART initiation, consistent clinical monitoring, and enhanced adherence support remain critical in sustaining progress. Addressing healthcare disparities and social barriers through targeted interventions, such as mobile health services, peer counseling, and economic support, can further optimize outcomes. Strengthening PMTCT programs through multi-sectoral collaboration will be essential in achieving Kenya's goal of eliminating mother-to-child HIV transmission and ensuring better health for pregnant and breastfeeding persons and their infants.

32

# Pregnancy, PMTCT Services, and Infant Outcomes among Adolescents and Young Adults Living with HIV in Nigeria

Akinsolu F[1,2], Dahourou D[3], Musa A[1,2], Abodunrin O[1,2], Salako A[1,2], David A[2], Ofotokun I[4], **Leroy V**[3], Desmonde-Phillips S[3], Ezechi O[1,2]

*[1]Lead City University, Ibadan, Nigeria, [2]Nigerian Institute of Medical Research, Yaba, Nigeria, [3]Centre for Epidemiology and Research in Population Health (CERPOP), Toulouse, France, [4]Emory University, Atlanta, Georgia*

**Background**: Adolescents and young adults living with HIV (AYALHIV) who get pregnant face unique challenges in accessing timely and effective PMTCT services. This study examines maternal characteristics, antenatal care (ANC) timing, and infant outcomes among AYALHIV to inform strategies for strengthening PMTCT implementation in Nigeria.

**Methods**: A retrospective review of clinical data was conducted on a cohort of female AYALHIV aged from 10 to 24 years who carried pregnancies to term between 2010 and 2024. Data were obtained from the Nigerian Institute of Medical Research (NIMR), Lagos, an IeDEA West Africa consortium. Information was extracted from facility medical records and longitudinal program databases.
Key maternal variables included age at pregnancy, marital status, mode of HIV acquisition, and timing of ANC initiation. Infant outcomes examined included birth status (alive or deceased), gestational age at birth, birth weight, feeding practices, receipt of nevirapine (NVP) prophylaxis, and 6-week polymerase chain reaction (PCR) test results for early infant HIV diagnosis.
Descriptive statistics were used to summarise maternal characteristics, infant outcomes, and PMTCT service uptake. Pregnancy incidence rates were calculated by dividing the number of pregnancies each year by the size of the active file and then aggregated into four time periods (2010, 2011–2015, 2016–2019, and 2020–2024) to account for variations in PMTCT guidelines and ART regimens.

**Results**: Between 2010-2024, 209 pregnancies were carried to terms among AYALHIV. The median age at pregnancy was 23 years (IQR: 22–24). Most of the participants acquired HIV through heterosexual transmission (n=165, 79%), while four (2%) acquired it via blood transfusion, and eight (4%) were perinatally infected. Most were married (n = 147, 70%), 28% were single, and 4% were separated or widowed.
Over the 14-year study period, pregnancy incidence among AYALHIV declined significantly, from 8.4% (95% CI: 7.1%–9.7%) in 2011–2015 to 1.8% (95% CI: 0.9%–2.6%) in 2016–2019, and further to 1.4% (95% CI: 0.7%–2.1%) in 2020–2024. However, despite this decline, early engagement within ANC remained poor. Only 13 women (6%) initiated ANC in the first trimester, while 50% and 44% enrolled in the second and third trimesters, respectively.
Of the 209 pregnancies, 193 (92.3%) resulted in live births, including 15 preterm deliveries and 8 neonatal deaths. Among the 185 infants who survived, nine (5%) were born with low birth weight (<2.5kg). Feeding practices were suboptimal: only 42 infants (23%) were exclusively breastfed, while 88 (48%) were mixed-fed. Documentation of NVP prophylaxis was limited, with only 18 infants (10%) having recorded receipt. Early infant diagnosis was similarly underutilised; 91 infants (49%) underwent 6-week PCR testing, of whom two tested positive for HIV.

**Conclusion**: This study highlights persistent gaps in the PMTCT cascade among AYALHIV, including delayed ANC uptake, mixed feeding practices, and limited early infant diagnosis. Infant prophylaxis was poorly documented. More targeted, youth-friendly interventions are essential to strengthen PMTCT service delivery and reduce the risk of vertical HIV transmission in this vulnerable group.

33

# Growth Outcomes in Neonates and Infants Born to Mothers on Bictegravir During Pregnancy

Woldemeskel M[1], Munger O[2], Unternaher J[2], Rakhmanina N[2,3,4]

*[1]Department of Global Health, The George Washington University Milken Institute School of Public Health, , United States , [2]Division of Infectious Diseases, Children's National Hospital, , United States , [3]Department of Pediatrics, The George Washington University School of Medicine, , United States , [4]Technical Strategies and Innovation, Elizabeth Glaser Pediatric AIDS Foundation, , United States*

**Background**: Bictegravir (BIC) is a recommended first-line antiretroviral (ARV) drug for most adolescents and adults living with HIV. Despite the growing use of BIC during pregnancy, it remains an alternative ARV during pregnancy due to limited data on its safety and impact on infant growth outcomes. We examined health outcomes among HIV and BIC in utero exposed infants (HBEI) in care at Children's National Hospital (CNH), Washington, DC, USA.

**Methods**: We evaluated a retrospective cohort study of HBEI (0-≤6 months old) who received care at CNH from January 2019 through 2022. Data were collected from infant medical records (birth outcomes, HIV status, growth indicators) and maternal intake forms (demographics, HIV diagnosis duration, viral load (VL) before delivery, BIC treatment initiation and duration). Descriptive statistics were used to analyze infant head circumference (HC) at 0–1 month and weight-for-length (WFL) and length-for-age (LFA) at 2–3 months using CDC-recommended WHO z-score standards. Non-breastfed infants were deemed definitively HIV negative based on ≥2 negative HIV NAT tests after 1 and 4 months of age.

**Results**: Sixty mothers (median age=34 [IQR:26–37], 50% African American, 70% with VL < 50 copies/mL and median CD4 count of 450 cells/mm³ [IQR:380–663] pre-delivery) delivered 60 HBEIs (88% born at term, median birth weight=3.2 kg [IQR 2.8-3.4]). Most mothers (82%) were diagnosed with HIV prior to pregnancy and had a median HIV diagnosis duration of 4 years (IQR: 1–12.5). BIC initiation occurred prior to or during the first trimester (46%), during the second (18%), and third (10%). Forty-four mothers (73%) continued BIC through delivery, six (10%) discontinued in the first trimester, and 10 (17%) had an unknown BIC duration. Growth parameters were primarily normal for HC at 0–1 month (n=49, 92%) and at 2–3 months for WFL (n=52, 85%) and LFA (n=51, 92%). Abnormal growth outcomes included microcephaly (2%) and macrocephaly (6%) for HC, underweight (4%) and overweight (12%) for WFL, and short stature (6%) and tall for age (2%) for LFA. Among HBEIs with abnormal growth outcomes (n=16), gestational age was primarily at term for HC (n=4, 100%), WFL (n=7, 87%), and LFA (n=4, 100%) measurements. Only one infant with an abnormal WFL outcome was preterm (2%). HBEIs with abnormal LFA outcomes (n=4) were born to the older mothers in the cohort (median age=40 years [IQR: 30.5–41]) and those with the longest duration of HIV diagnosis (median duration=15 years [IQR: 11.5–18.5]); infants with abnormal HC (n=4) were born to mothers with the youngest median age in the cohort (median age=31 [IQR:30–36] and lowest HIV diagnosis duration (median duration=4 years [IQR:2.0–10.0]. Among 60 HBEIs, none were breastfed, and 57 (95%) were definitively HIV-negative; three (5%) HBEIs were lost to care after one negative HIV NAT test.

**Conclusion**: Most HBEI exhibited normal growth, contributing to the growing body of evidence on BIC use during pregnancy for infant outcomes. Prospective observational cohorts and comparative studies are needed to continue assessing the long-term growth and developmental outcomes of ARV exposures in utero.

34

# Viral Load Monitoring During Pregnancy and Postpartum in the Western Cape Province, South Africa, 2018-2021

Anderson K[1], Kalk E[1], Phillips T[1,2], Jacob N[3], Mudaly V[4], Phelanyane F[1,5], Euvrard J[1,5], Boulle A[1,3,5], Davies M[1,3,5], on behalf of IeDEA Southern Africa

*[1]Centre for Integrated Data and Epidemiological Research, School of Public Health, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa, [2]Division of Epidemiology & Biostatistics, School of Public Health, University of Cape Town, Cape Town, South Africa, [3]Division of Public Health Medicine, School of Public Health, University of Cape Town, Cape Town, South Africa, [4]Service Priorities Coordination, Western Cape Department of Health and Wellness, Cape Town, South Africa, [5]Health Intelligence, Western Cape Department of Health and Wellness, Cape Town, South Africa*

**Background**: Because sustained viral suppression is important in preventing vertical HIV transmission, adequate viral load (VL) monitoring during pregnancy and breastfeeding is crucial. Guidelines for improved VL monitoring were introduced in South Africa in early 2020, whereby, in addition to antenatal VL monitoring, mothers on antiretroviral therapy (ART) should have VL testing at delivery and 6 months thereafter. Concurrently, dolutegravir-based regimens were introduced as preferred first-line ART (vs efavirenz-based), and strict national COVID-19 lockdown measures were implemented from March 2020.

**Methods**: We included mothers living with HIV in the Western Cape province, South Africa, who delivered live-born infants between May 2018 and April 2021, and initiated ART before/during pregnancy. We used logistic regression to compare differences in VL monitoring and proportion with unsuppressed VL (>1,000 copies/ml) among women who delivered before vs after guidelines changed (Era 1: 2018-2019 vs Era 2: 2020-2021), adjusted for maternal age and timing of maternal ART start relative to pregnancy.

**Results**: We included 46,860 deliveries (Era 1: 25,264; Era 2: 21,596). Mothers started ART before (72%) or during pregnancy (28%). Among mothers who started ART >3 months before delivery (n=43,555), late pregnancy testing was more likely during Era 2 than 1 (85% vs 75% coverage; aOR 1.93; 95%CI 1.83-2.03), and of those tested, unsuppressed VL was more likely in Era 2 than 1 (10% vs 9%; aOR 1.09; 95%CI 1.01-1.17). Among all mothers, postpartum testing within 6 months of delivery was less likely among those delivering in Era 2 than 1 (44% vs 47%; aOR 0.92; 95%CI 0.89-0.96), and of those tested, unsuppressed VL was more likely in Era 2 than 1 (11% vs 9%; aOR 1.29; 95%CI 1.17-1.41). Mothers aged <20 years (vs ≥20) at delivery and those who started ART before (vs during) pregnancy were less likely to have late pregnancy and postpartum VL testing. Of all mothers who achieved an undetectable VL during pregnancy or postpartum and had subsequent testing, 19% (n=5,513/28,285) had subsequent detectable VL during pregnancy or postpartum (<12 months after delivery); 48% of first (post-undetectable) detectable VLs were in pregnancy and 52% postpartum.

**Conclusions**: After new VL monitoring guidelines were introduced, late pregnancy VL monitoring improved (due to delivery testing) but not postpartum VL monitoring. National lockdown measures may have affected HIV service delivery, and may partially account for poorer implementation of postpartum VL monitoring and lack of improved viral suppression rates in Era 2. After achieving undetectable VLs, detectable VLs occur frequently, and more attention to VL monitoring is needed, particularly postpartum.

35

# Focused Interventions among Pregnant and Breastfeeding Women in a Rural District in Malawi Improved Gaps in Viral Load Coverage and Suppression

Cox C[1,2,3], Kaonga A[1], Mbalati E[1], Majoni R[1], Joshua F[1], Mwareya H[4], Wetzel E[1,2], Simon K[1,2,3]

*[1]Baylor College Of Medicine Children's Foundation Malawi, Lilongwe, Malawi, [2]Texas Children's Global Health Network, Texas Children's Hospital , Houston, United States, [3]Department of Pediatrics, Baylor College of Medicine, Houston, United States, [4]Phalombe District Health Office, Ministry of Health, , Malawi*

**Background**: Maintenance of viral suppression (VLS) during pregnancy and breastfeeding is critical to prevent transmission of HIV from mother to child. Malawi HIV guidelines recommend 6 monthly viral load (VL) monitoring during pregnancy and breastfeeding to facilitate rapid support to achieve VLS. Many pregnant and breastfeeding women living with HIV including those newly diagnosed and/or young mothers face challenges to achieve high rates of viral load coverage (VLC) and VLS, necessitating innovative solutions. We describe a focused intervention to identify and rapidly address gaps to achieving high rates of VLC and VLS among pregnant and breastfeeding women at 14 rural health facilities in Phalombe District supported by Baylor College of Medicine Children's Foundation Malawi.

**Methods**: An audit of VLC and VLS among a cohort of pregnant and breastfeeding women eligible for VL at 14 health facilities was performed in September 2024. Site level teams reviewed and flagged charts for each woman to expedite followup, either at upcoming clinic appointments, or for phone/ in person tracing for those with visits more than 2 weeks in future. VL collection was performed for women overdue for VL and intensified adherence counseling provided for those with high VL (1000+ copies / mL). A follow up audit was conducted after three months to assess progress.

**Results**: In Sept 2024, among 2128 women living with HIV (210 pregnant, 1090 breastfeeding) eligible for VL, 61% (1300/2128) had documented on-time VL results. Among women with on-time VL results, 93% (196/210) of pregnant and 96% (1047/1090) of breastfeeding women had a suppressed VL (<1000 copies/ mL). Facility followup 3 months later identified 768 pregnant and breastfeeding women overdue for VL collection or high VL still needing followup. Within 3 months 74% (570/768) overdue for VL had received followup testing (570/768): with 84% (478/570) VL<1000, 5% (28/570) VL 1000+, 11% (64/570) pending results (64/570). The 23% (n=173) remaining to be drawn were not yet due for VL either due to either treatment interruption or continuing adherence support prior to follow-up testing, and 3% (25/768) had transferred out.

**Conclusion**: Using this simple audit follow-up process, over three quarters of pregnant and breastfeeding women living with HIV overdue for VL were linked to testing within 3 months by identifying gaps. The use of robust, disaggregated data to identify viral load coverage gaps and guide targeted interventions is an effective approach to ensure routine VL collection among at-risk pregnant and breastfeeding women who need additional care and intensified support to achieve viral load suppression.

36

# Determinants of Sustained HIV Viral Suppression among Pregnant and Breastfeeding Mothers Enrolled in Prevention of Mother-to-Child Transmission Program in Rwanda

Nisingizwe P[1,2], UMUTESI D[1], NZEYIMANA Z[1], MWUMVANEZA F[1], IKUZO B[1], N RWIBASIRA G[1]

*[1]Rwanda Biomedical Center, kigali, Rwanda, [2]University of Rwanda , kigali, Rwanda*

**Background**: HIV viral suppression among pregnant and breastfeeding mothers is critical for eliminating mother-to-child transmission (MTCT) of HIV. The transmission can occur during pregnancy, during delivery and breastfeeding period. Maintaining viral suppression throughout these stages is critical for reducing HIV transmission to infants. This study aimed to identify key determinants of sustained HIV viral suppression among mothers enrolled in Prevention of Mother-to-Child Transmission (PMTCT) program in Rwanda.

**Methods**: This retrospective cohort study was conducted across 283 health facilities in Rwanda on pregnant and breastfeeding mothers living with HIV who were enrolled in the PMTCT program. The study included mothers who were followed from pregnancy through the end of the breastfeeding period between July 2016 and June 2020. Viral suppression was defined as a viral load of <200 copies/mL, while non-suppression was defined as a viral load ≥200 copies/mL. Sustained viral suppression was achieved if a mother maintained a suppressed viral load throughout pregnancy and breastfeeding. Data were analyzed using Stata version 17, logistic regression were used to identify determinant of sustained viral suppression throughout the PMTCT follow-up period.

**Results**: A total of 5,454 mothers were included in the analysis. Among, 83% had maintained viral suppression during follow-up. The majority of mothers with suppressed viral loads were aged 35–44 years (50.5%). Mothers who were HIV positive before pregnancy and on treatment showed 85% suppression rate ($p < 0.001$). In multivariate analysis, identified determinant of sustained viral suppression were age 25–34 years (aOR: 2.36, 95% CI: 1.35–4.15), living in northern province (aOR: 3.25, 95% CI: 1.78–5.9), adherence to antiretroviral therapy at 6, 12, 18, and 24 months (aOR ranging: 10.1 –17.64), and male partner support during antenatal care (aOR: 1.4, 95% CI: 1.00–1.83).

**Conclusions**: Maintaining viral suppression throughout the PMTCT period is essential for ensuring good health outcomes for both mothers and their infants. Key determinant of sustained viral suppression include being aged 25–34 years, living in rural province, consistent adherence to antiretroviral therapy, and receiving male partner support during antenatal care. Interventions should focus on these determinants to enhance viral suppression among mothers enrolled in the program.

37

# Prevalence of Low-Level Viremia and Correlates of Viral Load Suppression in Ugandan Pregnant Women Living with HIV (April 2023-March 2024)

Namara-Lugolobi E[1], Namukanja P[1], Ssempiira J[1], Ntale J[1], Kavuma C[1], Elur B[1], Nakityo R[1], Namazzi G[1], Namayanja G[1], Businge J[1], Sendagala S[1], Nabitaka- Kisaakye L[2], Ssewanyana I[3], Bigira V[3,4], Kalamya J[1], Delaney A[5], Fitzmaurice A[1]

*[1]Division of Global HIV & TB, U.S. Centers for Disease Control and Prevention, Kampala, Uganda, [2]AIDS Control Program, Uganda Ministry of Health, , Kampala, Uganda, [3]Central Public Health Laboratories,, Kampala, Uganda, [4]Monitoring and Evaluation Technical Support Program, Makerere University School of Public Health, , Kampala, Uganda, [5]Division of Global HIV & TB, U.S. Centers for Disease Control and Prevention, , , GA*

**Introduction**: Viral load (VL) non-suppression is a key predictor of vertical HIV transmission. Suppression to undetectable levels optimizes individual treatment outcomes. We determined the prevalence of low-level viremia (LLV), high-level viremia (HLV), VL suppression (VLS) and correlates of VLS among pregnant women living with HIV (PWLHIV) to inform Uganda programming.

**Methods**: We conducted a retrospective cross-sectional analysis of all VL results for PWLHIV on antiretroviral therapy (ART) in the Uganda Central Public Health Laboratory Information Management System from April 2022 through March 2024. Results for clients with suspected/confirmed treatment failure (any repeat VL after initial VL >1000 copies) were excluded. HLV was defined as VL ≥1000 copies/mL, LLV as 201–999 copies/mL and VLS as VL ≤200 copies/mL. Independent variables were maternal age, duration on ART, indication for VL test and self-reported adherence. Adherence to ART was defined as good (≥95%) and fair/poor (<95%). Indications for testing were routine monitoring or first antenatal care (ANC) visit. We used multivariate logistic regression to determine correlates of VLS.

**Results**: Prevalence of HLV was 7% (2,386/33,704); LLV was 37% (12,379/33,704) and VLS was 56% (18,939/33,704). Odds of VLS were higher for PWLHV 25–29 years (adjusted odds ratio [aOR]=1.36; 95% confidence interval [CI]: 1.25–1.47), 30–34 years (aOR=1.50, 95%CI: 1.37–1.64), and ≥35 years (aOR=1.54, 95%CI: 1.39–1.70), compared to PWLHIV 15–24 years. Odds of VLS were higher for PWLHIV receiving VL testing for routine monitoring (aOR=1.13, 95% CI: 1.01–1.27) compared to those receiving VL testing at first ANC visit and those with good adherence compared to those with fair/poor adherence (aOR=1.78, 95%CI:1.38–2.28). Odds of VLS were lower for PWLHIV on ART for 1–2 years (aOR=0.62, 95% CI:0.56–0.67) and >2 years (aOR=0.70, 95%CI:0.65–0.75) compared to PWLHIV on ART for <1 year.

**Conclusion**: VLS among PWLHIV was low, revealing a substantial gap. Routine monitoring of adherence and viremia (including LLV) particularly for women on ART for ≥ one-year, supportive preconception counselling, and innovative interventions for those aged <25 years might help improve VLS among PWLHIV.

38

# Identifying and Addressing Psychosocial Needs of Pregnant and Breastfeeding Women Living with HIV Referred for Psychosocial Services at Health Facilities Supported by Baylor Foundation Malawi

Banda V[1], Mazenga A[1], Tembo F[1], Khunga W[1], Wetzel E[1,2], Udedi M[4], Simon K[1,2,3], Cox C[1,2,3]

*[1]Baylor College Of Medicines-Malawi, Lilongwe, Malawi, [2]Texas Children's Global Health Network, Texas Children's Hospital, , Houston, USA, [3]Department of Pediatrics, Baylor College of Medicine, Houston, USA, [4]Ministry of Health, Curative and Medical Rehabilitation Services – NCDs & Mental Health, Lilongwe, Malawi*

**Background**: People living with HIV often have unmet psychosocial needs impacting their ability to take daily antiretroviral therapy and leading to unsuppressed viral load. Pregnant and breastfeeding women living with HIV (PBFWH) often have additional unmet needs, yet achieving viral suppression is critical for their own health and to prevent HIV transmission to their infants. In resource-limited settings, access to psychosocial counselors (PSC) is limited. Baylor Foundation-Malawi provides psychosocial counseling to people attending 96 health facilities in five districts in Malawi. We describe PBFWH receiving psychosocial support.

**Methods**: Phone-based and in-person PSC visits were provided to PBFWH referred by health workers or self-referred. Women newly diagnosed with HIV, with treatment interruptions, detectable viral loads, mental health concerns, or requesting counseling were referred either in person or via WhatsApp group from the facility phone using anonymous client information. The 18 PSCs at high volume facilities attended to referred women from all facilities. Client needs were categorized as ART-related (e.g. adherence, side effects), psychological (e.g. depression, abuse, anxiety), or social support (e.g. relationship challenges, housing, food insecurity, transport). Routine program data was analysed.

**Results**: From February 2023 to February 2024, 3,906 PSC counseling sessions with PBFWH were completed, representing 14% of all PSC sessions (3,906/29,440). Most sessions (n=3,108, 80%) were conducted remotely by phone, and 39% (n=1,527) were with adolescent girls and young women, 10–24 years. Referral reasons included new HIV diagnosis (37%), treatment interruption (29%), high viral load (18%), gender-based violence (8%), mental health issues (4%), relationship concerns (3%), and AGYW (1%). Among all visits with PBFWH, 88% (n=3,433) had identified psychosocial needs, with 45% (n=1,545) psychological; 32.5% (n=1116) social and 22.5% (n=772) ART-related. Among women with psychological needs, 11.5% (n=178) were diagnosed with depression or other mental health needs including suicidality; all were referred urgently for clinical evaluation and treatment.

**Conclusions**: Phone-based counseling facilitated access to psychosocial support for PBFWH from remote health facilities. Next steps include assessment of viral suppression outcomes among PBFWH who received PSC support.

39

# High Prevalence of Postpartum Depression and Association with Viral Non-Suppression among Women Living with HIV in Mozambique and Tanzania

Elsbernd K[1,2], Lequechane J[3], Meggi B[3], Jani I[3], Edom R[4], Lwilla A[4], Sabi I[4], Ntinginya N[4], Buck W[5], Kroidl A[1,2]

*[1]Institute of Infectious Diseases and Tropical Medicine, LMU Hospital, Munich, Germany, [2]German Center for Infection Research (DZIF), Partner site Munich, Munich, Germany, [3]Instituto Nacional de Saúde (INS), Maputo, Mozambique, [4]National Institute of Medical Research, Mbeya Medical Research Center, Mbeya, Tanzania, [5]University of California Los Angeles David Geffen School of Medicine, Los Angeles, United States*

**Background**: Postpartum depression is rarely evaluated among women living with HIV (WLWH) in sub-Saharan Africa. Depressive symptoms can contribute to suboptimal treatment adherence and poor viral suppression, increasing the risk of vertical HIV transmission. We assessed the prevalence of depressive symptoms during the early postpartum period and their association with HIV viral load in Mozambique and Tanzania.

**Material and Methods**: We analyzed data from the LIFE cohort, which enrolled WLWH at delivery across 28 primary health centers in Mozambique and Tanzania from 2019 to 2021 and followed them for 12 weeks. The Edinburgh Postnatal Depression Scale (EPDS), administered by nurses at 4-6 weeks and 12 weeks postpartum, was used to screen for symptoms suggestive of depression. HIV viral load was measured at 12 weeks; results >1000 copies/mL were considered unsuppressed. We modeled the association between elevated EPDS scores and unsuppressed viral load using multilevel logistic regression, adjusting for age and clustering by health center. EPDS scores were analyzed both above a clinical cutoff (>10) and as a continuous value to capture non-linear trends.

**Results**: In total, 5748 WLWH had at least one completed EPDS: 3731 from Mozambique and 2017 from Tanzania. Depressive symptoms (EPDS score >10) were recorded for 42.6% in Mozambique and 24.1% in Tanzania at 4-6 weeks postpartum, with similar prevalences at 12 weeks. EPDS scores decreased slightly between 4-6 and 12 weeks on an individual level [adjusted odds ratio (aOR): 0.927; 95% confidence interval (CI): 0.846–1.017]. At 12 weeks postpartum, 20.3% of WLWH in Mozambique and 4.3% in Tanzania had an unsuppressed viral load. Elevated EPDS scores were associated with an increased risk of unsuppressed viral load in a non-linear relationship (p=0.002), but no significant association was found using the cutoff >10 (aOR: 1.128, 95% CI: 0.938–1.355). Predicted probabilities of unsuppressed viral load at EPDS scores of 10, 15, and 20 were 9.1% (95% CI: 6.3–12.9), 11.2% (95% CI: 7.7–16.0), and 16.2% (95% CI: 10.2–24.7), respectively, at the mean age of 30 years. Younger age was associated with a further elevated risk of unsuppressed viral load, with corresponding probabilities at EPDS scores 10, 15, and 20 of 13.6% (95% CI: 9.4, 19.4), 16.6% (95% CI: 11.5–23.4), and 23.4% (95% CI: 15.1–34.4) at age 20 years.

**Conclusions**: Depressive symptoms were common among WLWH during the postpartum period and were associated with an elevated risk of unsuppressed viral load. These findings highlight the need to integrate depression screening and treatment for pregnant and postpartum WLWH in HIV care settings. Addressing symptoms of depression during the postpartum period as part of a comprehensive package of supportive interventions could improve antiretroviral treatment adherence among WLWH and reduce the risk of vertical HIV transmission via breastfeeding, improving maternal and child health outcomes.

40

# Perceptions of Nurses and Counsellors on the Effectiveness of Enhanced Adherence Counselling for Pregnant and Breastfeeding Women Living with HIV

Mlalama K[1], Lequechane J[2,3], Carimo R[2,3], Phiri E[2,3], Chale F[2,3], Malendeja M[1], Lwilla A[1], Sabi I[1], Ramgi P[2], Meggi B[2], Jani I[2], Elsbernd K[4,5], Kroidl A[4,5]

*[1]National Institute of Medical Research, Mbeya Medical Research Center, Mbeya, Tanzania, [2]Instituto Nacional de Saúde (INS), Maputo, Mozambique, [3]Centro de Investigação Operacional da Beira (CIOB), Beira, Mozambique, [4]Institute of Infectious Diseases and Tropical Medicine, LMU Hospital, Munich, Germany, [5]German Center for Infection Research (DZIF), Partner site Munich, Munich, Germany*

**Background**: Despite widespread availability of antiretroviral treatment (ART) for pregnant and breastfeeding women living with HIV (WLWH), challenges with treatment adherence and suboptimal of viral suppression remain, placing infants at risk of HIV acquisition. Enhanced adherence counselling (EAC) offers targeted adherence support for WLWH who are receiving ART before assessing treatment failure. We explored health providers' perceptions of the challenges faced by pregnant and breastfeeding WLWH and the perceived effectiveness of EAC in addressing them.

**Material and Methods**: We conducted a mixed-methods study using a structured survey and focus group discussions (FGDs) with health providers (including nurses, counsellors, and mentor mothers) at health facilities in Mozambique and Tanzania between August and November 2024. Providers first completed an anonymous, self-administered survey ranking client challenges and the extent which EAC addresses them. FGDs were then conducted using interview guides developed based on a social ecological framework, and data were analyzed thematically.

**Results**: Among 147 health providers surveyed, 80% were female, with a median age of 35 years [IQR: 30-42]. Most (63%) were qualified nurses, followed by qualified counsellors (26%) and those with informal or assistant training (8%). The median duration of experience was 5 years [IQR: 3-10]. Survey results revealed significant disconnect between perceived challenges for pregnant and breastfeeding WLWH and the effectiveness of EAC. Fear of stigma, HIV disclosure, and poverty-related issues ranked high as challenges but low with respect to EAC effectiveness. A total of 90 of these providers participated in 11 FGDs (5 in Tanzania and 6 in Mozambique) with 6-10 participants each. Discussions were focused around eight main themes: intrinsic, interpersonal, and environmental challenges for both counsellors and mothers; existing strategies to address these; and suggestions for underutilized or new approaches. The most common challenges for WLWH were intrinsic, such as difficulty accepting the HIV diagnosis, internal stigma, fear of disclosure, and distance to healthcare. For counsellors, environmental challenges such as lack of time and private spaces for EAC were most cited. Common strategies included partner testing to support disclosure and repeating HIV education, emphasizing the need to protect the child.

**Conclusions**: Although EAC is widely used in prevention of vertical transmission programs to support pregnant and breastfeeding WLWH, gaps between perceived challenges and effectiveness of EAC in addressing them remain. Improving treatment adherence and viral suppression in this population requires a multifaceted approach that supports HIV status disclosure and reduces stigma. Ensuring sufficient staff and private spaces for EAC can facilitate these activities and support treatment adherence.

41

# Rwanda's Path to Elimination: Evidence, Gaps, and Data-Driven Strategies to Prevent Pediatric HIV Infections

Chuwa V[1], Umutesi D[2], Rwibasira G[3], Ikuzo B[4], Dungerdorj I[5]

*[1]Unicef Rwanda, Kigali, Rwanda, [2]Rwanda Biomedical Center, Kigali, Rwanda, [3]Rwanda Biomedical Center, Kigali, Rwanda, [4]Rwanda Biomedical Center, Kigali, Rwanda, [5]UNICEF ESA Regional Office, Johannesburg, South Africa*

**Background**: Rwanda's EMTCT program has significantly reduced vertical transmission of HIV, preventing 40,000 new pediatric HIV cases in the last 20 years. According to UNAIDS 2023 estimates, the vertical transmission rate is 7.14%, primarily driven by maternal HIV seroconversion during pregnancy and breastfeeding. However, the national program data shows lower transmission rates of 1.5%–1.7% over the past five years (1.5% in 2023). Ongoing surveys and data triangulation efforts underway aim to address data and programmatic gaps.

**Material and Methods**: A two-phase study assessed maternal HIV seroconversion and vertical transmission risks during pregnancy and breastfeeding. Retrospective ARM-1 (2022) focused on women who tested HIV-negative during antenatal care who were later diagnosed HIV-positive at delivery (July 2019 - December 2021), identifying 362 eligible mothers across 330 health facilities. This phase provided critical insights into maternal seroconversion and infant HIV status at birth. Prospective ARM-2 (Phase 1, 2023) extended the analysis to breastfeeding mothers who tested HIV-negative at delivery, following them and their children during routine vaccination visits at 6 weeks, 9 months and 15 months postpartum. Data was collected from 28 facilities.

In 2024, a data deep dive workshop was conducted to evaluate requirements for the elimination of vertical transmission of HIV, syphilis, and hepatitis B validation in Rwanda. The workshop involved thorough review of diverse data sources, focusing on key elements of PMTCT and pediatric HIV programs, including cascade analyses and identification of programmatic gaps. A key limitation in both studies was the exclusion of pregnant women, mothers and children that had died or were lost to follow-up, which could ultimately affect the calculation of final transmission rates. ARM-2 was also not nationally representative, covering only a sub-sample of targeted facilities.

**Results**: ARM-1 study findings revealed that 8 out of 143 children (5.6%, aligning with 2020 UNAIDS estimates) who completed the 24-month breastfeeding period tested HIV-positive, with most infections occurring six weeks after birth. An additional 9 HIV-positive cases were identified among 200 children still breastfeeding, with cases linked to young, single, or cohabiting mothers in urban areas. ARM-2 findings estimated maternal HIV seroconversion during breastfeeding at 11.2 per 10,000 with a vertical transmission rate of 3 per 10,000, based on a sub-sample. Continued follow-up was recommended to capture HIV transmission over the full 24-month period.

Data triangulation clarified the vertical transmission landscape, highlighted gaps, and supported the integration of key indicators, such as ART coverage and viral load monitoring for pregnant and breastfeeding women, into the Health Management Information System to improve EMTCT programming and reporting.

**Conclusions**: These studies reaffirm Rwanda's significant progress toward EMTCT validation, while highlighting critical gaps that require targeted interventions. They offer valuable insights into the HIV status of mothers who seroconverted during pregnancy and breastfeeding, and HIV outcomes of their infants. The findings guide policymakers in strengthening EMTCT efforts and enhancing national HIV reporting and monitoring systems. Moreover, the results have informed the development of Rwanda's "Last Mile" programming guide for the elimination of vertical transmission of HIV, syphilis, and hepatitis B.

42

# Evaluating the Integrated Mother Baby Course (IMBC) Model for HIV Diagnosis and Prevention of Mother-to-Child Transmission in Zimbabwe: A Retrospective Analysis of the SPACE for OVC Program

Mwanza J[1], Rusakaniko S[1], Sanyatwe T[2], Mubaiwa V[2], Bhero B[1], Chimbidzikai T[2]

*[1]Zimbabwe AIDS Prevention Project (ZAPP), Harare, Zimbabwe, [2]Family AIDS Caring Trust Zimbabwe (FACT), Aerodrome, Zimbabwe*

**Introduction**: In 2020, Zimbabwe's Mother-to-Child Transmission (MTCT) rate stood at 8.7%, exceeding the WHO target of 5% (Zimbabwe HIV Estimates Report, 2021). Contributing factors include inadequate follow-up for PMTCT mothers with high viral loads, delayed final PMTCT outcome testing, and prolonged Nucleic Acid Test (NAT) result turnaround times (6–8 weeks). To address these gaps, the USAID/PEPFAR-funded SPACE for OVC program employs the Integrated Mother Baby Course (IMBC) model, which combines maternal health and infant care interventions. This study evaluates the IMBC model's effectiveness in enhancing early HIV diagnosis, treatment, and prevention of MTCT across nine districts in Zimbabwe.

**Methods**: A retrospective analysis was conducted using program data from October 2023 to September 2024 in 9 districts in Zimbabwe. The study included HIV-exposed infants (<2 years) and their mothers (>18 years) on antiretroviral therapy (ART). An Early Infant Diagnosis (EID) algorithm was implemented, aligning with WHO guidelines for testing and follow-up. Key indicators analyzed included HIV testing rates, ART initiation, and transmission outcomes. The influence of maternal participation in IMBC sessions on health outcomes was also assessed. Statistical analyses included chi-square tests for categorical variables (e.g., HIV testing outcomes) and logistic regression to examine the association between maternal engagement in IMBC sessions and infant HIV outcomes, adjusting for potential confounders.

**Results**: The study enrolled 2,012 women living with HIV on ART with children under 2 years. The median age was 35 years (Interquartile range [IQR: 25–42]. Among HIV-exposed infants, 715 underwent final outcome testing within the recommended timeframe (post-weaning), with 702 testing negative, achieving a 98.2% success rate within the WHO target for MTCT. Among HIV-positive infants 13 (1.8%), ART was initiated within the first month. A chi-square test confirmed that maternal participation in IMBC sessions was significantly associated with improved HIV testing rates and ART initiation ($p < 0.05$). Logistic regression analysis showed that maternal engagement in IMBC sessions was independently associated with a 45% lower likelihood of vertical transmission (OR: 0.55, 95% CI: 0.38-0.81, $p = 0.002$).

**Conclusion**: Maternal engagement in IMBC sessions significantly improved health literacy and care retention, contributing to reduced vertical transmission rates. The IMBC model demonstrated substantial success in improving HIV outcome testing rates among HIV-exposed infants and reducing MTCT rates in the targeted districts. These findings support the scale-up of integrated care models to enhance prevention efforts and minimize vertical transmission in resource-limited settings.

43

# Descriptive Analysis Findings of Infant Clinical Audits in Uganda

Idipo D[1], Nyamugisa Ochora E[2], Kisaakye Nabitaka L[3]

[1]Ministry of Health (MoH) / UNICEF, Kampala, Uganda, [2]UNICEF, Kampala, Uganda, [3]Ministry of Health, Kampala, Uganda

**Introduction**: HIV/AIDS remains a major global public health concern, with an estimated 39.9 million people living with HIV in 2024 (UNAIDS). In Uganda, about 1.4 million people were living with HIV by the end of 2023, with 52,000 new infections and 17,000 AIDS-related deaths. Alarmingly, vertical (mother-to-child) transmission accounts for approximately 12% of new HIV infections in the country, with an estimated 4,700 infants acquiring the virus in 2023. As Uganda approaches the "last mile" towards eliminating vertical HIV transmission, it is imperative to identify and understand the key risk factors behind these residual transmissions. To support this effort, the national PMTCT (Prevention of Mother-To-Child Transmission) program conducted a clinical audit to analyze the characteristics of vertical transmission cases, aiming to inform more precise and targeted programming.

**Methodology**: The audit analyzed retrospective qualitative and quantitative data for 612 infants that acquired HIV through vertical transmission reported between 2020 and 2024. Data was drawn from routine Health Management Information System (HMIS) tools documenting HIV-exposed infants and their mothers across 230 health facilities, which reported the highest number of vertical transmission cases. A standardized clinical audit tool was used to collate key demographic, diagnosis, and treatment indicators. The analysis focused on identifying common patterns and risk factors among infected infants and their mothers.

**Findings**: A majority (87%) of infants tested HIV-positive on their first virological test, however over half (52%) received test results beyond the recommended two months of age. Only 59% received antiretroviral (ARV) prophylaxis, and just 42% received it within the optimal 72-hour post-birth window. A few factors played a significant role: 57% of mothers were between 20 and 29 years of age; 68% had their first antenatal care (ANC) visit after 24 weeks of gestation; and 44% delivered outside of health facilities, often without skilled birth attendance.
Additionally, 52% of mothers were only diagnosed with HIV after childbirth, and 54% initiated ART during breastfeeding rather than during pregnancy. Most mothers (70%) had only been on treatment for up to six months at the time of their infant's diagnosis. Retention in care dropped significantly over time, with 77% still on ART at three months and only 62% at six months. Alarmingly, 43% of mothers admitted missing ART doses, and 34% had a high viral load (over 1,000 copies/ml) before their infant's diagnosis.

**Conclusion**: The audit reveals several persistent gaps in Uganda's PMTCT efforts. Delayed ANC attendance, community deliveries, late maternal HIV diagnosis, poor ART adherence, and high maternal viral loads, delayed infant testing, lack of or late ARV prophylaxis, were identified as key drivers of ongoing vertical transmission. Young maternal age (20–29 years) and short duration on ART before or during breastfeeding further compounded these risks. For Uganda and countries with similar typologies striving to eliminate vertical HIV transmission, context-specific interventions are essential—particularly those that promote early ANC attendance, timely diagnosis, sustained treatment, and adherence support, all anchored in strong retention in care systems.

44

# An Audit of Cases of Vertical HIV Transmission in Programmatic Settings in Malawi

Chikuse E[1], Balakasi K[1], Smith D[1,2], Phiri S[1,3], Njala J[1], Phiri K[1], van Oosterhout J[1,2]

*[1]Partners in Hope Malawi, Lilongwe, Malawi, [2]University of California Los Angeles, David Geffen School of Medicine, , Los Angeles, USA, [3]School of Global and Public Health, Kamuzu University of Health Sciences, Lilongwe, Malawi*

**Background**: Major improvements in the prevention of vertical HIV transmission (PVT) have taken place in sub-Saharan Africa. To identify remaining gaps in PVT program implementation, we reviewed PVT services among Malawian pregnant and breastfeeding women (PBFW), whose infants tested HIV-positive between 0-24 months post-partum.

**Methods**: At 123 Partners in Hope (PEPFAR/USAID clinical implementing partner)-supported health facilities in 9 Malawian districts across, we conducted a clinical records audit of mother-infant pairs of which the infant tested HIV-positive between October 2022-September 2023. Routinely collected data were extracted from registers, treatment charts and electronic monitoring systems. We used summary statistics to describe antenatal care (ANC) attendance, HIV testing, pre-exposure prophylaxis (PrEP), ART initiation, interruptions in treatment (IIT), viral load (VL) monitoring, and antiretroviral prophylaxis for HIV-exposed infants.

**Results**: During the audit period, 138 mothers with 138 new HIV-positive infants were identified. 51% were diagnosed at the 2-months testing milestone, 30% at 12 months and 19% at 24 months. The following gaps were observed in PVT services: 52% of mothers did not attend ANC; 42% were not HIV tested in the third trimester while eligible; among women who tested HIV-negative and categorized as high risk, 89% were not offered PrEP; 36% of women had started ART before pregnancy, 24% during pregnancy, 8% during labour/delivery and 32% during breastfeeding; 36% of women on ART experienced IIT (>28 days late for appointment) during pregnancy and breastfeeding; 40% of mothers newly initiated on ART did not undergo VL testing when indicated; among infants eligible for antiretroviral prophylaxis, 18% received no prophylaxis and 42% did not receive the recommended type of prophylaxis.

**Conclusion**: A broad spectrum of gaps in PVT services contributed to cases of vertical HIV transmission in programmatic settings. Ensuring comprehensive PVT services for high-risk mother-infant pairs requires innovative interventions that need to be tested in implementation research trials.

45

# Early Signals of Language Delays among Preterm Children Who Are HIV-Exposed Uninfected in Botswana

Thankane K[1], Bulterys M[1,2], Kitsi I[1], Schenkel S[3], Kgole S[1], Masasa G[1], Neya K[1], Cassidy A[4], Powis K[3]

*[1]Botswana Harvard Health Partnership, Gaborone, Botswana, [2]University of California San Diego, La Jolla, United States, [3]Mass General Hospital, Boston, United States, [4]Mayo Clinic, Rochester, United States*

**Background**: Children who are HIV-exposed uninfected (CHEU) may still be at greater risk of neurodevelopmental deficits than children who are HIV-unexposed uninfected (CHUU). We evaluated early neurodevelopment among infants with and without perinatal HIV exposure in Gaborone, Botswana.

**Methods**: From October 2023 – June 2024, we enrolled mother-infant pairs, half of whom were mothers living with HIV and their CHEU. As infants reached 6-months of age, mothers were administered the Caregiver Reported Early Developmental Instruments (CREDI), which evaluated infants' overall, motor, language, cognition, and socio-emotional status. Multivariable linear regression models compared infant raw and scaled z-scores by child HIV exposure status, adjusting for maternal education, marital status, and infant age and sex.

**Results**: A total of 86 mother-infant pairs were enrolled in Gaborone, Botswana, including 42 CHEU and 44 CHUU. Overall, 57% of children were male and 28% were born prematurely, which was comparable across groups. Compared to CHUU, CHEU were more likely to have older mothers (30 vs. 26 years), and fathers who were not financially supportive (29% vs. 9%) or present in the child's life (21% vs. 16%). In unadjusted and adjusted models, CHEU scored significantly lower than CHUU in the language domain using both raw scores (coefficient: -0.30; 95% CI: -0.58, -0.01; p=0.04) and scaled z-scores (coefficient: -0.38 (-0.74, -0.02; p=0.03), with no significant differences identified in other domains. Preterm birth was significantly associated with poorer language outcomes among all children, and especially among CHEU.

**Conclusions**: We saw an unusually high prevalence of preterm births in our cohort of CHEU and CHUU in Botswana. CHEU, and especially those born prematurely, may be at heightened risk of poor early language development. Interventions are urgently needed to identify children exhibiting these risk factors, screen for early developmental delays, and improve language stimulation among children in families affected by HIV.

46

# Severe Stunting in Children Under Two Years of Age Exposed to HIV Infection in Lesotho

Nyofane M[1], Mojela S[1]

[1]National University of Lesotho, Roma, Lesotho

**Background**: The population of HIV-exposed, uninfected children (CHEU) is growing as a result of successful prevention of mother-to-child transmission (PMTCT) programs. However, these children face a higher risk of undernutrition. This study evaluated the nutritional status of CHEU children compared to HIV-unexposed, uninfected children (CHUU) under the age of two years.

**Methods**: The study utilized a cross-sectional design to examine 100 mother-child pairs attending routine clinic visits at Motebang Hospital in the Leribe district. Participants were divided into two groups: CHEU (n=50) and CHUU (n=50). Length/height and weight measurements were taken following World Health Organization (WHO) guidelines, and z-scores were calculated using the WHO Anthro Survey Analyzer. A pre-tested, self-designed questionnaire was employed to gather data on breastfeeding practices based on maternal recall. Chi-squared and Fisher Exact tests were used to compared nutritional outcomes between the groups. Pearson correlation analysis was used to assess the relationship between child feeding practices and stunting.

**Results**: A relatively high percentage of CHEU children exhibited severe stunting (16.0% vs 0%; p=0.015) and moderate stunting (18.0% vs 12.0%; p=0.043) compared to their CHUU counterparts. CHEU children had a significantly lower mean length-for-age z-score than CHUU children: -0.90±0.33 vs 0.44±0.50; p=0.011. Additionally, the mean weight-for-age z-score (WAZ) was lower in CHEU children than in CHUU children: -0.45±0.35 vs -0.21±0.35; p<0.001. CHEU children also had lower levels of continued breastfeeding compared to CHUU children (2.0% vs 18.0%; p=0.017), with most mothers of CHEU children (65%) citing fear of infecting their children. In the CHEU group, WAZ was positively correlated with continued breastfeeding (r = 0.34, p = 0.01).

**Conclusion**: The findings indicate that maternal HIV exposure is associated with poorer nutritional outcomes in children. Nutrition interventions should focus on promoting, encouraging, and supporting continued breastfeeding within the HIV context to enhance child growth and improve nutritional outcomes.

47

# Differential miRNAs Expression in HIV-Exposed Uninfected Infants versus HIV-Unexposed Uninfected Infants: A Pilot Study

du Toit L[1,2,3], Rossouw T[1,2,3], Louw R[4]

*[1]Department of Immunology, University Of Pretoria, Pretoria, South Africa, [2]UP Research Centre for Maternal, Fetal, Newborn and Child Health Care Strategies, University of Pretoria, Pretoria, South Africa, [3]Maternal and Infant Health Care Strategies Research Unit, South African Medical Research Council, Pretoria, South Africa, [4]Human Metabolomics, Faculty of Natural and Agricultural Sciences, North-West University, Potchefstroom, South Africa*

Research has demonstrated that microRNAs (miRNA) are essential in foetal development, influencing various tissues and developmental stages. Unique miRNA profiles have been observed in children living with HIV, but not those who are HIV-exposed uninfected (HEU). In Southern Africa, approximately 20% of the infant population is HEU and, due to the increase in antiretroviral therapy (ART), this number is growing. HEU infants experience unexplained immune dysfunction, delays in growth, and metabolic abnormalities, as well as increased morbidity and mortality when compared to HIV-unexposed uninfected (HUU) infants.

This exploratory study aimed to examine differences in miRNA expression profiles between HEU and HUU infants at birth, as well as between infants with normal and stunted length. Female infants made up 40% of the group, with a gestational age range of between 262 and 285 days. One infant had stunting, and four infants had severe stunting according to their length-for-age Z-score. Cord blood plasma samples from 10 infants (4 HEU, 6 HUU) were analysed using RNA sequencing.

Five miRNAs showed significant differential expression: Let-7, miR-143, miR-192, and miR-378 were upregulated in shorter infants, while miR-26 was downregulated in HEU infants. These miRNAs have known roles in growth, development, and immune function. The upregulation of growth-suppressive miRNAs in shorter infants aligns with their stunted phenotype. Downregulation of miR-26 in HEU infants mirrors findings in adults living with HIV, suggesting that HIV exposure impacts infant miRNA profiles.

While limited by a small sample size, this study provides novel insights into miRNA expression differences associated with HIV exposure and stunting in infants. Larger studies are needed to further elucidate the transcriptional landscape in HEU and growth-restricted infants.

48

# ‘I was in Between Wars’: Mothers’ Perceptions, Feelings, and Concerns About Consequences of HIV Exposure for Their Children, HIV Exposed and Uninfected During Early Childhood – Qualitative Insights from Worcester, South Africa

Pandya H[1], Hunt X[2,4,5], Nyasulu P[1], Slogrove A[3]

*[1]Department of Global Health, Faculty of Medicine & Health Sciences, Stellenbosch University, Cape Town, South Africa, [2]Africa Health Research Institute (AHRI), Somkhele, South Africa, [3]Department of Paediatrics and Child Health, Faculty of Medicine & Health Sciences, Stellenbosch University, Cape Town, South Africa, [4]Mental health, Alcohol, Substance Use and Tobacco Research Unit (MAST-RU), South African Medical Research Council, Cape Town, South Africa, [5]Institute for Life Course Health Research, Department of Global Health, Stellenbosch University, , South Africa*

**Background**: Pregnancy and early childhood is a stressful period for mothers living with HIV due to fear of HIV transmission, breastfeeding dilemmas, dealing with their own health and socio-economic challenges, especially in high HIV settings. Existing evidence on caregivers’ concerns about children in the context of HIV mostly focuses on children living with HIV. Not much is known about what mothers go through in terms of their concerns regarding HIV and its consequences for their children HIV-exposed, especially beyond confirmation that perinatal HIV transmission has been excluded and how their concerns evolve throughout their caregiving journey. This study aimed to understand mothers’ perceptions, feelings and concerns about HIV and its consequences for their children HIV-exposed (before and beyond final exclusion of HIV acquisition), what factors affect it and effects on caregiving practices.

**Methods**: A qualitative study was conducted in Western Cape province of South Africa between January and April 2024. Convenience and purposive sampling were used to select 20 mothers who had a child exposed to HIV above one year of age, tested HIV-negative at 12 months. Data was collected through semi-structured interviews in English and IsiXhosa. Interviews were transcribed, translated, and thematically analysed.

**Results**: Our findings indicate that mothers often feared HIV transmission to their child, a concern that persisted throughout their caregiving journey—from pregnancy to breastfeeding, infancy, and even after a negative HIV test at 12 months as they did not have a final assurance about their child’s HIV status. This fear was triggered by several factors including decision to breastfeed, repeat HIV testing of the child, sickness or growth faltering episodes in the child and doubts on effectiveness of antiretrovirals. Mothers undertook various measures to cope with their concerns including adherence to antiretrovirals, not missing routine clinic visits, not initiating or premature cessation of breastfeeding and taking care of child’s hygiene and household environment.

**Conclusion**: Our findings highlight that as more children, HIV exposed and uninfected are surviving and thriving, it is critical that their mothers are supported and assisted as their concerns evolve throughout the first 1000 days of pregnancy and early childhood. Ongoing support and counseling with initiation and continuation of breastfeeding, adequate information about repeated HIV testing and guidance on expected long term effects of HIV exposure for their children, exposed and uninfected, may help in alleviating mothers’ concerns and improve their caregiving journey.

49

# Early-Life Lipidomic Profiles of Infants HIV-Exposed Uninfected Differ from Unexposed Peers and Are Influenced by Maternal Lipidomic Profiles

Hendrixson D[1], Dong T[2], Singa B[3], Raftery D[1], John-Stewart G[1], Wamalwa D[4], Wu M[2], Lihanda P[3], Mutinda C[3], Kariuki K[3], Rwigi D[3], Mwaniki F[3], Aldrovandi G[5], McGrath C[1]

*[1]University Of Washington, Seattle, United States, [2]Fred Hutchinson Cancer Center, Seattle, United States, [3]Kenya Medical Research Institute, Nairobi, Kenya, [4]University of Nairobi, Nairobi, Kenya, [5]University of California Los Angeles, Los Angeles, United States*

**Background**: People living with HIV have altered lipid profiles despite virologic control with ART, and children HIV-exposed uninfected (cHEU) are at heightened risk of developing overweight and metabolic diseases compared to children born to mothers without HIV (cHUU). It is unclear whether alterations in the maternal, breastmilk, and/or infant lipidome in early life are associated with these undesirable outcomes. We hypothesized that cHEU have differences in their lipidomic profiles in early life compared to cHUU, and these differences are associated with alterations in maternal plasma and breastmilk lipidomic profiles among women living with HIV (WLWH). To test this hypothesis, we compared lipidomic profiles of cHEU and cHUU at 6 weeks (wk6) and 6 months (mo6), and evaluated whether maternal plasma and breastmilk lipidomic profiles were associated with child lipidomic profiles over time and by HIV status.

**Material and Methods**: We leveraged 60 mother-child dyads, 30 WLWH/cHEU and 30 mothers without HIV/cHUU, from a birth cohort in Migori, Kenya. Women with term infants were matched by age and BMI. WLWH were virologically suppressed and on dolutegravir-based antiretroviral therapy initiated pre-pregnancy. Full breast hand expressed breastmilk and plasma were collected from women and infants at wk6 and mo6 postpartum. Targeted lipidomics was performed on plasma and breastmilk samples using the Sciex Lipidyzer, quantifying 20 lipid classes and over 1,000 lipid species.

Each lipid class concentration was log transformed. Linear mixed models were used to to estimate change over time in infant plasma concentration, with HIV status and time as fixed effects and matched pair as a random effect. We also evaluated models with maternal plasma/breastmilk concentration and their interaction with HIV as predictors to test for association between infant and maternal lipid concentrations and potential effect modification by HIV. A Benjamini-Hochberg (BH)-adjusted p-value=0.05 was considered significant.

**Results**: All 60 mother-child dyads had plasma and breastmilk results. Among 20 lipid classes assayed, cHEU had higher plasma concentrations of sphingomyelin (p=0.029) and cholesterol ester (p=0.024) than cHUU at wk6/mo6. When considering interactions between HIV and time, cHEU had greater declines in plasma phosphatidylglycerol (p=0.029) and phosphoserine (p=0.029) concentrations than cHUU from wk6 to mo6. Ten classes of maternal plasma lipids had significant positive associations with child plasma lipid concentrations at wk6/mo6, and there was no effect modification by HIV. These associations remained after adjustment for breastmilk lipid concentrations. Three breastmilk lipid classes were associated with child plasma concentrations among cHUU, while a more negative association was found among cHEU for phosphatidylglycerol (HIV interaction p=0.029); however, these were no longer significant after adjusting for maternal plasma concentrations.

**Conclusions**: cHEU have differences in concentrations of plasma cholesterol esters and sphingomyelins compared to cHUU and greater declines in plasma phsophatidylglycerol over time. Elevated cholesterol esters have been linked to metabolic complications and heart diseases, and alterations in phosphatidylglycerol has been linked to metabolic diseases and inflammation. These early-life differences in lipid class profiles among cHEU may contribute to long-term outcomes of cHEU. Further investigations integrating lipidomics with clinical outcomes are required.

50

# Body Mass Index and Gestational Weight Gain in Pregnancy among Persons with HIV, and Birth Weight-for-Gestational Age of Children Who Are HIV-Exposed and Uninfected

Shivakoti R[1], Yu W[2], Jacobson D[2], Geffner M[3], Powis K[2], Jao J[4]

*[1]Columbia University, New York, United States, [2]Harvard University, Boston, United States, [3]Children's Hospital Los Angeles, Los Angeles, United States, [4]Northwestern University, Chicago, United States*

**Background**: Pre-pregnancy body mass index (BMI) and gestational weight gain (GWG) are associated with birth weight-for-gestational age infant outcomes, but studies are lacking in pregnant persons with HIV (PWH), especially in those overweight/obese. Our objective was to assess these relationships in PWH, and to assess effect measure modification in the association between BMI/GWG and birth weight-for-gestational age by antiretroviral therapy (ART) regimen given excess weight gain noted for specific ART classes.

**Materials and Methods**: Utilizing data from the Surveillance Monitoring for ART Toxicities Study conducted by the Pediatric HIV/AIDS Cohort Study (PHACS) network, we studied the association of pre-pregnancy BMI and GWG with birth weight-for-gestational age. Pre-pregnancy BMI was categorized as normal (18.5-24.9), overweight (25-29.9), and obese (≥30), while GWG was categorized as inadequate, adequate, and excessive based on GWG per week in the 2nd and 3rd trimesters. Multinomial logistical regression, adjusting for covariates and accounting for clustering effect of mothers, was used for birth weight categorized as small-, appropriate-, or large-for-gestational age (SGA, AGA (reference group) and LGA, respectively), and linear regression was used for analyses of birth weight-for-gestational age as a continuous outcome. We evaluated whether the association between pre-pregnancy BMI/GWG and birth weight-for-gestational age differed by maternal use of integrase strand transfer inhibitor (INSTI)-based vs. other regimen, and conducted separate analyses for mothers starting ART before conception (ARTc) and mothers starting during pregnancy (ARTi).

**Results**: Among 1866 singleton children born to 1586 mothers with HIV enrolled from April 2007 to October 1, 2024, 23% were exposed to INSTI-based regimens. Compared to infants whose mothers had normal pre-pregnancy BMI, infants whose mothers had overweight or obese BMI had increased odds of LGA vs AGA [odds ratio of 2.09 (95% CI: 1.24, 3.52) and 2.68 (1.66, 4.33), respectively]. There was a lower odds of infant SGA vs AGA for mothers whose BMI were obese vs normal [0.59 (0.40-0.89)]. Compared to infants whose mothers had adequate GWG, infants with mothers that had excessive and inadequate GWG had increased odds of LGA and SGA, each vs AGA, respectively. Similar results for BMI and GWG were observed for birth weight-for-gestational age as a continuous variable. Among infants born to PWH on ARTc, the odds of SGA vs AGA was 2.81 (0.82, 9.63) times higher for INSTI-exposed infants born to overweight vs normal BMI mothers, whereas, in the non-INSTI group, it was 25% lower [OR=0.75 (0.35, 1.60]. In contrast, there was no effect modification of ART class on the association of pre-pregnancy BMI on LGA vs AGA outcome in any of the analyses.

**Conclusions**: Higher pre-pregnancy BMI and excessive GWG in PWH were associated with LGA, while inadequate GWG was associated with SGA. The observed effect modification of pre-pregnancy BMI on SGA vs AGA outcome by INSTI vs other ART in those who were ARTc is of potential clinical concern. Further study in other PWH cohorts is warranted to confirm these findings.

51

# Utility of PrEP in Averting Postnatal Seroconversion among Infants Born from Breastfeeding Mothers Testing HIV-Negative at Delivery in Four Facilities of Eastern Province of Zambia

Mutambo W[1], Kasambwe C[1], Luhana M[1], Tembo J[1], Ng'ambi M[1]

[1]*Eastern Provincial Health Office - Ministry Of Health, Chipata, Zambia*

**Background**: In Zambia, HIV negative pregnant and breastfeeding women require routine HIV retesting as part of elimination of mother-to-child transmission (EMTCT). Pregnant women attending antenatal are retested during these visits. After delivery, however, postnatal mothers often elude HIV retesting. In such settings, maternal postpartum HIV acquisition contributes to a significant proportion of infants with HIV. Pre-exposure prophylaxis (PrEP) is a safe and effective prevention strategy to reduce women's risk of HIV in pregnancy and postpartum. We will describe and assess the utility of PrEP in averting seroconversion among infants born from breastfeeding mothers testing HIV negative at delivery in Eastern Province of Zambia.

**Methods**: This retrospective review utilized 2021 program data from SmartCare. The data included counts of HIV negative breastfeeding women (BFW) which we categorized into two subgroups: those receiving PrEP and those not receiving PrEP. Descriptive statistics were used to summarize the demographic characteristics of the BFW and the mother-infant HIV status outcomes at 24 months postnatal. Chi-square test was employed to assess differences in the mother-infant HIV status outcomes between the two subgroups. Statistical significance was set at $p<0.05$.

**Results**: In December 2021, 261 (27%) BFW were receiving PrEP, while 704 (73%) were not. Among the PrEP cohort, 95% had status outcomes, of which 98.8% were negative. All children (100%) from the 2 BFW who seroconverted remained HIV negative. From the no PrEP cohort, 86% had documented outcomes. 4% (24) had a seropositive outcome, of whom 21% had a concordant maternal-infant serostatus. Maternal seroconversion was significantly lower among the PrEP cohort at 0.8%, compared to those not on PrEP (4%) ($p< 0.001$). Similarly, infant seroconversion was not observed in the infants of seroconverted mothers from the PrEP cohort, but was significant (21%) among infants from mothers who seroconverted and not receiving PrEP ($p< 0.001$).

**Conclusions**: Though only 27% of PBW during the review period were receiving PrEP, this analysis shows low postnatal maternal incident HIV and vertical transmission outcomes. In contrast, unfavourable HIV serostatus outcomes persisted among BFW not receiving PrEP and their infants. These findings underscore the critical role of PrEP services in complementing other interventions to optimize EMTCT efforts.

52

# Factors Influencing Adherence to Daily Oral PrEP During Pregnancy and Postpartum: Qualitative Findings from Malawi, South Africa, Uganda, and Zimbabwe

Musara P[1], Stranix-Chibanda L[1,11], Slutzker P[2], Etima J[3], Mathebula F[4], Nabukenya R[5], Seyama L[6], Tichareva M[1], Munaiwa O[1], Mutasa T[1], Brown E[7], Spiegel H[8], Kacanek D[9], Chi B[10], Amico K[2], Mgodi N[1]

*[1]Clinical Trials Research Centre, University of Zimbabwe, Harare, Zimbabwe, [2]University of Michigan, Ann Arbor, USA, [3]Makerere University-Johns Hopkins University Research Collaboration, Kampala, Uganda, [4]Wits RHI, University of Witwatersrand, Faculty of Health Sciences, Johannesburg, South Africa, [5]Baylor College of Medicine Children's Foundation, Kampala , Uganda, [6]Johns Hopkins University, University of Malawi, Blantyre, Malawi, [7]FHI 360, Durham, USA, [8]Kelly Government Solutions, Contractor to DAIDS, NIAD, NIH, MD, USA, [9]Harvard School of Public Health, Center for Biostatistics in AIDS Research, Boston, USA, [10]University of North Carolina, Chapel Hill, USA, [11]UZ FMHS, Harare, Zimbabwe*

**Background**: Oral PrEP is recommended in pregnant and breastfeeding women (PBFW) at risk for HIV. However, data about peripartum use is limited. Through in-depth interviews with PBFW who initiated daily oral PrEP (DO-PrEP) in the IMPAACT 2009 study, we explored factors influencing DO-PrEP use.

**Methods**: In this multi-center clinical study, 350 PrEP-eligible pregnant women aged 16-24 years were enrolled between March and December 2022. All participants were offered daily oral TDF/FTC and followed through 26 weeks postpartum. Among the 229 PBFW who initiated DO-PrEP, 20 antepartum and 20 postpartum women were purposively selected for an in-depth interview. Within each period, we interviewed 10 women with optimal (6-7 doses/week) and 10 with sub-optimal adherence (<6 doses/week) based on TDF/FTC drug levels in dried blood spots at two consecutive visits. Interviewers asked women about facilitators and challenges to DO-PrEP use. Interview transcripts were thematically coded and analyzed, focusing on experiences with DO-PrEP during and immediately following pregnancy.

**Results**: In both ante- and postpartum groups, a strong desire to prevent HIV for self and baby was reported to promote consistent DO-PrEP use. Common facilitators of DO-PrEP use included dosing reminders, adherence counselling and routine dosing schedules. Concerns about side effects and male partner disapproval were stronger during pregnancy compared to postpartum, prompting inconsistent dosing and nondisclosure of DO-PrEP use until after delivery. Good experiences with DO-PrEP during pregnancy influenced a positive attitude about its use during breastfeeding. Other pregnancy-related barriers to DO-PrEP use included labor and concomitant pregnancy symptoms/sickness, adding to the pill burden of routine pregnancy supplements. Overall, women described their experience with DO-PrEP use during breastfeeding as better compared to pregnancy.

**Conclusions**: PBFW receiving DO-PrEP were aware of HIV risk and motivated to protect themselves and their infants; however challenges unique to pregnancy including side effects to the baby, were reported. Tailor-made counselling is needed for peripartum DO-PrEP use.

53

# Acceptability of Broad Neutralizing Antibodies for Postnatal Prophylaxis: Perceptions from Communities in South Africa and Uganda

Kruger S[1], Viljoen L[2], Fikizolo T[1], Masagana V[3], Buthelezi M[3], Ngcobo N[3], Goga A[3], Nanyonjo G[4], Ali Ssetaala A[4], Okech B[4], Mpendo J[4], Chapman K[5], Ondeng'e K[5], Wangũi Machira Y[5], Malhotra S[5]

*[1]Family Centre for Research with UBUNTU(FAMCRU), Faculty of Medicine and Health Sciences, University Of Stellenbosch, Cape Town, South Africa, [2]Desmond Tutu TB Centre, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa, [3]South African Medical Research Council , , South Africa, [4]Uganda Virus Research Institute, IAVI Vaccine Programme, Entebbe, Uganda, [5]International AIDS Vaccine Initiative, New York, United Sates of America*

**Background**: HIV prevention is crucial for achieving epidemic control, especially in countries that are vulnerable to new infections. Broadly neutralizing antibodies (bNAbs) is potentially a safe, affordable and effective biomedical intervention likely to provide several weeks of protection for infants at risk of perinatal HIV acquisition. This study was a multisite qualitative investigation aimed at exploring the acceptability of bNAbs for preventing vertical HIV transmission among mothers in South Africa and Uganda.

**Method**: Between February 2024 and October 2024, we conducted in-depth interviews with three cohorts of mothers from two sites in South Africa and one in Uganda. The cohort included: (1) mothers with infants who participated in trials (n=19), examining the safety and pharmacokinetics of bNAbs in HIV-exposed infants (IMPAACT P1112, PedMAb1), (2) mothers living with HIV whose infants received standard postnatal prophylaxis (n= 30), and (3) HIV-free pregnant and lactating mothers (n=30). We included the perspectives of (n=134) identified key community members using interviews and focus group discussions. All interviews and focus groups were conducted in the participants' home languages and audio recorded. After each interview, researchers created detailed and iterative case descriptions, including verbatim quotes and reflections. We employed the Theoretical Framework of Acceptability (TFA) to analyse the data and compared codes across participants and sites.

**Results**: Most mothers reported a positive response in anticipation of the implementation of long-acting bNAbs for postnatal prophylaxis in infants. In addition to practical considerations such as convenience, ease of administration, and fewer challenges with adherence compared to daily prescriptions, mothers emphasized the importance of their children's health. They highlighted social advantages like privacy and protection from unintentional HIV status disclosure, as well as physical advantages like reduced stress associated with risks of infection. Although most participants were eager to obtain bNAbs for enhanced infant protection, they identified social barriers that could impact the acceptance of bNAbs, including stigma, the costs associated with initiating and maintaining therapy, potential absences from work, and the attitudes of healthcare workers. While most mothers viewed bNAbs positively, they reported a lack of understanding regarding the functioning of bNAbs, including how long bNAbs would provide protection, the dosage requirements, potential side effects, and possible interactions with scheduled vaccinations.

**Conclusion**: Emerging data indicate a preference for long-acting postnatal prophylaxis, with the advantages of long-acting treatment and prevention strategies outweighing the challenges associated with accessing these treatments. The lack of knowledge regarding broad neutralizing antibodies can be mitigated through targeted advocacy efforts.

54

# Acceptability and Outcomes of Index Case Testing for Children of Female Sex Workers in Malawi: Insights from Drop-In Centers

Kumwenda O[1], Abubakar A[1], Chilima E[1], Gondwe J[2], Kamba C[2], Sikwese S[2], Gondwe D[3], Ozitiosauka W[4]

*[1]USAID, Lilongwe, Malawi, [2]Pakachere Institute of Health and Development Communication , Blantyre, Malawi, [3]National AIDS Commission, Lilongwe, Malawi, [4]Ministry of Health , Lilongwe, Malawi*

**Background**: The identification of pediatric HIV remains suboptimal in Malawi, with only 70% of children living with HIV diagnosed per UNAIDS estimates. Index case testing (ICT) is a key strategy to address this gap. However, data on the acceptability of ICT and outcomes among children of female sex workers (FSWs) is limited. This study investigates ICT's implementation to identify HIV among children of FSWs attending Drop-In Centers (DICs) in Malawi.

**Methods**: Routine ICT program data from October 2023 to September 2024 were reviewed from twelve DICs located across the country in 4 districts. The data was collected through index testing tools and entered in a DHIS2 based system. R software was used to calculate frequency of each outcome and statistical differences among outcomes were verified using chi-square test ($X$-squared = 469.32, $p < 0.001$) Key metrics included the number of FSWs offered ICT, the number accepting testing, the number of biological children elicited, the number of biological children tested and the HIV outcomes (HIV negative, HIV positive, known positive and other) and linkage to ART. Documentation included HIV status for traced children and their linkage to care.

**Results**: Of 1,548 FSWs offered ICT for their biological children, 1,303 (84%) accepted. The 1,303 individuals who accepted the offer of testing, identified 293 biological children under 18 years (an elicitation rate of 1:5 children to FSW). 199 of the 293 children (68%) were successfully traced (unsuccessful tracing for the remainder was due to the child not living with mother) and tested or had their HIV status confirmed. Outcomes for the children were as follows: 182(91%) negative, 10 (5%) positive (all were started on ART), 4 (2%) known positives, and 3 (2%) others.

**Conclusions**: This study demonstrates high ICT acceptability among FSWs and successful testing outcomes, highlighting ICT's utility in identifying pediatric HIV. The HIV positivity among these children was higher among children of FSWs than in the general population of children (5% compared to 1%). The findings support ICT for children of FSWs as an effective approach for improving pediatric HIV case detection in key populations.

55

# Integration of Electronic Mother Infant Pair (eMIP) Tracking System with SMS and USSD Technology for Timely HIV Testing and Results Receipt in Already Existing Disease Programs: Lessons Learned from a Pilot in Uganda

Nuwagira A[1], Twinomujuni E[1], Nabitaka V[1], Kabunga L[1], Batusa J[1], Kisaakye Nabitaka L[2], Alanyo M[3]

*[1]Clinton Health Access Initiative, Kampala, Uganda, [2]Ministry of Health Uganda, Kampala, Uganda, [3]Catholic Relief Services, Kampala, Uganda*

**Background**: Retention of HIV Exposed Infants (HEIs) in care ensures adequate care, as the country moves towards 95-95-95-95 UNAIDS ambitious targets by 2030. Despite the countrywide implementation of the Elimination of Mother-to-Child Transmission of HIV (eMTCT) and Early Infant Diagnosis of HIV (EID) policies, retention of HEIs in care remains suboptimal. Only about 52% of infants receive their third Polymerase Chain Reaction (PCR) test, leading to gaps in the HIV care cascade and high mortality due to late linkage to Antiretroviral Therapy (ART) and prevention services.

**Description**: To address this, CHAI developed the electronic MIP tracker with support from FASTER and MoH. This system ensures exposed infants receive timely HIV testing by tracking HEIs in a single system, automating EID scheduling, utilizing SMS to notify caregivers of test results, confirming ART initiation, and enabling USSD for mothers to access their child's results via phone. Training materials for healthcare workers were also developed. The eMIP tracker was piloted in two health facilities in Central Uganda—Kayunga Regional Referral Hospital and Kangurumira HCIV—and integrated into existing disease program systems, such as the COVID-19 response.

**Lessons Learned**: • Infants getting tested for their 3rd PCR increased from 52% to 88%, and linkage to HIV care for those testing positive increased from 56% to 76% (April–June 2022). As of April 2025, post pilot, the uptake of 3rd PCR is at 86%.

• Integrating existing systems and collaborating with partners were crucial for sustainability, resource mobilization, and alignment with other health initiatives.

**Conclusion**: Digitizing HIV testing services and integrating additional indicators (such as HIV Viral Load) can enhance patient involvement in care. Supporting the rollout of tools like the eMIP tracker can empower people living with HIV (PLHIV) to improve treatment outcomes.

56

# Estimating HIV Testing Yield and Treatment Coverage among Children of Female Sex Workers Enrolled in a Bio-Behavioral Survey Conducted in Rwanda, 2023

Umutesi D[1]

*[1]Rwanda Biomedical Center, Kigali , Rwanda, [2]Rwanda Biomedical Center, Kigali, Rwanda, [3]Rwanda Biomedical Center, Kigali, Rwanda, [4]ICAP at Columbia University , Mailman school of Public Health , Kigali, Rwanda, [5]ICAP at Columbia University , Mailman school of Public Health , Kigali, Rwanda, [6]Rwanda Biomedical Center , Kigali, Rwanda*

**Background**: The health status of Female sex workers (FSWs), and their risk behaviors, may affect their children's health. However, there is limited data on HIV testing, seropositivity, and Anti-retroviral treatment (ART) coverage among children of FSWs. This study aims to assess the HIV testing Yield and ART coverage among children of FSWs in Rwanda.

**Methods**: A cross-sectional biobehavioral survey using Respondent Driven Sampling among FSW and exploited minors aged ≥15 years was implemented between May and June 2023. FSWs were interviewed using a structured questionnaire and tested for HIV after consenting. Participants were interviewed about their biological children's HIV testing history, and antiretroviral therapy (ART) initiation and asked to bring them for HIV testing. We used STATA statistical software version 18 to perform univariate and multivariable analysis and other descriptive statistics.

**Results**: Of 2,541 eligible FSWs, 2,295 (90%) had ever given livebirths, with 3,764 children aged <15 years old, of whom 2,291 (60.9%) had ever been tested for HIV, with 76 (3.3%) having tested HIV-positive. Of those positives, 59 were elicited by an HIV-positive FSW, and 56 (73.7%) were reported to have been initiated on ART. Of the 3,764 children, 77 were tested for HIV during the survey, and 2 (2.6%) were diagnosed with HIV. Mother-related factors associated with children's HIV seropositivity included residing in the city of Kigali or Southern province, older age, testing positive for syphilis, and lower HIV comprehensive knowledge. Based on the final multivariable model, FSW living with HIV (aOR=9.4, 95%CI:3.4-26.5), ever married (aOR=1.8, 95%CI:1.1-3.1), and having spent 15 years or more in sex work (aOR=4.9, 95%CI:1.1-21.3) were more likely to have a child tested positive for HIV.

**Conclusion**: This study reveals a relatively high HIV prevalence and gaps in HIV testing and treatment coverage among children of FSW. These findings underscore the urgent need for targeted testing and the opportunity to use existing biobehavioral surveys among FSW to reach their children with HIV services.

57

# Effectiveness and Cost of Community-Based Dried Blood Spot Sample Collection for Early Infant Diagnosis in Angola

Saito S[1,2], **Abrams E**, Liu H[1], Dias A[1], Chauca L[1], Nunes R[1], Furtado M[3], Pocongo B[3], Marques M[3], Velho F[1], Manuel F[1], Branco R[4], Soraya T[3], Manuel G[3], Macama A[5], Fayorsey R[1]

*[1]ICAP at Columbia University, New York, United States, [2]Department of Epidemiology, Mailman School of Public Health at Columbia University, New York, United States, [3]INLS, Luanda, Angola, [4]AFENET, Luanda, Angola, [5]USAID, Luanda, Angola*

**Background**: In Angola, 14% of infants perinatally exposed to HIV (IEH) received an Early Infant Diagnosis (EID) by 2 months of age in 2023. Community-based Dried Blood Spot (DBS) collection was piloted to improve time to first EID test in hard-to-reach communities in selected PEPFAR-supported health facilities (HF).

**Methods**: In collaboration with the National AIDS Institute, the Reaching Impact Saturation and Epidemic Control Program, funded by the United States Agency for International Development, implemented the pilot at two HF with the lowest EID coverage at two months in Huambo province. Pregnant and lactating women living with HIV receiving prevention of vertical transmission services were given the option to have the first EID sample collected at home by trained community counselors or bring the infant back to the HF. Two HF with similar EID coverage were used as control HF. We used survival analysis to determine coverage and average times to first EID sample collection pre-intervention (January-March 2024) and post-intervention (April-July 2024). Unit cost/DBS collected was calculated, tallying training, supervision by program and laboratory staff, supplies, and transportation costs.

**Results**: Pre-intervention, EID coverage at 2 months and average time for first EID sample collection were similar in the intervention [(21/30;70%) and 62 days] and control HF [(18/26; 69%) and 50 days] (p=0.9360; p=0.4927). Post-intervention, coverage at 2 months at the intervention HF increased to 94% (34/36) and remained unchanged at control HF at 72% (21/29) (p=0.0146); time to first EID sample decreased at intervention HF (35 days) and remained unchanged (50 days) at control HF (p=0.0004). Intervention start-up costs were estimated at $201/DBS collected, while routine costs were $19/DBS collected.

**Conclusions**: Community-based DBS collection is an effective and efficient strategy to decrease time to first EID to ensure timely care for IEH. This approach can be used to complement facility-based sample collection.

63

# Accelerating Case Finding of New Children and Adolescents Living with HIV During a National “Find the Child" Campaign in Uganda: Experience from Uganda Protestant Medical Bureau

Mikago P[1], Musiime F[1], Akot G[1], Mporampora D[1], Asabawebwa A[1], Michael M[1], Tusubira E[1], Kikansa R[1], Ssenfuka J[1], Alima H[1], Masiko J[1], Tumwesigye T[1], Magongo E[2], Namukose J[3]

*[1]Uganda Protestant Medical Bureau, Kampala, Uganda, [2]Ministry of Health , Kampala, Uganda, [3]Multi-Community Based Development Initiative, Bugiri, Uganda*

**Background**: In April 2024, Ministry of Health-Uganda launched the “Find the Child” “) National campaign” with an aim to identify and start over 12,000 new children and adolescents (0 – 19 years) living with HIV(CALHIV) on antiretroviral treatment. The USAID Local Service Delivery for HIV/AIDS Activity (LSDA) implemented by Uganda Protestant Medical Bureau (UPMB) supporting 198 health facilities across Uganda had a target of identifying 362 new CALHIV during the campaign.

**Method**: We conducted orientation of stakeholders including the District, Civil society organizations (CSOs), Orphans and Vulnerable Children (OVC) partners, Cultural and Faith leaders on the campaign. The Campaign messages were translated into local dialects. Health Facility campaign focal persons were identified and Continuous Medical Education (CMEs) conducted to equip them with knowledge on key case finding modalities.
Lay-workers were designated to support HIV screening and testing at all facility key entry points. Children and adolescents who were eligible for Index client testing and SNS were line-listed for testing. OVC and CSO partners mobilized and referred Children and adolescents for testing. Facilities with sub-optimal case identification were prioritized for technical support supervision. Joint bi-weekly performance review meetings were conducted with the stakeholders to assess progress of implementation.

**Results**: A total of 52690 children and adolescents were tested for HIV between April 2024 – September 2024, 332 were identified positive during the campaign and 325 were started on treatment. Thirty four percent (113) of CALHIV were diagnosed from OPD, 108 (32.5%) were diagnosed through Index client testing, 61 (18.4%) at other community testing points, and 19 (5.7%) through Social Network testing. Overall, there was a thirty percent and forty three percentage increment in the number of children and adolescents tested and diagnosed positive respectively.

**Conclusion**: Intensifying implementation of high case finding interventions (strengthened key entry point testing, index client testing) led to an increment in the number of CALHIV identified and initiated on ART. Health care providers should therefore implement these interventions with fidelity.

64

# Optimizing Pediatric Index Case Testing Outcomes Through Pediatric Accelerated Case Finding Effort's (PACE) Family Tree Card

Puleni P[1], Chamanga R[1], Chirimba F[1], Maphosa T[1], Makonokaya L[1], Nyangulu M[2]

[1]Elizabeth Glaser Pediatric Aids Foundation, Lilongwe, Malawi, [2]Centers for Disease Control and Prevention, Lilongwe, Malawi

**Background**: Despite the effectiveness of active index testing (AIT) in increasing HIV testing services, AIT uptake remains lower among children than adults in Malawi. To close this gap and to increase pediatric HIV testing, the Pediatric Accelerated Case Finding Effort (PACE) used a family tree card to provide a line listing of all children of mothers with HIV being seen in the HIV antiretroviral therapy (ART) clinic. We evaluated the impact of PACE on HIV testing uptake in children and adolescents in Thyolo District Hospital.

**Methods**: This rapid evaluation used secondary data from HIV testing registers in high-volume facilities, focusing on children and adolescents aged 0–15 years. Outcomes of access to AIT services and HIV testing were compared between pre-intervention (October 2023–March 2024) and post-intervention (April–September 2024) periods. Data were abstracted into DHIS2, and statistical analysis was conducted to calculate proportions and assess associations. Chi-square tests were used, with p-values <0.005 considered significant.

**Results**: We compared child index testing among 7,445 mothers with HIV seen in ART clinics in the pre-intervention period and 7,470 in the post-intervention period. The proportion of women offered pediatric index testing increased significantly by 62%, from 23% (1,732/7,445) pre-intervention to 85% (6,321/7,470) post-intervention (p<0.001). The number of child contacts elicited rose dramatically, from 1,463 pre-intervention to 7,253 post-intervention. Among women with HIV with children who were not previously tested, 97.3% (3,589/3,689) in the post-intervention period and 99.4% (1,275/1,283) in the pre-intervention period underwent screening (p<0.001). Absolute numbers indicated a significant improvement in child index testing coverage, with 1,256 contacts tested pre-intervention compared to 3,059 contacts post-intervention. The number of children diagnosed with HIV was similar in the pre-intervention and post-intervention periods (19 and 18, respectively); all children identified as HIV-positive were linked to treatment.

**Conclusions**: The findings demonstrate that PACE, leveraging the family tree card intervention, is an effective strategy to enhance pediatric HIV testing, significantly increasing HIV testing uptake among children and adolescents of women with HIV on ART. This approach offers a scalable solution to address gaps in pediatric HIV testing, accelerating progress toward the 95-95-95 goals in high-burden settings.

65

# Leaving No Child Behind: Sungani Bana - A Local Initiative to Optimize Paediatric and Adolescent HIV Treatment Outcomes in Eastern Province of Zambia

Mutambo W[1], Kevile F[1], Mutambo W[1], Ng'ambi M[1]

[1]*Eastern Provincial Health Office - Ministry Of Health, Chipata, Zambia*

**Background**: In Zambia, attaining optimal viral load coverage (VLC) > 95% and suppression (VLS) >95% among children and adolescents living with HIV (CALHIV) has been a concerning gap. One strategy to improve VLC and VLS among CALHIV is the Sungani Bana (SB) initiative. SB is a child-centered community case management strategy to improve HIV treatment outcomes. Case management is done by trained caseworkers from the local health facilities, who support the CALHIV through monthly home visits, appointment reminders, TB screening, and nutrition assessments. We will describe and assess the effect of Sungani Bana on VLC and VLS among C/ALHIV in the Eastern Province of Zambia.

**Method**: District Health Information System 2 (DHIS2) program data from four consecutive years was utilized for this retrospective review. This included baseline data for the year prior to SB implementation and three years following implementation. Treatment outcomes, measured by VLC and VLS, before and after implementation were determined and compared. VLC and VLS difference pre and post implementation were evaluated using Chi-square test, with $p<0.05$ statistical significance.

**Results**: Pre-implementation, 2,996 CALHIV were reported in care in September 2021, with 81% VLC and 89% VLS. In the first year of SB initiative, with 2,590 CALHIV enrolled, VLC and VLS increased to 90% and 96% respectively by September 2022. A further increase in the treatment outcome indictors was registered by September 2023, with 92% VLC, 97% VLS and a total of 2,550 CALHIV enrolled in the initiative. By the end of the third implementation year in September 2024, with a total enrollment of 3,103 CALHIV, VLC and VLS were documented at 95% and 98% respectively, representing a significant increase ($p<0.007$) in both VLC (14%) and VLS (9%) from baseline data.

**Conclusion**: These results demonstrate the effectiveness of a child-centered community case management strategy in optimizing paediatric and adolescent HIV treatment outcomes. Increased investment in Sungani Bana is recommended as part of the efforts to ending AIDS in children.

66

# Intensified HIV Index Testing to Close the Children Living with HIV (CLHIV) Treatment Gap in Zimbabwe: Lessons Learnt Through Program Implementation 2023-2024

Mhangara M[1], Mukungunugwa S[1], Tapera T[1], **Masunda K**[2], Guvava V[2]

*[1]Usaid, Harare, Zimbabwe, [2]Kapnek Trust Zimbabwe, Harare, Zimbabwe*

**Background**: In Zimbabwe, progress towards achieving the global 95:95:95 targets for children living with HIV (CLHIV) is lagging, with rates at 63:98:89, compared to 97:98:96 for adults (UNAIDS, 2024). In Masvingo province, one of Zimbabwe's ten provinces, an estimated 1,156 children are unaware of their HIV status out of the 7,400 CLHIV, highlighting the need to intensify case-finding efforts for this population. This abstract presents findings from intensified HIV index testing in 6 of the 7 districts in the province.

**Methodology**: HIV index testing, in this context, refers to testing the biological children of women newly diagnosed with HIV. All women aged 15 years and older newly diagnosed with HIV in the 6 USAID-supported districts were counseled and offered index testing, starting from the first quarter of the 2024 financial year (FY24 Q1). Biological children under 15 years old with unknown or untested HIV status were linelisted for follow-up and testing through a structured facility and community-based HIV index testing protocol.

**Results**: With intensified pediatric index testing, the elicited child contacts per indexed adult improved from a ratio of 1.1 in FY23 Q4 to 1.5 in FY24 Q1, and this ratio remained stable in FY24 Q2. However, HIV positivity rates among tested children declined from 4% in FY23 Q4 to 2% in FY24 Q2, despite a consistent total case-finding rate over the same period.

**Conclusion**: Intensified pediatric index testing has increased the number of biological children of clients living with HIV who now know their HIV status, with a still significant positivity rate. However, this approach did not result in increased case-finding volume. Broader strategies may be required to reach harder-to-reach children, such as those whose biological parents are deceased, unaware of their own HIV status, or not receiving HIV care in the province.

67

# The Importance of Offering HIV Testing Services to Exposed Children of Sex Workers Living with HIV and Reducing the Rate of HIV Transmission: Case of Alcondoms Cameroon

Wadjo Noupa M[1]

[1]ALCONDOMS CAMEROUN, Douala, Cameroun

**Introduction**: The aim is to conduct a targeted strategy for screening children exposed to HIV infection among sex workers living with HIV and to search for effective cases with a better yield to reduce HIV transmission rates within society.

**Description**: Several trials have demonstrated that index case screening can increase the screening of exposed subjects and identify biological children with undiagnosed infection or the goal is to break the chain of HIV transmission by offering HIV testing services to children of sex workers who have been exposed to HIV infection and put them on treatment, if they are positive. This screening process must respect certain standards called WHO 5Cs which are: Consensual, Confidential, Counseling, Giving a Correct Result and finally linked to treatment or prevention methods.

**Results**: During the 2025 fiscal year, from October 2023 to September 2024, the CHIll project, which is a Community Investment Project in the fight against HIV, conducted HIV screening activities for children exposed to HIV infection among sex workers living with HIV in their cohort.
Out of a cohort of 320 sex workers living with HIV, we identified 110 children, including: (80 biological children aged 0 to 15 and 30 non-biological children aged 7 to 18). We offered the screening service to 90 exposed children with their parents' consent, where we registered and diagnosed 20 newly infected children with HIV infection with a positive HIV status, 50 children with a negative HIV status, 15 children already on ART and 05 children with an undetermined HIV status.

**Conclusion**: HIV screening of children exposed to HIV infection of sex workers living with HIV is an effective strategy to help sex workers change their behavior and adhere to care services or counseling techniques used by peer screeners that are necessary for psychological interviews and to help them overcome their difficulties and the obstacles they face in society.

68

# Evaluating Pediatric HIV Testing and Linkage Under the Munonye Campaign: A 25-Week Performance Review in Uganda

Lubega J[1], Magongo E[2], Migisha R[1], Akuju F[2]

*[1]Uganda Insitute of Public Health, Kampala, Uganda, [2]AIDS Control Program, Ministry of Health, Kampala, Uganda*

**Background**: According to Spectrum 2023 estimates, 28,388 children and adolescents living with HIV in Uganda remain undiagnosed. While Uganda has made considerable progress in adult HIV care and prevention of mother-to-child transmission (PMTCT), pediatric and adolescent HIV case identification and linkage to treatment remain suboptimal. Barriers include missed opportunities at facility and community levels, poor integration across platforms, and weak follow-up systems. In response, the Ministry of Health launched the Munonye ("Find the Child") Campaign from April to September 2024 to intensify HIV testing and improve linkage to antiretroviral therapy (ART) for children and adolescents aged 0–19 years. The campaign employed a combination of differentiated facility and community strategies tailored to national, regional, and local contexts.

**Methods**: This retrospective descriptive study utilized weekly aggregated HIV testing data reported through the national SURGE Dashboard across all 145 districts and 15 HIV program regions. Data were collected over a 26-week period and disaggregated by age, sex, region, implementing partner, and HIV testing modality. Key indicators included the number tested (HTS_TST), number identified as HIV-positive (HTS_TST_POS), and number initiated on treatment (TX_NEW). The Mann-Kendall trend test was applied to examine monotonic changes in weekly HIV testing volume, case identification, and linkage outcomes over the campaign period. Descriptive statistics were used to analyze performance patterns and disparities across geographic and demographic subgroups.

**Results**: Between April and September 2024, a total of 750,765 HIV tests were conducted among children and adolescents, identifying 5,165 HIV-positive individuals (1% positivity yield). Of these, 4,860 (94%) were successfully linked to ART. Trend analysis using the Mann-Kendall test indicated an increasing trend in HIV testing volume ($\tau = 0.21$, $p = 0.15$), HIV-positive identifications ($\tau = 0.21$, $p = 0.15$), and ART initiation ($\tau = 0.16$, $p = 0.29$), though the trends were not statistically significant. Adolescents aged 15–19 years accounted for 61% of all tests and 60.6% of HIV-positive cases, with a linkage rate of 92%. Children under 15 years contributed 39.4% of HIV-positive cases and had a higher linkage rate of 97%. Females accounted for 66% of those tested and 72% of HIV-positive cases, with a 97% linkage rate, while males had a lower rate of 86%. North Central (15%) and South Central (14%) contributed the largest share of HIV-positive cases, while Kampala and Ankole achieved over 100% linkage. West Nile (76%) and Tooro (81%) had the lowest linkage outcomes.
By testing modality, PITC contributed the highest share of positive cases (34%), followed by Index Community (18%) and PMTCT (15%). Index Facility testing had the highest positivity yield at 2%, despite contributing 13% of positives.

**Conclusion**: The Munonye Campaign successfully demonstrated Uganda's ability to scale up pediatric and adolescent HIV case finding using integrated strategies. High testing volume and strong linkage rates validate the effectiveness of this national effort. However, addressing persistent disparities—particularly among males, adolescents, and lower-performing regions—is critical. Expanding high-yield modalities, strengthening community-facility linkages, and investing in targeted strategies will be essential to identify the remaining 28,388 undiagnosed children and adolescents and advance toward epidemic control.

69

# The Importance of Targeted Enhanced Identification of Biological Children of Women Living with HIV: The Tanzania Experience

Nnko C[1], Van de Ven R[1], Kambarage B[1], Mkumbo J[1], Nkenja H[1], Lyimo F[1], Kimambo S[1], Bateganya M[2]

*[1]Elizabeth Glaser Pediatric Aids Foundation, Daressalaam, Tanzania, [2]United States Agency for International Development, Dar es salaam, Tanzania*

**Background**: By 2022, Tanzania had an estimated 80,000 children living with HIV (CLHIV), with only 60,000 reported on antiretroviral therapy (ART). Index testing has been effective in identifying CLHIV but gaps in the testing cascade still exist. To address this, we embarked on targeted enhanced identification of biological children (BC) through exhaustive index testing of all women living with HIV (WLHIV) on ART.

**Methods**: A retrospective analysis of routine program data was conducted in Dodoma. Data of WLHIV on ART as of March 2024 was abstracted and analyzed to identify WLHIV missing information of BC elicited, or with BC elicited but not tested. This information was shared with facility and community testers for tracing, elicitation, and testing of BC. WLHIV were offered or re-offered index testing services at every visit. Daily follow up and reporting of tracing and testing outcomes for BC was done. The primary outcome was proportion of children newly identified as HIV positive through index testing of WLHIV already on ART versus newly initiated on ART.

**Results**: Overall, there were 25,218 WLHIV on ART across 158 supported facilities, with 3,135 WLHIV already on ART and 2,017 newly initiated on ART missing information on BC from April to September 2024. Of WLHIV already on and newly on ART, 5,939 and 3,233 BC were elicited from each group, respectively. The testing rate of elicited BC stood at 85% (5,076) and 97% (3,129) of WLHIV already and newly on ART, respectively. HIV positivity was 0.8% (42) and 1.0% (32) among BC of WLHIV already and newly on ART, respectively. Of the 74 BC newly identified as HIV-positive, 29 (40%) were aged between 0-4 years old; 58% (42) were from WLHIV already on ART and had been missed. Index testing contributed to 70% of the 106 newly identified children living with HIV (CLHIV).

**Conclusion**: A higher number of CLHIV was found among WLHIV already on ART for some time. Exhaustive index testing of BC of WLHIV, both already and newly on ART, should be prioritized to maximize identification of CLHIV by reaching those who might have been missed.

70

# Early-Treated Children with Perinatal HIV Show Elevated Monocyte Activation into Adolescence

Innes S, Davies C, Vaida F, Weber T, Bouic P, Tang B, Otwombe K, Cotton M, Browne S

[1]University Of Cape Town, Cape Town, South Africa

**Background**: Universal early ART for infants born with HIV has dramatically improved long-term outcomes in children living with perinatal HIV (CHIV). However, these children face decades of ART exposure and immune activation. Neither the long-term inflammatory profile nor risk of non-communicable diseases are yet known. We compared longitudinal biomarkers associated with inflammation, metabolic and cardiovascular damage and response markers in early ART-treated children and controls unexposed to HIV.

**Methods**: 185 children (67 CHIV, 118 HIV-unexposed) aged 7-16 years (87 female, 98 male) previously part of CHER early ART trial, were followed at Tygerberg Hospital, South Africa. CHIV initiated ART within 3 months of birth, and were virologically suppressed (>90%), asymptomatic, with preserved CD4+ cell count and clinically well at the time of blood tests. Unexposed children arose from the same communities and socio-economic background. Children had multiple measurements (median 2, four years apart), yielding 321 total observations. We measured 26 biomarkers in blood serum using ELISA and Luminex™ multiplex immunoassays, comprising monocyte and lymphocyte-derived biomarkers, response, metabolic and cardiovascular markers. We used mixed effects models with child-specific random effects to investigate the association between HIV group and each biomarker, adjusting for age, sex, ethnicity, smoke exposure and batch, and considered an interaction between age and HIV group. Results are adjusted for multiple comparisons.

**Results**: Early treated children had significantly higher CRP, sCD14 and VEGF than unexposed. Age-specific effects were observed with significantly higher MCP-1, IL-6, and P-selectin in CHIV aged 6-8 years, significantly higher MCP-1, Adiponectin, and IL1a in ages 8-10 years, and significantly higher MCP-1 in ages 13-16 years. All other biomarkers showed no significant difference.

**Conclusions**: Despite early-ART and sustained viral suppression, early treated children displayed extensive immune marker elevations, clustered around monocyte activation and markers associated with cardio-metabolic disease. These children remain at high risk of premature vascular disease in adulthood.

71

# High Burdens of Pretreatment and Acquired Drug Resistance in Children Living with HIV-1: A Systematic Review and Meta-Analysis

Fokam J, Ka'e A[1], Bouba Y[1,3], Santoro M[4], Kose Otieno J[5], Rakhmanina N[6], Chenwi C[1,4], Nka A[1], Ngoufack Jagni Semengue E[1], Gouissi D[1], Kamgaing N[1], Forgwei L[1], Etame N[1], Tommo Tchouaket M[1], Ceccherini-Silberstein F[4], Ndembi N[7], Perno C[8]

*[1]Chantal Biya International Reference Centre for Research on HIV/AIDS, Yaounde, Cameroon, [2]Central Technical Group, National AIDS Control Committee, Yaoundé, Cameroon, [3]UniCamillus-Saint Camillus International University of Health Sciences, Rome, Italy, [4]University of Rome Tor Vergata, Rome, Italy, [5]Africa Centres for Disease Prevention and Control, Addis Ababa, Ethiopia, [6]Children's National Hospital, The George Washington University Washington, , USA, [7]International Vaccine Institute, Kigali, Rwanda, [8]Bambino Gesu Pediatric Hospital, IRCCS, Rome, Italy*

**Background**: Failure in the prevention of mother-to-child HIV transmission (PMTCT) and pediatric treatment challenges led to pretreatment drug resistance (PDR) and acquired drug resistance (ADR) in children living with HIV (CLHIV). This review investigates drug resistance patterns in CLHIV and their significance at the global level.

**Methods**: A systematic review with meta-analysis was conducted on interventional and observational studies published between 2010 and 2024 with data on PDR and ADR in CLHIV (aged 0-15 years) worldwide. We analyzed children with PDR and without prior PMTCT exposure separately, using random effects to pool proportions and meta-regression to assess PDR and ADR subgroup differences by drug class and geographical regions. The study is registered in the International Prospective Register of Systematic Reviews (Prospero) under CRD42023470034.

**Results**: Overall, 72 studies from 38 countries worldwide were included, encompassing 9,973 children (52.5% males). The overall pooled prevalence [95%CI] of PDR was 32.48% [26.08-39.21], with a high rate among those who failed PMTCT-prophylaxis (43.23% [32.94-53.82]) compared to those without PMTCT-intervention (19.40 [14.45-28.84]), p<0.01. PDR was higher in sub-Saharan Africa (SSA) at 39.13% vs. 22.56% in other regions (p<0.01) and was driven by non-nucleoside reverse transcriptase inhibitors (NNRTI)-mutations (OR [95%CI]: 2.46 [2.12-7.86]; p=0.013). Nucleoside reverse transcriptase inhibitors (NRTI) and Integrase strand transfer inhibitors (INSTI) related-PDR were 12.06% [5.97-19.73] and 1.29% [0.0-7.37], respectively. The pooled prevalence of ADR was 61.43% [49.82-72.45] among CLHIV experiencing virological failure, with SSA being the most affected region worldwide (67.58% vs. 18.75% in other regions, p<0.001), driven by NNRTI mutations (OR [95%CI]: 3.84 [3.36-4.38]; p<0.001) and associated with high pre-ART viral load and WHO clinical stage II. INSTI-ADR was low (5.53% [2.49-9.53]) and found with dolutegravir-associated mutations (E138K, G118R, and R263K).

**Conclusion**: There are high burdens of PDR and ADR among CLHIV, with alarming rates in SSA driven by NNRTI resistance, suggesting the need to phase-out pediatric NNRTIs used for either PMTCT or treatment in low- and middle-income countries (LMICs). Importantly, emerging INSTI resistance among CLHIV highlights the relevance of HIVDR surveillance strategies to preserve current and future regimens, especially in LMICs where personalized management remains challenging.

72

# Integrase Inhibitor Resistance among Adolescents and Young People Living with HIV in Sub-Saharan Africa: A Descriptive Case Series from 4 Pediatric HIV Centers of Excellence

Simon K[1,2,3], Nguyen D[2], Nobleza K[2], Dlamini S[4], Anabwani-Richter F[4], Hiwa T[3], O'Brien B[1,2,3], Abadie M[1,2,4], Balungi Kanywa J[5], Fairuzi N[5], Bvumbwe M[3], Maidl E[1,2,5], Farirai J[6], Sathyamoorthi A[6], Wilson Matola B[7], Munyaradzi C[8], Magango E[9], Sugandhi N[10], Haq H[1,2], Perry S[1,2,4]

*[1]Texas Children's Global Health Network,Texas Children's Hospital, Houston, USA, [2]Department of Pediatrics, Baylor College of Medicine, Houston, USA, [3]Baylor College of Medicine Children's Foundation Malawi, Lilongwe, Malawi, [4]Baylor College of Medicine Children's Foundation Eswatini, , Eswatini, [5]Baylor College of Medicine Children's Foundation Uganda, Kampala, Uganda, [6]Botswana-Baylor Children's Clinical Centre of Excellence Trust, Gaborone, Botswana, [7]Department of HIV and AIDS, Ministry of Health, , Malawi, [8]Eswatini National AIDS Program, Ministry of Health, , Eswatini, [9]Ministry of Health, AIDS Control Program, , Uganda, [10]World Health Organization, Geneva, Switzerland*

**Background**: Introduction of dolutegravir (DTG)-based antiretroviral therapy (ART) for children, adolescents and young people living with HIV (CAYLHIV) has improved virologic suppression. Regional surveillance demonstrates the emergence of HIV drug resistance (HIVDR) to Integrase Strand Transfer Inhibitors (INSTIs) in CAYLHIV at higher rates than in adults. We describe resistance patterns and associated clinical factors in CAYLHIV with documented INSTI resistance from pediatric HIV Centres of Excellence (COEs) in four countries in sub-Saharan Africa.

**Methods**: A multi-country retrospective review of electronic medical records from CAYLHIV 0-24 years old with genotyping conducted before December 2024 identified clients with genotypically confirmed INSTI resistance. Genotypes were performed on dried blood spot and plasma specimens by regional laboratories in line with national and WHO guidelines. Drug resistance scores were calculated using Stanford HIVdb with resistance defined as a score ≥15. Data were reported as frequencies and proportions for categorical variables and median and interquartile range (IQR) for continuous variables.

**Results**: Genotyping results for 24 CAYLHIV with INSTI resistance from COEs in Botswana (3), Eswatini (4), Malawi (4) and Uganda (13) were included; 63% (15/24) were male. At genotyping, mean age was 19.1 yrs (IQR 9.3, 20.6), median time on ART was 9.8 yrs (IQR 6.7, 14.3) with an average of 3.5 yrs on INSTI (2.3-4.8) for 23/24 CAYLHIV with known INSTI start date. Nucleoside reverse transcriptase inhibitor backbones at genotyping: 45.8% (11/24) TDF-3TC, 37.5% (9/24) AZT-3TC and 16.7% (4/24) ABC-3TC. CAYLHIV averaged 4 detectable viral loads (VL) (>1000 copies/ml) prior to genotyping with a mean (IQR) VL of 9,015 (IQR 3326, 34294) copies/mL at genotyping. Three (3/24; 12.5%) received antituberculosis treatment while taking INSTIs. The most common mutation was E138K (10 samples), followed by G118R (7), S147G (6), N155H (6), T66A/I (5), G140A (3), Q148R (3), R263K (3), E138A (2) and G163R (2). Common major resistance mutation combinations were E138K + T66A/I + G118R and S147G + N155H (16.7% each). DTG resistance scores were 9 (37.5%) high-, 9 (37.5%) intermediate-, and 1 (4.2%) low-level. Three CAYLHIV also had intermediate/high level resistance to protease inhibitors.

**Conclusion**: In this cohort of CAYLHIV, INSTI resistance was identified in 24 CAYLHIV enrolled in pediatric HIV COEs across four countries, with the most common mutation, E138K, associated with high level DTG resistance. Routine VL monitoring and genotyping for CAYLHIV with persistent treatment failure should be prioritized to guide treatment sequencing and HIVDR surveillance activities, even in resource-limited settings.

73

# Baseline Viral Load Impacts the Aging Process in Infants with Perinatally Acquired HIV Enrolled in the EARTH Cohort

Petrara M[1], Ruffoni E[1], Pascucci G[2], Morrocchi E[2], Cotugno N[2,3], Carmona F[1], Dominguez-Rodriguez S[4,5], Tagarro A[4,5,6], Otwombe K[7,8], Lain M[9], Vaz P[9], Barnabas S[10], Spyer M[11], Fernández-Luis S[12], Nhampossa T[13], Maiga A[14], Violari A[15], Rojo P[16], Giaquinto C[17,18], Rossi P[2,3,18], Palma P[2,3], Giunco S[19], De Rossi A[18,19]

*[1]Veneto Institute of Oncology IOV – IRCCS, Padua, Italy, Padova, Italy, [2]Research Unit of Clinical Immunology and Vaccinology, Bambino Gesù Children's Hospital, IRCCS, Rome, Italy, [3]Department of Systems Medicine, Molecular Medicine, and Applied Biotechnology, University of Rome Tor Vergata, Rome, Italy, [4]Instituto de Investigación Sanitaria Hospital 12 Octubre, Madrid, Spain, [5]Pediatrics Research Group, Universidad Europea de Madrid, Madrid, Spain, [6]Pediatrics Department, Hospital Universitario Infanta Sofía, Infanta Sofia University Hospital and Henares University Hospital Foundation for Biomedical Research and Innovation (FIIB HUIS HHEN), San Sebastián de los Reyes, Madrid, Spain, [7]Perinatal HIV Research Unit, Faculty of Health Sciences, University of the Witwatersrand,, Johannesburg, South Africa, [8]School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, , Johannesburg, South Africa, [9]Fundação Ariel Glaser contra o SIDA Pediátrico, Maputo, Mozambique, [10]Family Centre for Research With Ubuntu, Department of Paediatrics and Child Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa, [11]University College London, Great Ormond Street Institute for Child Health, Infection, Immunity and Inflammation, London, United Kingdom, [12]SGlobal, Barcelona Institute for Global Health, Hospital Clínic - Universitat de Barcelona, Barcelona, Spain, [13]Centro de Investigação em Saúde de Manhiça (CISM), Manhiça, Mozambique, [14]University Clinical Research Center (UCRC), University of Sciences, Techniques and Technologies of Bamako (USTTB), Bamako, Mali, [15]Perinatal HIV Research Unit, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa, Johannesburg, South Africa, [16]Universidad Computense de Madrid, Istituto de Investigación Hospital 12 de Octubre, Madrid, Spain, [17]Department for Women's and Children's Health, University of Padova, Padova, Italy, [18]Penta - Child Health Research, Padova, Italy, [19]Section of Oncology and Immunology, Department of Surgery, Oncology and Gastroenterology, University of Padova, Padova, Italy*

**Background**: The aim of this study is to define the impact of baseline viral load on the premature aging process in infants with perinatally acquired HIV (PHIV), enrolled in the Early Anti-Retroviral Treatment in HIV children (EARTH) cohort.

**Methods**: Thirty-six PHIV infants, ART-naïve at enrolment, with a median age of 1.6 (1.3-2.5) years, were studied for their immune aging profile (activated, senescent and exhausted T cells) by flow cytometry. Relative telomere length, T-cell receptor excision circle (TREC), and HIV-DNA in peripheral blood mononuclear cells (PBMC) were measured by multiplex real-time PCR, real-time PCR and ddPCR, respectively. Statistical analyses were performed using SigmaPlot software.

**Results**: Plasma viremia significantly correlated with HIV-DNA in PBMC (r=0.525, p=0.003). According to plasma viremia at enrolment, PHIV infants were divided in group 1 (VL <25 percentile of Log2 HIV-RNA) and group 2 (>75 percentile of Log2 HIV- RNA). Baseline levels of HIV-DNA in PBMC were significantly higher in group 2 than in group 1 (1159 [617-4426] vs 89 [9-1607] copies/106 PBMC, p=0.011). Similarly, group 2 had higher percentages of activated (%CD4+CD38+HLA-DR+:3.36 [2.60-9.55] vs 1.56 [1-2.21], p<0.001; %CD8+CD38+HLA-DR+:3.51 [2.59-9.13] vs 1.75 [1.06-2.15], p<0.001), senescent (%CD4+CD28-CD57+: 23.13 [18.79-35.33] vs 0.53 [0-6.67], p<0.001; %CD8+CD28-CD57+: 44.97 [31.96-61.32] vs 26.22 [11.29-39.45], p<0.001) and exhausted (%CD4+PD-1+: 15.25 [9.23-20.11] vs 7.04 [5.17-10.77], p=0.013; %CD8+PD-1+: 14.66 [7.04-19.80] vs 7.54 [4.52-9.75], p=0.028) CD4 and CD8 T cells than group 1. Relative Telomere lengths were significantly shorter in group 2 than in group 1 (1.82 [1.68-1.90] vs 1.93 [1.78-2.26], p=0.020). TREC levels were lower in Group 2 than in Group 1 (518 [426-666] vs 647 [538-865], p=0.061).

**Conclusions**: Higher levels of viral load strongly correlate with HIV-DNA in PBMC and lead to higher immune activation, senescence and exhaustion, thus suggesting that baseline levels of plasma viremia may accelerate the aging process.

74

# Factors Associated with Viral Unsuppression among Children and Adolescent Clients on Antiretroviral Therapy in Oyo State Nigeria: A Mixed Method Study

Adetoye D[1], Ibiloye O[2], Oladipo T[1], Olajide O[1], Kikeola A[1], Olafare A[1], Adeyemi S[1], Adurogbola F[1], Omole T[2], Jwanle P[2], Onwuatuelo I[2], Samuels J[2], Okonkwo P[2]

*[1]APIN Public Health Initiatives, Ibadan, Nigeria, [2]APIN Public Health Initiatives, FCT-Abuja, Nigeria*

**Introduction**: Viral suppression is one of the goals of antiretroviral therapy (ART) for the management of HIV acquisition. Viral suppression is a viral load (VL) of less than 1000 copies per ml. Despite the availability of effective antiretroviral drugs (ARV), virological unsuppression remains a major issue in Nigeria. This is especially true with children and adolescents living with HIV (CALHIV). This study was to determine the viral suppression rate among CALHIV receiving ART in three ART sites in Oyo state and factors associated with virological unsuppression.

**Method**: We conducted a cross-sectional review of program data for all CALHIV on ART and with valid VL test results in three comprehensive ART sites. Client-level data were extracted from the electronic medical record (EMR) and analyzed using SPSS. Factors associated with viral unsuppression were examined using a chi-square test and logistic regression. Additionally, healthcare workers and CALHIV were also purposively selected for in-depth interviews to elicit information on barriers and facilitators of viral suppression. Thematic content analysis was used to analyze qualitative data.

**Result**: Eight hundred and forty-nine CALHIV were enrolled in the study (n = 849). Of this 849, 82% (697) were virally suppressed. The mean age of participants was 12.17 years (SD-4.74) and more than half were male (52%, n = 438). Clients who were diagnosed with TB (aOR 9.66; 95%CI: 1.79-27.20), unaware of HIV status (aOR 3.98; 95%CI: 2.46- 6.47), and having an HIV-negative caregiver (aOR 2.69; 95%CI: 1.58- 4.59) were at higher risk of viral unsuppression. Healthcare workers identified stigma, drug refusal/drug fatigue, and non-disclosure of HIV status as barriers to viral suppression. Other barriers were delays in the initiation of enhanced adherence counseling (EAC) and suboptimal adherence counseling. Facilitators were age-appropriate disclosure and good family support.

**Conclusion/Recommendation**: Viral suppression rates are low compared to the UNAIDS 95% target. To improve viral load suppression and treatment outcomes among CALHIV in Nigeria, there is a need to strengthen adherence support and age-appropriate HIV disclosure to CALHIV and their caregivers. HIV program managers should implement continuous quality improvement (CQI) targeting identified barriers in healthcare facilities.

75

# Jua Mtoto Wako (JMW) Initiative to Improve Viral Suppression among Children Living with HIV at Moi Teaching and Referral Hospital

Tigoi I[1], Gaitho D[1], Cheboi V[1], Rono H[1], Samoei R[1], Rutto E[1]

[1]*Usaid Ampath-uzima, Nairobi, Kenya*

**Problem Statement**: Pediatric viral suppression remains sub-optimal across the country with USAID AMPATH Uzima having a suppression of 91% among children as of July 2023 which is below UNAIDS target of 95%. In MTRH USAID AMPATH UZIMA pediatric clinic, before start of JMW in May 2021 the suppression was at 92% and after implementation of the Jua Mtoto Wako initiative, achieved 97% by end of December 2024. Unsuppressed HIV viral load is associated with poor treatment outcomes. The Jua Mtoto Wako (JMW) initiative was implemented to mitigate this.

**Description**: Jua Mtoto Wako (JMW) is a longitudinal follow up of unsuppressed children (with viral load >1000cps/ml), to find out the root causes for non-suppression and to offer appropriate interventions that will address the non-suppression. MTRH began implementing the JMW initiative in May 2021. The pediatric (<15 years) viral suppression was 92% (Below 1000 cps/ml). Identification of the children living with HIV (CALHIV) with high viral load was done routinely through line listing. Children were then allocated case managers and multi-disciplinary team (MDT) meetings were conducted by the clinical team consisting of Clinician, Nurse, Retention peers, Social Worker, HIV testing counselors and Community Health Volunteers (CHV). All line listed children were assessed by the social worker for enrolment into Orphans and Vulnerable Children (OVC) program. Through this program, the social worker at the community level in collaboration with community health volunteer (CHV) visits the households and offers support which include school fees, household financial support, business startup and other household needs depending on the case plan assessment. The facility social worker, however, makes home visits to check on the pill count, storage, and other factors which could lead to poor suppression then comes up with a work plan to support the household depending on the findings. A minimum of 3 enhanced adherence counseling (EAC) sessions were conducted with a follow-up viral load after 3 months. The CHW from the OVC program assists in providing directly observed therapy.

**Results**: The pediatric viral suppression at MTRH as of December 2024 was 97% (n=356). Since the rollout of the JMW initiative, 101 CALHIV have been enrolled. A root cause analysis conducted for all with 84 completing 3 EAC sessions. Of these, 97.7% have had a repeat viral load with 92.9% (78/84) re-suppressing. Four CALHIV were switched to an alternative regimen.

**Lessons Learned**: Client centered case management including enhanced adherence counseling, joint multidisciplinary meetings between facility, community and OVC program have been instrumental in identifying and addressing the root cause / barriers to adherence and supporting re- suppression.

**Conclusions and Next Steps**: JMW will be scaled up and implemented with fidelity in all facilities to improve viral suppression among CALHIV.

76

# Two-Year Virological Outcomes of Dolutegravir-Based ART in Children and Adolescents Living with HIV in Cameroon

Pamegni Ndonko A[1], DJIYOU DJEUDA A[1,5], Ngondi G[1,3], YAMDEU MONGOUE A[1,3], Ngo Malabo E[4], Penda I[1,2]

*[1]Department of Biological Sciences Faculty of Medicine and Pharmaceutical Sciences, University of Douala, Douala , Cameroon, [2]Department of Paediatrics and Child Health, Douala Paediatric and Gynaecological Obstetrics Hospital, Douala , Cameroon, [3]Clinical Biology Laboratory, Laquintinie Hospital, Douala , Cameroon , [4]Clinical Biology Laboratory, General Hospital, Douala, Cameroon , [5]Pathogens, Epidemiology and Clinical Trials Laboratory, Postgraduate Training Unit for Health Sciences, Postgraduate school for pure and applied sciences, The University of Douala, PO Box 2701, Douala, Cameroon*

**Introduction**: Achieving virological suppression in children and adolescents living with HIV remains a major challenge in resource-limited settings. While dolutegravir (DTG)-based antiretroviral therapy (ART) has been widely adopted across Africa, data on its long-term effectiveness in pediatric populations are limited, particularly in Cameroon. This study aimed to evaluate virological outcomes in children and adolescents receiving DTG-based ART over a two-year period in an urban setting in Cameroon.

**Methods**: A cross-sectional study was conducted from January 2024 to June 2024 among children (0-9 years) and adolescents (10-19 years) with at least one plasma viral load (VL) measurement after initiation of this protocol and followed in three health facilities located in Douala, Cameroon. Sociodemographic and clinical data of participants were collected from patient medical records and a brief interview with the participant and/or their guardian. VL measurements were analyzed at three time points: within 12 months prior to DTG initiation, 12 months (window: 6–17 months), and 24 months (window: 18–29 months) post-initiation. Virological suppression was defined as a VL <1000 copies/mL. Multivariate chi-square and binary logistic regression were used to identify factors associated with 24-month virological outcomes. Data were analyzed using Stata v.13, with significance set at $p < 0.05$.

**Results**: A total of 326 participants were included in our study (57 children and 269 adolescents), of whom 52.76% (172/326) were female. The majority of participants (94.8%, 309/326) acquired HIV infection through mother-to-child transmission. Before transition, 62.3% (204/326) were on efavirenz-based protocol and 9.5% (31/326) on lopinavir-based regimens. Overall, the virological suppression rate increased from 79.2% (258/326) before DTG to 81.3% (265/326) 12 months after transition to DTG. At 24 months, 99.1% (323/326) had a suppressed VL, of whom 93.3% (304/326) had undetectable viremia (<50 copies/ml). No demographic or clinical factors were significantly associated with 24-month suppression.

**Conclusion**: The high rate of virological suppression we report in this study is welcome in the era of the UNAIDS 95/95/95 targets, but further progress is needed to reach undetectable levels in this fragile population.

77

# Clinical and Virological Outcomes among Children and Adolescents with HIV After Initiation of Antiretroviral Therapy: A Five-Year Cohort Analysis in Cameroon, 2019–2024

Tchakounte Youngui B[1], Tchendjou P[1], Talla Tuedjo S[1], Kana R[1], Shu Nforbih E[1], Fokam J[3], Djikeussi Katcho T[1], Ajeh R[3], Lekeumo S[1], Fadil Y[2], Mukaminega M[5], Takem E[2], Fabou M[1], Bosh K[2], Rakhmanina N[5,6], Bissemou Bissemou Z[1], Muna E[2], Ditekemena J[4], Ndayisaba G[1], Tiam A[5,6], Jalloh M[2], Tchounga B[1]

*[1]Elizabeth Glaser Pediatric Aids Foundation, Yaoundé, Cameroon, [2]Division of Global HIV and TB, U.S. Centers for Disease Control and Prevention, Yaoundé, Cameroon, [3]National AIDS Control Council, Ministry of Health, Yaoundé, Cameroon, [4]Elizabeth Glaser Pediatric AIDS Foundation, Kinshasa, DRC, [5]Elizabeth Glaser Pediatric AIDS Foundation, 1350 I Street NW, Suite 400 Washington, United States, [6]George Washington University Milken Institute School of Public Health, Washington, United States*

**Background**: While pediatric HIV care has advanced in resource-limited settings, achieving and maintaining undetectable viral load (VL) in children and adolescents living with HIV (CALHIV) remains a challenge. Real-word data are essential to inform strategies for improving pediatric HIV care outcomes. We assessed mortality, time to death, and virological outcomes in CALHIV initiating antiretroviral therapy (ART) in two Cameroonian regions.

**Methods**: We conducted a retrospective cohort analysis using data from 46 HIV clinics. We included children (0–9 years) and adolescents (10–14 years) who initiated ART between October 2019 and September 2023, with follow-up until July 2024. We abstracted and de-identified individual-level data from facility data sources. We analyzed mortality, time to death from ART initiation, and undetectable VL (<40 copies/mL) outcomes stratified by age, with comparisons using Chi-squared and Kruskal-Wallis tests.

**Results**: The cohort included 730 CALHIV (median age: 4 years; IQR: 1.2–8.5), with 367 (50.3%) males and 137 (18.8%) adolescents. Median follow-up time was 19.6 months (IQR: 10.7–32.7). Overall, 42.9% (313/730) were initiated on a dolutegravir-based regimen with 38.5% in 0–2-year-olds, 39.1% in 3–9-year-olds, and 60.6% in 10–14-year-olds. Among 417 not initiated on dolutegravir, 264 (63.3%) switched to dolutegravir. Overall, 118 (16.2%) were lost to follow-up, with a median time from ART initiation to the last visit of 10.8 months (IQR: 5.6–18.4). Among 433 (59.3%) CALHIV on ART for ≥6 months with VL data, 313 (72.3%) achieved undetectable VL. Younger children (0–2-year-olds) had lower proportion of undetectable VL (61.8%,110/178) compared to 3–9-year-olds (75.4%, 126/167) and 10–14-year-olds (87.5%, 77/88), p<0.0001. Of 112 participants with ≥1 year follow-up after their first undetectable VL, 85 (75.9%) maintained an undetectable level. Children showed lower maintenance (70.9%, 56/79) compared to adolescents (87.9%, 29/33), p=0.088. Crude mortality was 10.0% (73/730), with no age-group variations. Median time from ART initiation to death was two months (IQR: 0.8–5.0).

**Conclusions**: CALHIV in Cameroon, especially children, experienced suboptimal virologic suppression and significant mortality. Prioritizing viral load monitoring in young children and ensuring early initiation of optimized-ART regimen could significantly improve treatment outcomes and reduce mortality among children.

78

# Factors Associated with Viral Load Non-Suppression among Adolescents in HIV Management Facilities in Eswatini

Maseko K[1,3], Nsibandze B[1], Maibvise C[1], Ndabezitha S[2], Mafulu Y[3], Dube N[3]

*[1]University of Eswatini, Mbabane, Eswatini, [2]Baylor College of Medicine, Houston, United States, [3]AHF Eswatini, Manzini, Eswatini*

**Background**: Adolescents living with HIV (ALHIV) face significant challenges in achieving viral load (VL) suppression, contributing to poorer health outcomes and hindering global efforts to meet UNAIDS' 95-95-95 targets. Eswatini, with its high HIV prevalence, exemplifies these challenges, as adolescents remain the age group with the lowest rates of VL suppression. Suboptimal suppression rates among ALHIV increase morbidity and mortality, despite global initiatives that emphasize adolescent-focused HIV care and treatment. Understanding factors associated with VL non-suppression is critical for designing effective interventions. This study aimed to identify factors contributing to VL non-suppression among ALHIV aged 10–19 years in Eswatini.

**Method**: A descriptive cross-sectional design was employed. All eligible adolescents presenting at selected HIV management facilities were included until the desired sample size was achieved. Data were collected using researcher-administered questionnaires and a data abstraction tool during routine care visits. Descriptive statistics summarized independent variables, while univariate analysis using Pearson's Chi-Square tested associations. Multivariate logistic regression identified factors associated with VL non-suppression, with odds ratios (AORs) and p-values indicating statistical significance.

**Results**: The study enrolled 245 participants, with an almost equal gender distribution (53% female). The mean age was 15.7 years (SD = 3). Half of the participants (50%, n=123) were from Manzini AHF. The overall prevalence of VL non-suppression was 10.6% (n=26), higher among females (14.5%, n=19), clients on mainstream regimens (28.2%, n=11), and those who had not disclosed their HIV status (29.4%, n=5). Key factors associated with VL non-suppression included lack of family support (AOR = 17.7; 95% CI: 4.28–73.25; p = 0.044), alcohol use (AOR = 5.70; 95% CI: 1.16–27.93; p = 0.032), being on an ABC-based regimen (AOR = 7.32; 95% CI: 1.16–46.06; p = 0.034), and lack of HIV status disclosure (AOR = 4.11; 95% CI: 1.32–12.79; p = 0.015).

**Conclusion**: These findings highlight the need for targeted interventions addressing psychosocial support, substance use, treatment regimens, and stigma-related barriers such as disclosure to improve VL suppression rates among ALHIV in Eswatini and similar contexts globally.

79

# Durability of Viral Suppression and Risk of Rebound among Children in a Trial Using Real-Time Medication Monitoring to Improve ART Adherence in a Randomized Control Trial

Masika L[1,2], Ngowi K[1], Maro R[1], Mtesha B[1], Emmanuel N[1], Swai I[1], Msoka P[1], Sumari-de Boer M[1,2]

*[1]Kilimanjaro Clinical Research Institute, Moshi, Tanzania, United Republic of, [2]Kilimanjaro Christian Medical Centre, Moshi, Tanzania*

**Background**: Maintaining durable viral suppression in children living with HIV remains a major challenge, often due to difficulties in adherence to treatment associated with the age group. Digital adherence tools, such as real-time medication monitoring (RTMM), have shown promise in supporting antiretroviral therapy (ART) adherence through reminders sent to parents or caretakers. Nevertheless, the long-term impact of such interventions on durable viral suppression and the risk of viral load rebound has not been studied well. This study assesses the durability of viral suppression and incidence of viral load rebound among children in a trial to improve adherence using RTMM.

**Methods**: We conducted a post-trial evaluation among children who were followed for one year, randomized to either RTMM or the control group, in which participants only received standard of care. Participants were followed every three months if their viral load was less or equal 50 copies at enrollment defined as suppressed, and every two months if viral load was higher than 50 copies, defined as unsuppressed. Data collected included socio-demographic characteristics, adherence data including pharmacy refills, self-reports and RTMM reports, and viral load; monitored at baseline and at the end of intervention. Viral load rebound was defined as ≥50 copies/mL after previous suppression. We used descriptive and survival analysis methods to evaluate time to rebound, durability of viral load suppression and adherence rates linked to any effect.

**Results**: A total of 154 children were enrolled and followed to the end of the study, they had a median age of 10(6-12 IQR), there were girls 87(56.9) and boys 67(43.1). Among all enrolled children 78(50.5) were assigned the intervention and 76(49.4) were in the control. Of all the children, 118 children had viral load results at the screen and enroll visit. Across all 118 participants, viral rebound was observed in 27(22.9%) children. The overall incidence rate of viral rebound during one year follow-up was 0.0025 per person-visit (27 events over 10,780 person-visits) in the RTMM group and 0.059 per person-visit. Among the 23 children who were initially suppressed at Visit 1, 22 (95.7%) achieved and maintained a durable suppression throughout one year of follow-up. Rebounders in the control group had had lower perceived adherence (80% vs. 95%) and more missed pills (2.0 vs. 0.8/month) compared to those in the intervention group (P-0.031).

**Conclusion**: These findings highlight an incidence of viral rebound and good durable suppression among children initially suppressed. While RTMM showed initial benefits in improving adherence, aiding to viral suppression, some children still experience viral load rebound. These findings highlight the need for sustained adherence support even after digital interventions end and emphasize the importance of continuous monitoring of viral load in pediatric HIV care.

80

# Safety Monitoring of Children (3 Months-<15 Years) Initiating and Transitioning to Dolutegravir in Uganda from January 2022 to December 2022

Latabu C[1], Akumu E[1], Sengendo K[1], Musaazi J[1], Ssuna M[1], Kigozi J[1], Laker Odongpiny E[1]

[1]*Infectious Diseases Institute, Kampala, Uganda*

**Background**: Dolutegravir (DTG) was adopted as the preferred backbone anti-retroviral drug in low and middle-income countries including Uganda (2021) for children living with HIV (CLWH). Rollout of DTG in adults in Uganda (2018) raised a signal of DTG-related hyperglycemia therefore; data on the safety of DTG from CLWH in the programmatic setting are needed. The pharmacovigilance project determined the incidence of adverse events including hyperglycemia among children 3 months-<15 years initiating and transitioning to DTG-containing regimens.

**Methods**: The Infectious Diseases Institute led an intervention at six high-volume health facilities (4 Regional Referral Hospitals & 2 Centre of Excellence) between January and December 2022 in Uganda. We conducted a prospective cohort among CLWH 3 months<15 years initiated on DTG or transitioned to DTG after a previous ART regimen. CLWH were assessed at baseline and follow-up scheduled visits (3, 6, 9, 12 months) for any AEs. Blood glucose measurements were also conducted. Medical Dictionary for Regulatory Activities (MedDRA) terminologies were used to classify AEs. We further classified AEs using DAIDS grading for severity and determined seriousness and causality. Descriptive statistics were used to characterize the population and cox-proportional hazards in bivariate and multivariate analyses to determine the risk of AEs.

**Results**: We enrolled 519 CLWH of these, 110 (median age 3.9 years: IQR 1.8 - 8.2, female 47.3%) were newly initiated on DTG and 409 (median age 7.0 years: IQR 5.0 - 9.5, female 53.3%) were transitioned to DTG within the evaluation period. Of those who transitioned 89.3% had VL<1000 copies/ml and median duration on ART was 7.7 years (IQR; 5.2-9.5). A total of 102 (19.7%) experienced at least one AE. The five most common AEs by organ system were metabolism and nutritional disorders (39.6%), nervous system disorders (27.6%), gastrointestinal disorders (18.8%), skin and subcutaneous disorders (5.03%) and investigations (physical examinations and organ system status (3.77%). The top 5 individual AEs were increased appetite (52/102, 51.0%), abdominal pain (24/102, 23.5%), headache (24/102, 23.5%), abnormal dreams (8/102, 7.8%), weight gain (6/102, 5.9%). Potential new signals included: nightmares (4.2%), progressive hearing loss (0.9%), forgetfulness (0.5%), epistaxis (0.5%).There were no discontinuations because of AEs. At baseline 473 (84.2%) glucose measurements were conducted. 378/473 (86.5%) normal, 53/437 (12.1%) grade I, 6/473 (1.4%) grade 11. There were no grades III or IV. There were no confirmed incident cases of hyperglycemia throughout the observational period.

**Conclusion**: Dolutegravir was generally safe and well tolerated in this population with no discontinuations in this period and no signal of hyperglycemia.

81

# Optimizing Pediatric HIV Care: Community-Led Models for Enhancing Adherence and Viral Suppression among Children in Kenya

Obede K[1]

[1]Lean on Me Foundation, Kisumu, Kenya

**Background**: Pediatric HIV remains a critical challenge in Kenya, with children experiencing higher rates of treatment failure due to poor adherence, caregiver stigma, and limited access to specialized care. This study investigates the impact of community-driven approaches on improving adherence and viral suppression rates among children living with HIV in Nairobi, Kisumu, and Siaya counties.

**Methods**: The Lean on Me Foundation implemented a multi-faceted intervention targeting 200 children aged 0–14 years living with HIV. Key activities included caregiver training on treatment management, establishment of pediatric peer support groups, and collaboration with healthcare providers for tailored pediatric care plans. Data was collected through adherence monitoring, viral load testing, and feedback from caregivers and healthcare workers over a 12-month period.

**Results**: Treatment adherence improved from 58% to 90% among children enrolled in the program.
Viral suppression rates increased significantly, with 85% of children achieving undetectable viral loads compared to 50% at baseline.
Caregiver knowledge of HIV treatment management improved by 75%, as measured by pre- and post-intervention assessments.
Pediatric peer support groups fostered emotional resilience, with children reporting reduced feelings of isolation and stigma.
Enhanced collaboration between caregivers and healthcare providers resulted in faster resolution of treatment-related challenges.

**Lessons Learned**: Community-led models that empower caregivers and integrate pediatric-focused interventions can drive significant improvements in adherence and health outcomes for children living with HIV. However, cultural norms and caregiver stigma remain key barriers requiring sustained advocacy and education.

**Conclusions**: Tailored, community-based approaches to pediatric HIV care are essential for addressing unique challenges in adherence and viral suppression. Scaling up such initiatives across Kenya and embedding them into national pediatric HIV frameworks can significantly advance the country's efforts to achieve HIV epidemic control.

**Next Steps**: Lean on Me Foundation will expand this intervention to additional regions, incorporate mental health support for both children and caregivers, and advocate for policy integration to enhance pediatric HIV care nationwide.

82

# Early Insights from the Implementation of the WHO STOP AIDS Package in Zimbabwe: Advancing Paediatric Advanced HIV Disease Service Delivery

Pinias A[1], Maparo T[1], Sefuthi T[2], Mngadi N[2], Amamilo I[2], Chipuka S[3], Dube T[3], Mupanguri C[3], Mushavi A[3], Mangwiro A[1], Apollo T[3]

*[1]Clinton Health Access Initiative, Harare, Zimbabwe, [2]Clinton Health Access Initiative, Boston, USA, [3]Ministry of Health and Child Care (MoHCC), Harare, Zimbabwe*

**Background**: Children account for 12.0% of AIDS-related mortality in Zimbabwe, despite representing only 5.3% of the people living with HIV. Advanced HIV Disease (AHD) still accounts for considerable paediatric morbidity and mortality, with 2300 AIDS-related deaths reported in 2023, driven mainly by tuberculosis, severe bacterial infections, and other opportunistic infections. The Ministry of Health and Child Care (MoHCC), supported by the Clinton Health Access Initiative, initiated the optimizing and decentralizing access of the World Health Organization STOP AIDS package to the identification and management of AHD among children and adolescents.

**Description**: Eight sentinel sites across Zimbabwe were selected for the early implementation phase of the STOP AIDS package to inform wider scale-up. The MOHCC conducted a baseline service quality assessment (SQA), which informed training needs and program planning. Trainings were conducted on the STOP AIDS package, programmatic indicators, and patient education materials were developed in collaboration with the community. In addition, MoHCC mobilised the community cadres through local organizations who then participated in refining the information, education, and communication (IEC) materials to promote knowledge and uptake of paediatric AHD services.

**Lessons Learned**: Supply chain bottlenecks like expires, and poor communication between facility and central-level stakeholders, underscored the need for integrated forecasting and procurement systems. The SQA and Data review meetings showed discrepancies between reported data versus on-the-ground data and disrupted supply chain planning. These were resolved with the capacitation of healthcare workers (HCWs) through accountability mechanisms. While community health cadres effectively addressed service delivery gaps, they faced challenges like insufficient tracking tools, medication shortages, and patient resistance to follow-up. Notably, Community mobilization through local organizations outperformed facility-based approaches, emphasizing the importance of leveraging existing community structures for program sustainability.

**Conclusions/Next Steps**: The early implementation phase of the STOP AIDS package in Zimbabwe highlights the importance of strengthening HCWs' capacity, supply chain improvements, and community participation in scaling up paediatric AHD interventions. These lessons provide a foundation for integrating evidence-based AHD care into resilient health systems and achieving 2030 HIV targets. Future work will focus on developing community feedback mechanisms and scaling successful approaches nationwide.

83

# Strengthening Caregiver Engagement and Improving Mental Health Services for Pediatrics

Egbuaba I[1], Onyedinachi O

[1]Ecews, Ado-Ekiti, Nigeria

**Background**: Vulnerable children especially orphans and those affected by poverty, trauma, or chronic illness—face significant mental health challenges that often go unaddressed. Caregivers, who serve as the primary source of emotional support for these children, frequently lack the skills, awareness, and resources needed to recognize and respond to psychological distress. To address this gap, the Excellence Community Education Welfare Scheme (ECEWS) implemented a caregiver-focused mental health intervention aimed at enhancing psychosocial support systems for vulnerable children across Ekiti State.

**Intervention**: ECEWS rolled out a community-based intervention across 16 Local Government Areas (LGAs), targeting caregivers of vulnerable children through structured capacity-building sessions, psychosocial support programs, and mental health awareness workshops. Training focused on trauma-informed care, positive parenting techniques, and early identification of mental health disorders in children. These sessions equipped caregivers with practical tools and knowledge to nurture emotionally safe environments for children. To evaluate the program's impact, a mixed-methods approach was used. Data were collected through pre- and post-intervention surveys, focus group discussions, and in-depth interviews with caregivers, service providers, and community stakeholders. Mental health screening tools were administered over six months to assess changes in children's emotional and psychological well-being.

**Observations**: At the outset, most caregivers had limited awareness of children's mental health needs and lacked coping strategies to manage behavioral challenges. Financial barriers, stigma, and limited access to mental health services further restricted their ability to support affected children. However, as the program progressed, caregivers gained confidence in recognizing and addressing mental health concerns. They reported feeling more equipped to create nurturing environments and respond to children's emotional needs. The intervention also facilitated the formation of community-based support networks that promoted peer learning and mutual encouragement among caregivers.

**Results**: The intervention reached over 72 caregiver cohorts, each with a maximum of 15 participants. Among them, 78% demonstrated a significant improvement in understanding trauma-informed care and mental health awareness. There was also a 45% increase in the number of caregivers seeking professional counseling support for children. Mental health screening results showed a 30% reduction in symptoms such as anxiety, depression, and social withdrawal among children. Peer support groups led by caregivers and social workers contributed to ongoing emotional support, collaborative problem-solving, and sustainability of mental health initiatives at the community level.

**Recommendations**: To build on these gains, it is essential to integrate mental health education into routine caregiver programming, strengthen inter-sectoral collaboration between health, education, and social welfare services, and deploy low-cost, community-based mental health services such as mobile counseling units and support groups. Advocacy efforts should focus on integrating mental health into national child protection and welfare policies with dedicated funding.

**Conclusion**: This initiative highlights caregiver engagement's effectiveness in improving vulnerable children's mental health outcomes. Equipping caregivers with the proper knowledge and tools can significantly reduce emotional distress in children and foster more resilient households and communities. Sustained investment in mental health services and support networks remains vital to ensuring long-term well-being for vulnerable children.

84

# Optimizing HIV Care for Children and Adolescents with HIV in India: Insights from a Six-Year National Analysis of Treatment Outcomes

Shet A[1], Ghosh S[3], Arumugam V[3], Bell J[2], Sannigrahi S[1], Singh A[2], Bamrotiya M[2], Mehta S[1], Solomon S[2]

*[1]Johns Hopkins Bloomberg School Of Public Health, Baltimore, United States, [2]The Johns Hopkins University School of Medicine, Baltimore, United States, [3]YR Gaitonde Center for AIDS Research and Education, Chennai, India*

**Background**: India has the largest population of children and adolescents living with HIV (C/ALHIV) in Asia, majority with perinatally-acquired HIV, who face heightened vulnerabilities. Despite India's robust public health system, large-scale data on treatment outcomes for C/ALHIV remain limited. We aimed to analyze treatment outcomes among C/ALHIV in India to inform targeted strategies for improving long-term health outcomes.

**Methods**: We conducted a six-year retrospective analysis of national-level data through ACCELERATE, a differentiated service delivery program within the national program in six high-burden states in India (Andhra Pradesh, Maharashtra, Telangana, Manipur, Mizoram and Nagaland) that collectively represent a third of the country's total HIV burden. Sociodemographic, health-related and longitudinal follow-up data were analyzed using descriptive statistics and logistic regression.

**Results**: Between 2020-2024, 12,446 C/ALHIV enrolled in ACCELERATE; 9,051 were active at analysis (17% transitioned, 4% migrated, 4% dropped out, 3% died). Median age at enrollment was 12 years (IQR 9-14); 53% were male, 47% female, and 1 transgender individual. Orphans constituted 55%, having lost one (36%) or both (19%) parents; 95% lived with parents/relatives, and 4% were in childcare institutions. School cessation was reported by 5%, and 13% reported incomplete vaccinations. Among 7,523 who underwent tuberculosis screening, 5% screened positive, of whom 15% were confirmed positive. Among 7,019 with a viral load test within 12 months, 94% were virally suppressed. Viral suppression trends increased from 72% in 2021 to 90% in 2024. Since the national government's timely introduction of Dolutegravir into the ART regimen in 2021-2022, viral suppression improved significantly among C/ALHIV on dolutagravir-based ART (OR: 1.76, 95%CI: 1.44-2.14). In univariate analysis, viral suppression was significantly higher among C/ALHIV on ART for ≥10 years (OR 2.18, 95%CI: 1.22-3.87), and those aged 6-17 years (OR 1.75, 95%CI: 1.33-2.29), suggestive of less optimal control while transitioning from adolescence to adult care.

**Conclusions**: This study highlights progress in C/ALHIV care in India, especially with Dolutegravir-based ART, showcasing the impact of optimized strategies and sustained programmatic efforts. Challenges like orphanhood, incomplete vaccinations, tuberculosis, and school cessation underscore the need for integrated medical, psychosocial and educational interventions for C/ALHIV to ensure successful long-term outcomes and adult care transition.

85

# Tracking Transitions: Cohort-Based Perspectives on HIV Management from Childhood to Adulthood

Tumusiime C[1], Kisitu G[1], Naiga F[1], Balungi Kanywa J[1], Nahirya-Ntege P[1], Maganda A[1], Kakitiinwa A[1]

[1]*Baylor Foundation Uganda, Kampala, Uganda*

**Background**: Over the past two decades, significant strides have been made in managing HIV, yet children and adolescents remain disproportionately underserved (about half – 52%) in treatment access and care. Transitioning from pediatric and adolescent to adult care poses unique challenges, often leading to treatment interruptions or loss to follow-up (nearly one in three). The Baylor Foundation Uganda (BFU) HIV clinic has been monitoring a cohort of children and adolescents living with HIV since 2004, generating valuable data on their health outcomes. This cohort study provides critical insights into the outcomes and proportion of children and adolescents transitioning into adulthood while remaining on long-term antiretroviral therapy care.

**Methods and Materials**: Longitudinal data was continuously collected from a uniquely identifiable cohort of over 1,300 children (0-9 years) and adolescents (10-19 years) living with HIV enrolled at the BFU clinic in Kampala since 2004. Study participants were recruited in staggered intervals and routinely followed up (every three months) at the clinic, during which demographic, clinical, and health outcome data were systematically captured and recorded. Key data points included demographics, virological and immunological markers, anthropometric measurements, and quality of life assessments. Here, data analysis focused on a transitional description of this cohort. Ethical approvals were obtained from appropriate regulatory bodies.

**Results**: A total of 1,306 participants were followed up since enrolment. More than half (51.3%) of the participants were females and children accounted for 64.3% (n=832) of the cohort participants. The median age at enrolment was 7.2 years (IQR: 3.3 – 12.0). Nearly a third (28.3%) of the participants previously enrolled were no longer active in the BFU clinic as of December 2024 and there was no statistically significant difference (p=0.292) with respect to cohort participation between female and males. Majority (56.1%) of the participants had their mother as the principal caregiver with the least (2.8%) being taken care of by siblings. Anthropometric measures revealed a median weight of 26.0 kgs (IQR: 16.6-41.6). Results show that on average each participant was followed-up for 11.1 years (95%CI: 10.8 – 11.4) from baseline. Between March 2004 and December 2024, the median number of clinic visits per participant were 8 (IQR: 4-16). The proportions of children and adolescents who transitioned to adolescence and adulthood while still in care since baseline were 71.4% (95%CI: 68.2 – 74.4) and 72.3% (95%CI: 68.0 – 76.2) respectively.

**Conclusions**: This cohort provides valuable insights into the long-term management of pediatric and adolescent participants living with HIV. Over a median follow-up of 11.1 years, retention in care remained stable. Also, the absence of gender-based disparities in the cohort participation highlights equitable access to care and the critical role of mothers as primary caregivers emphasizes the significance of family dynamics in HIV treatment support and shaping outcomes as children and adolescents transition to adolescents and young adults respectively. Despite this, the loss of nearly one-third of participants underscores the urgent need for targeted strategies to enhance retention of children and adolescents in order to sustain improved health outcomes.

86

# Mortality Rates and Associated Factors among People Living with Perinatally Acquired HIV in Europe and Thailand

O'Rourke J[1], Chappell E[1], Collins I[1], Crichton S[1], Ene L[2], Le Coeur S[3], Le Prevost M[1], Marques L[4], Naver L[5,6], Noguera-Julian A[7,8,9], Pluta M[10], Prime K[11], Ramos J[12], Spoulou V[13], van Aerde K[14], Trickey A[15,17], Judd A[1,16,17], on behalf of the EPPICC network

*[1]MRC Clinical Trials Unit at University College London, London, United Kingdom, [2]"Dr. Victor Babes" Hospital for Infectious and Tropical Diseases, Bucharest, Romania, [3]French Institute for Demographic Studies (INED), Mortality, Health and Epidemiology Unit, Aubervilliers, France, [4]Centro Materno-infantil do Norte, ULSSA, Porto, Portugal, [5]Department of Pediatrics, Karolinska University Hospital, Stockholm, Sweden, [6]Department of Clinical Science, Intervention and Technology (CLINTEC), Karolinska Institutet, Stockholm, Sweden, [7]Servei de Malalties Infeccioses, Hospital Sant Joan de Deu, Universitat de Barcelona, Barcelona, Spain, [8]Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública (CIBERESP), Madrid, Spain, [9]Departament de Cirurgia i Especialitats Medicoquirúrgiques, Facultat de Medicina i Ciències de la Salut, Universitat de Barcelona, Barcelona, Spain, [10]Department of Children's Infectious Diseases, Medical University of Warsaw, Warsaw, Poland, [11]Department of Clinical Infection, St George's University Hospitals National Health Service Foundation Trust, London, UK, [12]Departamento de Salud Pública y Materno-infantil, Universidad Complutense, Hospital Clínico San Carlos, Instituto de Investigación Sanitaria del Hospital Clínico San Carlos (IdISSC), Madrid, Spain, [13]First Dept of Paediatrics, "Agia Sofia" Children's Hospital, Athens, Greece, [14]Department of Pediatric Infectious Disease and Immunology, Amalia Children's Hospital, Radboud University Medical Centre, Nijmegen, The Netherlands, [15]Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK, [16]Fondazione Penta ETS, , Italy, [17]Joint senior authors, ,*

**Background**: Antiretroviral therapy (ART) has reduced mortality rates in children living with HIV. Increasing numbers of people living with perinatally acquired HIV (PLpHIV) are surviving to adulthood with limited data on long-term mortality rates and associated factors after ART start.

**Methods**: Individual participant data from 14 cohorts in the Epidemiology of Pregnancy and Paediatric Infections International Cohort Collaboration (EPPICC) across Europe and Thailand were analysed. PLpHIV aged <18 years at diagnosis who ever started ART (defined as any triple drug regimen or currently recommended dual regimen) were considered at risk from ART start until death, loss to follow-up, transfer to adult care, or administrative censoring. Mortality rates per 1,000 person-years (PY) were estimated, and associated factors identified using multivariable Poisson models adjusted for demographics (sex, current age [<1, 1-<5, 5-year bands to 30, and 30+ years], region, born abroad) and characteristics at ART start (age, calendar year, prior AIDS diagnosis, and WHO immunosuppression-for-age stage [none/mild/advanced/severe]). Subgroup analyses were conducted restricted to: 1) European cohorts (to assess regional differences) and, 2) PLpHIV alive and in follow-up 1-year after starting ART (to understand factors associated with post-1-year mortality).

**Results**: Of 7,059 PLpHIV included, 3,762 (53%) were female with median [interquartile range] birth year 1999 [1994-2005]. Participants were from Western Europe (4,585, 65%), Central/Eastern Europe (1,631, 23%) and Thailand (843, 12%); the majority were domestic-born (5,064, 72%). At ART start, median age was 5.4 years [1.7-9.5], 1,500 (21%) had a prior AIDS diagnosis, 151 (2%) unknown AIDS status, 1,988 (28%) had severe immunosuppression, and median calendar year was 2005 [2001-2010]. Median follow-up from ART start was 9.8 years [5.6-13.8].
There were 244 deaths between 1996-2019 (last censor date: April 2021) in 70,713PY, an overall rate of 3.5 deaths per 1,000PY (95% confidence interval (CI) 3.0-3.9). In multivariable models, variables associated with mortality were (if not reported, factors were not significantly different from the reference category): younger age (<1 year [incidence rate ratio, 95% CI: 79.2, 38.4-163.3], 1-<5 [5.2, 2.8-9.8], and 5-<10 [2.3, 1.5-3.4], versus 10-<15), region (Thailand [4.1, 2.8-6.2] versus Western Europe), starting ART at an older age (5-<10 [3.9, 2.1-7.1], 10-<15 [7.4, 3.8-14.3], and ≥15 [12.0, 4.6-31.7] versus <1 year), starting ART in earlier calendar periods (<2000 [3.6, 1.9-6.6] versus 2010+), AIDS diagnosis at ART start [2.6, 2.0-3.4] and unknown AIDS diagnosis ([3.4, 1.9-6.1]; versus no AIDS diagnosis) and severe immunosuppression ([2.1, 1.3-3.2] versus none). Results from both subgroup analyses were similar except that severe immunosuppression at ART start [1.5, 0.9-2.5] and being aged 5-<10 years [1.5, 0.9-2.6] were not associated with mortality after 1 year on ART.

**Conclusions**: Mortality rates among PLpHIV decreased in recent years, likely reflecting advances in ART and treatment guidelines. Our

findings that AIDS diagnosis, severe immunosuppression, and older age at ART initiation are associated with mortality, emphasise the importance of early diagnosis and ART initiation before disease progression. Severe immunosuppression at ART start was not associated with post-1-year mortality, however, AIDS diagnosis and older age at ART initiation were consistently associated with mortality.

91

# Infectious and Noninfectious Comorbidity in Adolescents Initiated on ART Within the First 3 Months of Life

Frigati L[1], Greybe L[1], Rose P[1], Barnabas S[1], Rabie H[1], Cotton M[1]

[1]University Of Stellenbosch, Cape Town, South Africa

**Background**: Youth living with perinatally acquired HIV (YLPHIV) in high-income countries have high rates of viral co-infections and non-communicable comorbidities. There is little relevant data from resource limited settings. We assessed the burdens of viral co-infections and non-infectious morbidity in YLPHIV in South Africa to inform health service programming and prioritize screening and resources.

**Methods**: YLPHIV from the Children with HIV Early Antiretroviral Therapy (CHER) study and 2 follow-up studies: one on cardiometabolic risk factors and another exploring determinants of steatotic liver disease were included if a history, clinical assessment, transient elastography and laboratory assessment of risk factors for chronic liver and cardiovascular disease, (Pathological Determinants of Atherosclerosis in Youth, PDAY score), were available. The proportions of comorbidities were stratified according to sex using Stata®, version 17.0 (Stata Corp., College Station, TX) using a one tailed Fisher's Exact Test. A multivariate logistic regression model was used to evaluate associations between liver and cardiovascular disease with a statistical significance level set at 0.05. Ethical approval was granted by Stellenbosch HREC (N22/03/029).

**Results**: 49 adolescents, 26 (53.0%), female, with a median age of 16.4 years (IQR 16.3 – 16.8 years) were enrolled. Median ART duration was 16.2 years (IQR 15.9 – 16.5) with a median protease inhibitor duration of 15 years (IQR 14.6 – 15.5). 43 (88.8%) had switched to dolutegravir (DTG) for a median of 14 (IQR 10 – 19) months. 42 adolescents (83.7%) were virologically suppressed with a median CD4 of 716 (IQR 569 – 871) cells/mm3.

No participants had hepatitis B or C co-infection, all were cytomegalovirus (CMV) Ig G positive and 48 (98.0%) of these had a CMV viral load below detectable limits.
Four participants (8.2%) had elevated BMI >30kg/m2, five (10.2%) had hypertension, one (2%) smoked cigarettes, 24 (49%) used recreational drugs or alcohol. 27 (46.9%) participants had a coronary artery PDAY score ≥1 and 29 (59.2%) an abdominal artery PDAY score ≥1 which was more common in males (p=0.00) and females (p=0.00) respectively.
A controlled attenuation parameter (CAP) score > 248 and liver fibrosis was only detected in four (8.2%) participants each and raised highly sensitive c-reactive protein in 29 (59.1%), with no differences in distribution among the sexes.
Other comorbidities included atopy in 15 (30.6%), chronic anemia in three (6.1%) and chronic cardiopulmonary disorders in five (10.2%) participants. Neuropsychiatric disorders were identified in 22 (44.9%) participants and were more common in males (p=0.03). No association between liver and cardiovascular disease was found.

**Conclusion**: Noninfectious comorbidity including substance use was more prevalent than viral co-infections in these YLPHIV. This must be followed up into adulthood and has implications for screening and counselling interventions.

92

# Health-Related Quality of Life among HIV-Infected Youth (15 - 24 Years) in Kigali, Rwanda: A Cross-Sectional Study

Niyongabo B[1]

[1]Management Sciences For Health(msh), Kigali City, Rwanda

**Introduction**: In Rwanda, the life expectancy of youth living with HIV has increased significantly due to the widespread use of combined antiretroviral therapy. As HIV becomes a chronic condition, there is growing interest in evaluating Health-Related Quality of Life (HRQOL). This study aimed to assess HRQOL among youth living with HIV and identify associated factors.

**Methods**: A cross-sectional study was conducted with 520 youth living with HIV, enrolled at three HIV clinics in Kigali, Rwanda, between March and June 2022. A structured questionnaire based on the “WHOQOL-HIV BREF instrument” was used. Categorical variables were summarized as proportions, and continuous variables were presented as means (SD) or medians (IQR), as appropriate. Multivariable linear regression analysis was employed to identify factors associated with HRQOL. All analyses were performed using StataCorp LLC, Version 14.0.

**Results**: The mean age of participants was 20.4 years (SD ± 2.7), with 57.5% (n=299) being female. The overall median HRQOL score was 88.5 (IQR 80.5–96.5). Approximately 49.8% (n=261) of the youth had a good HRQOL (global score ≥88.5). Factors associated with better HRQOL included being male (Adjusted Mean Difference (β) = 0.144; 95% CI: 0.01, 0.27; p = 0.031) and HIV transmission through routes other than mother-to-child transmission. Specifically, HIV transmitted from mother to child was negatively associated with HRQOL compared to HIV transmitted through blood products (β = -0.53; 95% CI: -1.02, -0.05; p = 0.030).

**Conclusion and Recommendations**: Males had slightly better HRQOL than females, though the difference was not significant. Additionally, HRQOL was found to be higher in those with HIV acquired through modes other than mother-to-child transmission. We recommend introducing a "fourth 95" to the current HIV testing, treatment, and viral load suppression targets, ensuring that 95% of individuals with suppressed viral loads also experience good HRQOL.

93

# Promoting Equity for Pregnant Adolescents in Research: Ethics Guidance from the PREPARE Working Group

Masese R[1], Baron H[1], Lyerly A[1], Day S[2]

[1]University of North Carolina at Chapel Hill, School of Medicine, Department of Social Medicine, Center for Bioethics, Chapel Hill, United States, [2]University of North Carolina at Chapel Hill, Department of Medicine, Division of Infectious Diseases, Chapel Hill, United States

**Background**: Exclusion of pregnant adolescents from clinical HIV research participation has led to significant evidence gaps in the safety, effectiveness, and uptake of HIV treatment and prevention strategies for this population. These gaps underscore the urgent need for ethics guidance to support the inclusion of pregnant adolescents in clinical HIV research. Inclusive research is essential to inform safe and effective treatment and prevention strategies and improve health outcomes for pregnant adolescents and their children.

**Materials and Methods**: To address this urgent need, the PRomoting Equity for Pregnant Adolescents in REsearch (PREPARE) Working Group, an international and interdisciplinary team of 44 experts, has developed actionable ethics guidance for the equitable and responsible inclusion of pregnant adolescents in clinical HIV research. This guidance incorporates diverse expertise and perspectives from bioethicists, adolescent and HIV researchers, policy experts, and adolescents with lived experience.

**Results**: The guidance comprises nine recommendations based on a reproductive justice framework, highlighting the ethical principles of respect, access, and protection. Per the principle of respect: 1) Pregnant adolescents should be central to decisions about research participation; 2) Studies must address the full range of their reproductive options; 3) Their lived experiences should inform the design, conduct, and reporting of research.

Per the principle of access: 4) Trials involving pregnant adults should be designed to include pregnant adolescents unless exclusion is strongly justifiable; 5) Age alone should not determine inclusion; decisions should rely on scientific rationale, public health priorities, and cultural context; 6) Post-trial access to therapeutics must be ensured.

Per the principle of protection: 7) Exclusion harms must be considered during study reviews; 8) Innovative study designs, such as phased inclusion, should be utilized where safety concerns would typically result in exclusion; 9) Study design should consider what specific data are needed to determine safety among pregnant adolescents.

**Conclusions**: Pregnant adolescents require earlier and intentional inclusion in research to ensure timely access to the benefits of advancements in HIV treatment and prevention. Adopting these recommendations will support their ethical inclusion in research, promote responsible study design, ensure access to appropriate therapies, and improve health outcomes for both pregnant adolescents and their children.

94

# Building Capacity to Assess Neurocognition in Ugandan Adolescents With and Without HIV

Nanteza A[1], Gumikiriza-Onoria J[2], Dirajlal-Fargo S[3], Ferraris C[4], Kirsch C[4], Tan M[4], Tsapalas D[4], Robbins R[4]

*[1]Butabika National Referral Mental Hospital, Kampala, Uganda, [2]Makerere University College of Health Sciences, Department of Psychiatry, Kampala, Uganda, [3]Northwestern University Feinberg School of Medicine, Chicago, USA, [4]HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University, New York City, USA*

**Background**: Neurocognitive deficits are highly prevalent in adolescents with perinatal HIV (PHIV) which can compromise their health and functional outcomes. Approximately 91% of adolescents with PHIV live in sub-Saharan Africa, like Uganda, where existing neurocognitive assessment tools are often inaccessible due to their complexity, language limitations, time requirements, and need for specialized training. NeuroScreen -a tablet-based, app-driven tool composed of 12 subtests, offers a time-efficient (~25 minutes), highly automated alternative that can be administered by minimally trained healthcare staff and is already linguistically adapted for Uganda. This study aimed to evaluate the construct and criterion validity of NeuroScreen by comparing test results from Ugandan adolescents with PHIV and their HIV-negative peers using both NeuroScreen and a conventional paper-and-pencil test battery.

**Methods**: 100 adolescents (50 PHIV, 50 HIV-negative) participated, with the PHIV group having undetectable viral loads (VL ≤50 copies/mL) and a mean age of 16.6 years (SD=2.04), while controls averaged 15.7 years (SD=1.81). All participants completed NeuroScreen and an 11-test standard neuropsychological battery. Global z-scores were derived from individual test performances. Construct validity was assessed through Pearson correlations between battery scores, while criterion validity was analyzed via independent samples t-tests to determine performance differences between PHIV and control groups.

**Results**: While the PHIV group was significantly older (p=0.025), no significant differences were found in gender or educational attainment. A strong correlation (r=0.73, p<.001) emerged between the global scores of both test batteries.. As hypothesized, PHIV adolescents performed significantly lower than controls on both NeuroScreen (p=0.009) and the paper-based tests (p=0.003).

**Conclusions**: NeuroScreen demonstrated construct and criterion validity when compared to a multi-hour pencil-and-paper battery. A large, statistically significant correlation was observed between the two batteries, and NeuroScreen results showed the expected pattern of worse neurocognition among adolescents with PHIV than controls. Given that NeuroScreen is brief, highly automated, and does not require formal training to administer, it can allow for the scale-up of neurocognitive testing for adolescents in Uganda and other similar sub-Saharan countries.

95

# Trends and Factors Associated with Viral Load Non-Suppression among Treatment-Experienced Preadolescent Children Living with HIV in Kenya, 2015-2021

Mulinge M[1], Kibui N[2], Kimani H[2], Wamalwa D[3], Nduati R[3], Mwau M

*[1]Department of Biochemistry, University of Nairobi, NAIROBI, Kenya, [2]Kenya Medical Research Institute, kenya, NAIROBI, Kenya, [3]Department of Pediatrics, University of Nairobi, NAIROBI, Kenya*

**Background**: Viral load non-suppression (VLNS) in children is a major public health concern because of attendant HIV disease progression and risk of morbidity and mortality. Based on a nationally representative database we present estimates of the prevalence, trends and factors associated with VLNS in Kenyan pre-teenage children between 2015 and 2021.

**Methods**: Kenya National AIDS & STI Control Program's (NASCOP) maintains an early infant diagnosis and viral load (EID/VL) database for all persons living with HIV who are enrolled in the country's primary care clinics for purposes of monitoring progress towards achievement of the 95% viral suppression goals. Participants were eligible if they were children living with HIV (CLHIV), on combination ART (cART) treatment, and ≤12 years old. The modified Mann-Kendall trend test for serially correlated data was used to identify VLNS trends. Generalized estimating equations (GEE) with a logit link was used to assess the effects of covariates on the odds of VLNS (VL ≥1,000 copies/mL) over repeated points in time, allowing for the correlation among the repeated measures.

**Results**: Between January 2015 and December 2021, 508,743 viral load tests were performed on samples collected from 109,682 pre-teenage children. The prevalence of VLNS decreased from 22.9% (95% CI 22.4-23.3) to 12.5% (95% CI 12.1-12.9), $p < 0.0001$, and mean age increased from 3.1 (4.2) to 8.0 (3.2) years in 2015 and 2021 respectively. A modified Mann-Kendall trend test for serially correlated data denotes a statistically significant decreasing trend ($\tau = -0.300$, $p < 0.0001$) over the study period. In the multivariable GEE analysis adjusted for covariates, the odds of VLNS decreased by 11% per year during the study period, (GEE-aOR 0.89, 95% CI 0.88-0.90; $p < 0.0001$). Factors positively associated with VLNS were EFV/NVP-based first-line cART regimen (GEE-aOR 1.74, 95% CI 1.65-1.84, $p < 0.0001$), PI-based cART regimen (GEE-aOR 1.82, 95% CI 1.72-1.92, $p < 0.0001$), and children aged 1-3 years (toddlers) (GEE-aOR: 1.84, 95% CI 1.79-1.90, $p < 0.0001$). On the contrary, DTG-based cART regimen, were negatively associated with VLNS (GEE-aOR 0.70, 95% CI 0.65-0.75, $p < 0.0001$).

**Conclusion**: There is a strong evidence of decreasing viremia between 2015 and 2021. To sustain the decreasing trend, accelerating the switch from the suboptimal EVP/NVP first-line regimen to optimised DTG regimen is warranted.

96

# Determining Propensity for Sustaining Undetectable Viraemia among Persons Living with HIV Who Attained Undetectable Viraemia in Nigeria: A Retrospective Cohort Study

Nwanja E[1], Onwah O[1], Umunike M[1], Akpan U[1], Toyo O[1], Nwangeneh C[2], Okolo C[1], Omo-Emmanuel U[3], Obiora-Okafo C[3], Idemudia A[3], Ogundehin D[3], Katbi M[3], Adebobola B[4], James E[3], Pius J[3], Oyelaran O[3], Onyedinachi O[1], Adegboye A[1], Eyo A[1]

*[1]Excellence Community Education Welfare Scheme (ECEWS), Uyo, Nigeria, Uyo, Nigeria, [2]FHI360, Abuja, Nigeria, [3]Office of HIV and TB, United States Agency for International Development, Abuja, Nigeria, [4]National AIDS, STI and Viral Hepatitis Control Program, Abuja, Nigeria*

**Background**: Achieving and maintaining undetectable viraemia eliminates the risk of HIV transmission for people living with HIV (PLHIV). This study assessed the treatment outcomes of PLHIV who had undetectable viraemia and identified factors associated with retention on antiretroviral therapy (ART) and sustained undetectable viraemia in Southern Nigeria.

**Methods**: We conducted a retrospective cohort study by reviewing the health records of PLHIV who had undetectable viremia as of September 2023 at 225 health facilities in Akwa Ibom and Cross River States, Nigeria. We defined undetectable viremia as a viral load <50 copies/ml. We then followed up with this cohort for 12 months and looked at their outcomes in September 2024. We extracted the following variables age, sex, duration on ART, and regimen line. The outcomes of interest were retention in care (i.e. active on ART) and sustained undetectable viremia (i.e. subsequent viral load results remained undetectable). Logistic regression was used to identify factors associated with retention in care and sustained undetectable viraemia, with a significant p-value at 0.05.

**Results**: A total of 118,012 PLHIV attained undetectable viraemia: 64% (75,589) were female, 2.8% (3,360) aged 0-14years, 6.0% (7,109) aged 15-24 years, 86.5% (102,109) aged 25-59 years and 4.6% (5,434) aged ≥60 years. The median duration on ART was 3.3 years (IQR: 2.5-5.2). After 12 months, 95.9% (72,740) were retained in care and 93.3% (104,016) had sustained undetectable viraemia. Retention was positively associated with longer duration on ART ([aOR: 0.03; CI: 1.025–1.042], p<0.001). Compared to adults aged ≥60 years, those aged 0-14 years ([aOR: 0.34; CI: 1.200–1.647], p<0.001), 15-24 years ([aOR: 0.43; CI:1.357–1.764], p<0.001), were less likely to be retained in care. Sustained undetectable viraemia was less likely in males ([aOR: 0.90; CI: 0.81–1.01], p=0.013), in those aged <14 years ([aOR: 0.66; CI: 0.44–0.60], p<0.001), in those aged 15–19 years ([aOR: 0.77; CI: 0.68–0.92], p=0.002), and those with lower duration on ART ([aOR: 0.94; CI: 0.93–0.94], p<0.001).

**Conclusion**: Children and adolescents (<20 years) are less likely to sustain undetectable viremia compared to adults, and also had lower retention in care. Tailored differentiated service delivery models for individuals within this subpopulation may enhance treatment outcomes.

97

# Care Interruptions During the First Year on Antiretroviral Therapy among Youth Aged 15-24 Years in Khayelitsha, South Africa

Nyakato P[1], Euvrard J[1], Chinogurei C[1], Boulle A, Davies M

[1]*Centre For Integrated Data and Epidemiological Research, University Of Cape Town, South Africa, Cape Town, South Africa*

**Background**: The availability of antiretroviral therapy (ART) irrespective of disease severity provides the opportunity for people living with HIV to achieve sustained virologic suppression before the onset of clinical disease. However, early care interruptions may undermine this benefit. Adolescents and young adults (AYA) living with HIV experience higher rates of care interruptions compared to children and older adults, which may have been exacerbated by COVID-19 related measures and service disruptions. We aimed to identify the probability and determinants of early interruptions (disengagement from care within the first year after ART initiation) among AYA aged 15–24 years in the Khayelitsha cohort of the International Epidemiology Databases to Evaluate AIDS-Southern Africa (IeDEA-SA) from 2017–2021, including the effect of calendar year of ART start.

**Methods**: This retrospective cohort study included 6,475 AYA who initiated ART between 2017–2021 at Khayelitsha. Early interruptions were defined as a gap in clinic visits lasting ≥12 months, with the last visit before interruption being <12 months after ART start and without documented death during the interruption period (12 months since last visit). We used Fine and Gray competing risks sub-distribution hazard models to assess the factors associated with an early interruption, accounting for death as a competing risk. The models were adjusted for sex, age at ART start and year of ART start.

**Results**: Of the cohort (n=6475; 84% females), median (interquartile range (IQR)) age 22 years (20-23), 57% (n=3,678) experienced uninterrupted care, while 43% (n=2756) had early interruptions, and 0.6% (n=41) died within the first year of ART start. The median time to interruption was 28 days (0, 119), and the median time to death was 7 days (0, 63). Pregnancy at ART start was reported in 3% (n=170) of females, with no difference in pregnancy proportions between those with or without interruptions or deaths.

Older youth initiating ART at ages 18–21 years (adjusted Hazard Ratio (aHR): 1.17, 95% Confidence Interval (CI): 1.01–1.35) and 22–24 years (aHR: 1.26, 95%CI: 1.10–1.46) were at greater risk of early interruptions compared to those aged 15–17 years with no difference by sex. ART initiation during the COVID-19 period in 2020 was associated with a 68% (95%CI: 1.42-1.77) higher hazard of interruptions compared to 2017, but the risk of early interruption recovered to pre-pandemic levels in 2021.

**Conclusions**: Early ART interruptions are a substantial challenge for youth in Khayelitsha, with nearly half disengaging within the first year. Older youth (18–24 years) and those initiating ART during 2020 were particularly vulnerable, likely reflecting pandemic-related disruptions, or a change in scheduled visit frequency during the pandemic. While it is reassuring that care interruptions reduced in 2021, these findings underscore the importance of mitigating service disruptions and supporting retention, especially for older AYA.

98

# Adolescents with Confirmed Virological Failure Stand at Risk of Acquiring Resistance to Dolutegravir and Need Novel Treatment Options: Findings During the Early Stage of TLD Transition in the CIPHER-ADOLA Study

Bouba Y[1,2], Ndiang Tetang S[3], Nka A[2], Ka'e A[2], Gouissi D[2], Anong Beloumou G[2], Takou D[2], Simo Kamgaing R[2], Kamgaing N[2], Sosso S[2], Ngoufack Jagni Semengue E[2], Forgwei L[2], Ayafor C[2], Tommo Tchouaket M[2], Nguendjoung Fainguem N[2], Gabisa E[2], Ndongo Ateba F[13], Abate M[4], Wome Basseck R[2], Wiadamong A[2], Gnambi A[2], Etame N[2,5], Kengni A[2,5], Moko L[2], Yimga J[2], Ambe Chenwi C[2,5], Djupsa S[2], Noukayo F[6], Nga Motaze A[3], Ketchaji A[7], Njom Nlend A[8], Penda C[8], Armenia D[1], Colizzi V[9], Koki Ndombo P[13], Ndjolo A[2], Ceccherini-Silberstein F[5], Santoro M[5], Perno C[10], Fokam J[2,11,12]

*[1]Saint Camillus International University of Health Sciences, Rome, Italy, [2]Chantal Biya International Reference Centre for Research on HIV/AIDS Prevention and Management (CIRCB), Yaounde, Cameroon, [3]Essos Hospital Centre, Yaounde, Cameroon, [4]Mbalmayo District Hospital, Mbalmayo, Cameroon, [5]Department of Experimental Medicine, University of Rome Tor Vergata, Roma, Italy, [6]Cité Verte District Hospital, Yaounde, Cameroon, [7]Department of Disease, Epidemics and Pandemic Control, Ministry of Public Health, Yaounde, Cameroon, [8]Department of Clinical Sciences, Higher Institute of Medical Technology, University of Douala, Douala, Cameroon, [9]UNESCO Board of Multidisciplinary Biotechnology, University of Rome Tor Vergata, Roma, Italy, [10]Bambino Gesù Children Hospital, IRCCS, Roma, Italy, [11]Central Technical Group, National AIDS Control Committee, Yaoundé, Cameroon, [12]Faculty of health sciences, University of Buera, Buea, Cameroon, [13]Mother and Child Centre, Chantal BIYA Foundation, Yaoundé, Cameroon*

**Background**: Progress in pediatric HIV programs may be jeopardized as children grow toward adolescence, especially among adolescents with perinatal HIV-infection (APHI) in low- and middle-income countries (LMICs) where limited treatment regimens options could lead to poor virological response, HIV drug resistance (HIVDR) emergence and increased AIDS related morbidity and mortality. Thus, we sought to evaluate viral load (VL) response and HIVDR among APHI receiving tenofovir-lamivudine-dolutegravir (TLD).

**Materials and Methods**: A multi-centre cohort study was conducted among APHI receiving TLD in the Centre region of Cameroon. Enhanced adherence counseling (EAC) was provided during 3 months to APHI with baseline VL≥50 copies/ml. After follow-up, VL was measured. Low-level viremia (LLV) and virological failure (VF) were defined as having a VL 50-999 and ≥1000 copies/mL, respectively. Among those experiencing VF, genotypic HIVDR was performed in protease, reverse transcriptase and integrase regions using sanger method, and interpreted using HIVdb.

**Results**: A total of 252 APHI were enrolled (58.6% female, median [IQR] age: 15 [13-17]), 27.8% (n=70) had a baseline-VL≥50 copies/ml, including 44.3% LLV (n=31) and 55.7% VL≥1000 (n=39). The most common ART-backbones before transition to TLD were ABC+3TC (50.0%) and TDF+3TC (41.4%) and the median duration on TLD was 2-years. Following complete EAC (n=65), poor adherence reduced from 70.9% to 24.6%, and VL response showed 56.9% (n=37), 18.5% (n=12) and 24.6% (n=16) with VL<50, 50-999 and ≥1000 copies/mL respectively, indicating 93.7% (236/252) overall viral suppression (VL<1000 copies/ml). Among those experiencing VF (6.3%), genotyping was successful for 10 and a proportion of 11.1% (1/9), 44.4% (4/9), 55.6% (5/9), and 10.0% (1/10) patients harbored HIVDR mutation(s) to protease inhibitors (PI/r), nucleoside reverse transcriptase inhibitors (NRTI), non-NRTI (NNRTI) and integrase strand transfer inhibitors (INSTI), respectively. Most importantly, a non-adherent 17-year old boy (VL=18717 copies/mL at failure) was identified with three-class drug resistance (NRTI: M41L, K70R, L74V, M184V, G190A, T215F; NNRTI: K101E, V108I, Y181C, G190A and INSTI: L74M, G118R, E138K) and is in need of a regimen containing a PI/r with novel antiretrovirals (lenacapavir, fostemsavir, enfuvirtide, maraviroc, and/or ibalizumab) which are not available in Cameroon.

**Conclusions**: Among APHI within a functional EAC program, the early stage of transition to TLD (about 2 years) in Cameroon shows encouraging viral suppression rate closer to the 95% expected target. However, the case of early emergence of complete TLD resistance calls for caution on long term treatment success and the need to rapidly design novel pediatric treatment strategies to preserve HIV elimination among adolescents in LMICs.

99

# Effectiveness of Enhanced Adherence Counselling among Adolescents Receiving Dolutegravir-Containing Regimens with Detectable Viremia in Cameroon: Optimizing Virological Outcomes in Paediatric Settings

Nka A[1], Tetang S[2], Bouba Y[1], Ka'e A[1], Forgwei L[1], Gouissi D[1], Kamgaing R[1], NJOM NLEND A[3], Ndombo P[4], Ndjolo A[1], Ceccherini-Silberstein F[5], SANTORO M[5], Perno C[6], FOKAM J[1], of the CIPHER ADOLA team o[1]

*[1]"Chantal Biya" International Reference Center for reserach on HIV/AIDS Prevention and Management, Yaounde, Cameroun, [2]Essos Hospital Centre, Yaounde, Cameroon, [3]Health Ebene Consulting, Yaounde, Cameroon, [4]Mother and Child Centre, Chantal BIYA Foundation, Yaounde, Cameroon, [5]University of Rome Tor Vergata, Rome, Italy, [6]Bambino Gesu' Pediatric Hospital, IRCCS, , Rome, Italy*

**Background**: In low-and middle-income countries (LMIC), mortality among adolescents living with HIV(ADLHIV) is still concerning, driven by poor viral suppression(VS) in the frame of limited adherence monitoring approaches. We herein evaluated the virological outcomes after enhanced adherence counselling (EAC) among ADLHIV with non-VS and low-level viremia (LLV) in the era of tenofovir-lamivudine dolutegravir (TLD) in Cameroon.

**Methods**: In the frame of the CIPHER-ADOLA project, we conducted a multicenter facility-based cohort-study among ADLHIV(10-19 years) in Cameroon. Three EAC sessions were provided to ADLHIV with a viral load (VL)≥50 copies/ml for a period of 3-months. VS, low-level viremia (LLV) and virological failure(VF) were defined as VL<1000, 50-999 and ≥1000 copies/mL, respectively. The outcome after EAC among ADLHIV with LLV and VF was respectively to achieve undetectability and VS.

**Results**: Of 252 ADLHIV enrolled for VL testing, 70 (27.8%) had a VL≥50 copies/ml (female:58.6%, median [IQR] age: 15 [13-17]). Pre-TLD backbones included ABC+3TC (50.0%), TDF+3TC (41.4%) and AZT+3TC (8.6%); median TLD-duration was 23.5 [±11.6] months. Before EAC, 72.9% (51/70) had poor ART-adherence;44.6% and 55.4% had VLs 50-999 and ≥1000, respectively. At the end of follow up, 60.7% had good adherence; with higher-rates of adherence associated with being female (22/37 [59.4%]) versus male (15/26 [57.7%];p=0.889) and attending all 3 EAC-sessions (57.1% [32/56] vs 42.9%[24/56],p=0.001). Among the 56 ADLHIV with available VLs post-EAC, 58.9%, 19.6% and 21.4% had VLs<50, 50-999 and ≥1000, respectively, indicating an overall 33% reduction in poor VS. Interestingly, among ADLHIV with VL≥1000 at baseline, 70% achieved VS and 30% experienced VF after EAC. In LLV group at baseline, 74% had a VL<50 and 26% remain in LLV. Despite a non-significant decline in median VL (126[52-1871] post-EAC versus 135[95-8519] at baseline,p=0.945), viral non-suppression and LLV significantly declined from 55.4% to 21.4% (p=0.0002) and 44.6% to 19.6% (p=0.0046) respectively after EAC. Overall,73.2% significant decline in VLs (-0.5 log10 RNA) was observed between pre- and post-EAC.

**Conclusions**: In LMICs transitioning to TLD, an effective EAC would substantially improve ART outcomes among ADLHIV experiencing non-VS. In context, LMICs are encouraged to accompany the transition to pediatric dolutegravir-containing regimens with a robust adherence support strategy for ADLHIV with detectable VL to achieve elimination of pediatric AIDS by 2030.

100

# Caregiver Sociodemographic Characteristics and Mental Health Are Associated with Viral Non-Suppression among Adolescents and Young Adults Living with HIV

Atiiga J[1], Kohler P[1,2], Agot K[3], Badia J[3], Kibugi J[3], Jiang W[1], Hicks S[4], John-Stewart G[1,4,6], Njuguna I[1,5]

*[1]Department of Global Health, University Of Washington, Seattle, United States, [2]School of Nursing, University of Washington, Seattle, United States, [3]Impact Research and Development Organization, Kisumu, Kenya, [4]Department of Epidemiology, University of Washington, Seattle, United States, [5]Kenyatta National Hospital, Nairobi, Kenya, [6]Departments of Medicine and Pediatrics, University of Washington, Seattle, United States*

**Introduction**: Caregivers play a critical support role for adolescents and young adults living with HIV (AYLHIV). However, there is limited research in high HIV burden areas on caregiver correlates of poor outcomes among AYLHIV. Understanding caregiver factors that influence viral non-suppression may build evidence for designing targeted support interventions to improve viral suppression among AYLHIV.

**Methods**: This analysis utilized data from a cluster-randomized clinical trial designed to evaluate a data-informed stepped care (DiSC) intervention for AYLHIV. The study was conducted at 24 HIV clinics in Western Kenya. AYLHIV data were collected at baseline and every 6 months for 1 year, including programmatic viral load (VL) data. A subset of caregivers (CG) were evaluated at baseline. We determined baseline caregiver socio-demographic and mental health factors associated with AYLHIV viral non-suppression (VL >1000 copies/ml) at any study visit. Mixed effects regression models clustering for facility and adjusted for age were used to determine associations.

**Results**: Among 1904 AYLHIV enrolled in the DiSC RCT, 746 (39%) had caregivers enrolled; only AYLHIV with paired caregivers were included in this analysis. Among caregivers, median age was 41 years (Interquartile range (IQR): 35, 49), and 83% were female. The majority (64%) of caregivers were either married or in a relationship, 80% were unemployed and 80% were HIV-positive. Median age of AYLHIV was 14 years (IQR: 12, 15); 50% were female, and 12% were double orphans. The average number of VL results per AYLHIV over the 2-year follow-up period was 6 (IQR: 3, 9). The prevalence of having viral non-suppression at any visit was 11%.
At any visit, AYLHIV with caregivers who were male (RR= 1.94; P < 0.001) had significantly higher odds of being virally non-suppressed, whereas AYLHIV with caregivers who were HIV positive (RR = 0.58; P < 0.001) or biological parents (RR = 0.67; P < 0.001) had significantly lower odds of being virally non-suppressed. AYLHIV with caregivers with at least mild anxiety had a trend to (RR = 1.40; P = 0.071) higher odds of being virally non-suppressed at any visit.

**Conclusion**: Caregiver characteristics may help identify AYLHIV who need additional support to achieve viral suppression. Male or non-biologic caregivers or those without HIV may need support to enhance adherence and viral suppression. Interventions addressing caregiver anxiety may enhance viral suppression among AYLHIV.

101

# Implementation and Impact of the BLOOM Project: Strengthening Pediatric and Youth HIV Service Delivery in Uganda

Ssengendo J[1], Kiranda E[2], Kidega W[3]

*[1]Uganda Young Positives, Kampala, Uganda, [2]Ministry of Health – AIDS Control Program, Kampala, Uganda, [3]USAID/Uganda Civil Society Strengthening Activity, Kampala, Uganda*

**Background**: The Babies living optimally opportunely with their mothers (BLOOM) project, implemented from June 2023 to May 2024, aimed to address critical gaps in pediatric and youth HIV care in Mubende, Mityana, and Kyenjojo districts found in central and western Uganda. Despite significant challenges, including limited healthcare access due to extreme weather, high transportation costs, and stigma, the project sought to improve antiretroviral therapy (ART) adherence, enhance viral suppression, and empower young mothers living with HIV (YMLHIV) and their families.

**Methods**: The project employed a multifaceted community-based approach. Key interventions included training 100 community health workers (CHWs), expert clients, and peer mothers in HIV care delivery; establishing 30 community safe spaces (CSS) for support groups; conducting 165 integrated community outreaches; and implementing 10 village savings and loan associations (VSLAs). Targeted mentorship, psychosocial support, and referral mechanisms were also enhanced to ensure effective service delivery. Data were collected through routine monitoring using a District Health Information System 2 (DHIS2) and analyzed to track key performance indicators.

**Results**: BLOOM facilitated the return to care of 134 YMLHIV and 107 children lost to follow-up, with 98% of referred clients accessing services. Viral suppression was achieved in 192 out of 201 pediatric clients, while CSS meetings supported 1,516 YMLHIV with ART adherence, stigma reduction, and family planning education. VSLAs enabled economic empowerment among 1,084 members, with savings fostering income-generating activities. Additionally, 14 "Bring Back the Baby" campaigns improved retention rates for mother-baby pairs. Health worker capacity was strengthened through 57 continuous professional development sessions, enhancing adolescent-friendly service delivery.

**Conclusion**: The BLOOM project successfully strengthened pediatric and youth HIV services, improving health outcomes and socio-economic stability for beneficiaries. The results highlight the importance of community engagement, capacity building, and integrated service delivery. Future initiatives will focus on expanding targeted testing, scaling up CSS utilization, and enhancing intersectoral collaboration to address persistent challenges.

102

# Leverage on Community Differentiated Service Delivery Models in Provision of HIV Prevention Services to Adolescents: A Retrospective Study in Wakiso District Suburbs

Fredrick N[1]

[1]Aids Information Centre, Kampala, Uganda

**Background**: The Uganda national consolidated HIV prevention, care and treatment guidelines 2016, recommend DSDM with an aim to serve the populations that would otherwise not attend facility based services. as a critical strategy to enable Uganda to achieve the UNAIDS 90-90-90 goals. In Uganda, many young people find it difficult to access HIV prevention services at facility level. Pre-exposure prophylaxis (PrEP) is highly effective for HIV prevention and have been recommended by the World Health Organization for persons at risk for HIV since 2014. However, PrEP uptake remains far short of the UNAIDS target of 2,000,000 persons by 2025.
AIDS Information Centre (AIC) supported 9 government facilities in Wakiso district to provide comprehensive quality HIV prevention services, STI screening among adolescents. The purpose of this study was to evaluate the impact of leveraging of community DSDM models to provision of HIV prevention services among adolescent.

**Methodology**: With support from health workers from the 9 supported facilities, peer leads and community health workers in Wakiso district, AIC strengthened comprehensive HIV testing and uptake of prevention services among adolescents through targeted community service delivery model (DSDM) in the district suburbs, central to this was intensive collaboration with community gate keepers, Civil Society and Community Based Organizations (CSOs and CBOs) in mobilization, referrals, linkage to care and optimization of adherence and treatment outcomes. A descriptive statistical analysis was done to assess the impact of this interventions to adolescents (10 -24 years) who were mobilized and offered services between January 2024 to march 2025 in the HMIS tools.

**Results**: A total of 12101 adolescents were mobilized of which 10903 were eligible and offered STI, HIV and PrEP screening services achieving 90.1% eligibility. 139 were identified as HIV positive; a 1.2% positivity rate with 134 (96% linkage) of these linked to care and treatment. 3508 adolescents were eligible for PrEP of which 1145 (32.6%) were initiated.

**Conclusion**: Integration of STI screening and treatment with HIV testing service delivery under the community DSDM eases case identification, referral and enrollment into care; reinforced by collaboration with community gate keepers, peer leaders, CBOs, CSOs and community health care workers in community mobilization and penetration for HIV, PrEP and STI screening services.

103

# Improving HIV Care and Treatment Outcomes for Adolescents and Young People (AYPs) Through Tailored Interventions: Insights from the USAID Fahari ya Jamii Project in FY25 Q1

Owino A[1], Ruto G[1], Mwangi S[1], Kubo E[1], Yonga E[1], Arodi S[1], Marima R[1], Mecha J[1], Otieno C[1]

[1]*University Of Nairobi School of Medicine Fahari Ya Jamii Program USAID kenya/ East Africa, Nairobi, Kenya*

**Background**: Adolescents and young people (AYPs) living with HIV face a complex array of challenges, including treatment adherence, access to youth-friendly healthcare services, and the stigma associated with HIV. These issues are often compounded by limited outreach and service delivery disruptions. The USAID Fahari ya Jamii Project seeks to improve HIV care for AYPs through tailored interventions, aiming to enhance engagement, treatment adherence, and viral load suppression. This study evaluates the effectiveness of these interventions in improving health outcomes among AYPs in the first quarter of FY25.

**Material and Methods**: Data for this study was collected during Q1 FY25 (October–December 2024) of the USAID Fahari ya Jamii Project. A total of 2,779 AYPs were newly initiated on pre-exposure prophylaxis (PrEP), with 37% (1,022/2,779) of them being AYPs. Among the 5,474 AYPs receiving ART, treatment outcomes were assessed through viral load suppression and linkage to care. Peer mentorship, virtual case management, and enhanced adherence counseling (EAC) were integrated into the care model. Statistical analyses were performed using Chi-square tests to evaluate differences in viral suppression rates, linkage to care, and the effectiveness of MMD (Multi-Month Dispensing). A p-value of <0.05 was considered statistically significant.

**Results**: The data from Q1 FY25 revealed a significant improvement in treatment outcomes for AYPs. Of the 5,474 AYPs on ART, 85% (4,925) achieved viral suppression, marking a 3% increase from the previous quarter (p = 0.03). The proportion of AYPs newly initiated on PrEP linked to care within two weeks was 19% (208/1,118), with 91% of these clients linked on the same day (p = 0.01). Notably, 70% of AYPs enrolled in multi-month dispensing (MMD), reflecting an increase from the previous quarter. Peer mentorship and virtual case management were found to be particularly effective, as evidenced by a statistically significant increase in retention and treatment adherence (p = 0.04). Additionally, the integration of sexual and reproductive health (SRH) services with HIV care contributed to improved retention and engagement.

**Conclusions**: The USAID Fahari ya Jamii Project has successfully improved viral load suppression and retention in HIV care among AYPs through a combination of peer-led mentorship, virtual case management, and the integration of SRH services. The Chi-square tests revealed significant improvements in treatment outcomes, particularly in viral suppression and linkage to care. These results underscore the effectiveness of youth-friendly services and digital tools in addressing the unique challenges faced by AYPs. Moving forward, the project will continue to scale up these interventions, including expanding the use of digital platforms and strengthening peer mentorship programs to enhance further engagement and health outcomes for AYPs living with HIV. The ongoing integration of HIV care with mental health and SRH services is expected to play a critical role in sustaining these positive outcomes.

104

# Prevalence of Suicidal Behaviour and Its Associated Factors among Young People Living with HIV Accessing Care at a Primary Healthcare Centre in Zambia

Simwanza S[1], Tapisha B[1], Ngosa D[2], Sigande L[1], Mulungu C[3,4], Mwenya O[5], Mwamba J[1], Moyo L[3], Moyo C[6], Mbambara T[3], Lungu G[3], Mbewe M[7], Moonga G[8], Shanaube K[1], Maila B[9,10]

*[1]Zambart, Lusaka, Zambia, [2]Centre for Infectious Disease Research in Zambia, Lusaka, Zambia, [3]Ministry of Health Zambia, Lusaka, Zambia, [4]University of Lusaka, , , [5]Serenity Harm Reduction Programme Zambia, Lusaka, Zambia, [6]Lifeline Childline Zambia, Lusaka, Zambia, [7]Seed Global Health , Lusaka, Zambia, [8]Department of Epidemiology and Biostatistics, School of Public Health, University of Zambia , Lusaka, Zambia, [9]Department of Psychiatry, University of California, San Diego, USA, [10]School of Social Work, San Diego State University, San Diego, USA*

**Introduction**: Adolescents and young people living with HIV (AYPLHIV) are more likely to exhibit suicidal behaviour than their HIV-uninfected peers. Up to half of AYPLHIV in Sub-Saharan Africa struggle with mental health disorders (MHDs) associated with suicidal behaviour and most remain undiagnosed. While piloting integrated MHD screening using a locally co-developed digital application in routine HIV care, we determined the prevalence of suicidal behaviour and its associated factors among AYPLHIV.

**Methods**: We conducted a cross-sectional study among AYPLHIV aged 15 to 24 years at a primary healthcare centre (PHC) in Lusaka, completely enumerating AYPLHIV in the hospital antiretroviral therapy (ART) register from September 2023 to May 2024. We measured suicidal behaviour using the Ask Suicide Questionnaire Toolkit administered by a research assistant at the PHC. Descriptive statistics, including frequencies and proportions, were used to determine prevalence, while logistic regression models identified factors associated with suicidal behaviour.

**Results**: We reached 432/583 (74.1%) AYPLHIV in the ART register, 416/432 (96.3%) consented, with 268/416 (64.4%) females and a median age of 20 (IQR: 18 to 23). The prevalence of suicidal behaviour was 127/416 (30.5%; [95% CI: 26.1% to 35.2%]) overall, higher among females (34.3%) than among males (23.6%). Being female (AOR 1.69; 95% CI 1.18, 3.32; P=0.009), feeling stigmatised because of HIV (AOR 1.54; 95% CI 0.89, 2.65; P=0.120), having stigmatising attitudes towards people living with HIV (AOR 1.75; CI 95% 1.08, 2.83; P=0.022), having a positive PHQ 9 depression screen (AOR 3.02; CI 95% 1.63, 5.60; P<0.001) and positive GAD 7 anxiety screen (AOR 2.61; CI 95% 1.60, 4.27; P<0.001) increased the odds of exhibiting suicidal behaviour. Conversely, compared to living alone, living with parents (AOR 0.33, CI 95% 0.13, 0.83, P=0.018), a partner (AOR 0.32; CI 95% 0.11, 0.98; P=0.046), or any other relative (AOR 0.29; CI 95% 0.11, 0.78; P=0.014) was protective against suicidal behaviour.

**Conclusion**: Suicidal behaviour is prevalent among AYPLHIV in Lusaka, strongly influenced by stigma, common MHDs, and sociodemographic factors. It is feasible to integrate MHD and suicidal behaviour screening into routine HIV care among AYPLHIV. Comprehensive suicide prevention interventions addressing the drivers of suicidal behaviour among AYPLHIV should be explored.

105

# High Levels of Mental Distress among Youth with HIV in Southern Africa: A Description of Enrollment into IMPAACT 2016 - A Randomized Controlled Trial of a Peer-Led, Group-Based Mental Health Intervention

Dow D[1,2,3], Libous J[4], Ponatshego[5], Masheto G[6], Mvalo T[7,8], Payesa C[9], Buckley J[10], Stranix-Chibanda L[11], Nematadzira T[11], Vhembo T[11], Ace A[12], Warshaw M[13], Townley E[14], Lee S[15], Varechtchouk O[17], Donenberg G[16]

*[1]Duke University Medical Center, Durham, United States, [2]Duke Global Health Institute, Durham, , United States, [3]Kilimanjaro Christian Medical Centre-Duke Collaboration , Moshi, Tanzania, the United Republic of, [4]FHI 360, Washington DC, United States, [5]Botswana Harvard Health Partnership, Molepolole, Botswana, [6]Botswana Harvard Health Partnership, Gaborone, Botswana, [7]University of North Carolina Project Malawi, Lilongwe, Malawi, [8]University of North Carolina at Chapel Hill School of Medicine, Pediatrics, Chapel Hill, United States, [9]Johns Hopkins Research Project-Kamuzu University of Health Sciences, Blantyre, Malawi, [10]Perinatal HIV Research Unit (PHRU), University of Witwatersrand, Johannesburg, South Africa, [11]University of Zimbabwe Clinical Trials Research Centre, Harare, Zimbabwe, [12]Frontier Science & Technology Research Foundation, Inc, Buffalo, United States, [13]Harvard T.H. Chan School of Public Health, Center for Biostatistics in AIDS Research, Boston, United States, [14]Division of AIDS, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, United States, [15]Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, United States, [16]University of Illinois at Chicago, Center for Dissemination and Implementation Science, Chicago, United States, [17]National Institute of Mental Health, National Institute Health, Bethesda, United States*

**Background**: Rates of mental distress for youth with HIV (YWH) are not well described for Southern Africa. Depression, anxiety, and post-traumatic stress symptoms can negatively impact antiretroviral therapy (ART) adherence, resulting in virologic failure, and contribute to poor quality of life. This abstract presents rates of mental distress based on screening for the IMPAACT 2016 randomized controlled trial.

**Methods**: IMPAACT 2016 evaluates trauma-informed cognitive behavioral therapy adapted from the Kigali Imbereheza Project intervention developed in Rwanda. The intervention is delivered in six group sessions by trained peer leaders who receive weekly supervision. Enrollment criteria include YWH (15-19 years-old) who know their HIV status, have been prescribed ART for at least 6-months, are not co-enrolled in any other mental health intervention study, and have moderate to severe symptoms of depression (PHQ-9 >10), anxiety (GAD 7 >10), and/or post-traumatic stress (UCLA PTSD-RI >35) according to self-administered questionnaires. Recruitment occurred at adolescent HIV clinics and teen clubs. Screening and enrollment occurred from March to September 2024 across eight IMPAACT network sites in four Southern African countries.

**Results**: Of the 366 youth screened, 276 (75%) self-reported elevated symptoms of mental distress, and 254 (69%) enrolled in the trial. Reasons for non-enrollment (n=22) were primarily school conflicts with attending weekly group sessions and family emergencies preventing return for enrollment. Zimbabwe had the most participants across three unique sites (46%), followed by two sites in Malawi (26%), two sites in Botswana (20%) and one site in South Africa (8%). All sites had over 60% of youth who screened into the study meet mental health criteria for enrollment into the trial. Most youth (71%) reported symptoms on more than one questionnaire; 39% met criteria on all three.

**Conclusions**: Successful enrollment into IMPAACT 2016 underscores the high rate of mental distress among YWH and their desire for care. These data amplify the urgent need to integrate mental health screening and services into HIV care and treatment programs for youth in Southern Africa.

106

# Impact of a Community-Led Physical Activity Intervention on Resilience and Mental Health among Indian Adolescents with Perinatally Acquired HIV

Seenappa B[1], Filian K[2], Sannigrahi S[2], Reddy S[1], Gowda M[1], Sathyamoorthy H[2], Sharma A[3], Sanju R[1], Raj M[1], S K S[4], Ganapathi L[5], Shet A[2]

*[1]RISHI Foundation, Bangalore, India, [2]Johns Hopkins Bloomberg School Of Public Health, Baltimore, United States, [3]Robert Larner, M.D. College of Medicine, Burlington, United States, [4]Y.R. Gaitonde Centre for AIDS Research and Education (YRGCARE), Chennai, India, [5]Division of Pediatric Global Health, Massachusetts General Hospital, Harvard Medical School, Boston, United States*

**Background**: Physical activity-based interventions are a cost-effective, non-pharmacological strategy to improve HIV health outcomes. However, these interventions remain poorly studied among adolescents with perinatally acquired HIV (APHIV), particularly in low-resource settings where developmental challenges and stigma intersect. This study describes preliminary outcomes of a physical activity intervention for APHIV in India.

**Description**: The Positive Running Program, a peer-led physical activity initiative for APHIV in Karnataka and Tamil Nadu in 2022, includes a structured daily regimen of running and strengthening exercises, and monthly health, nutrition, and leadership sessions led by trained youth living with HIV. A community-based participatory research approach involved APHIV as co-designers and evaluators. Following one year of intervention, 150 participants were surveyed using PHQ-9, GAD-7 and Child and Youth Resilience Measurement scales. Data were analyzed using descriptive statistics and logistic regression.

**Lessons Learned**: Mean age 16.9 years, (SD 3.9); 66.7% were male, all were on antiretroviral therapy (ART) for ≥2 years, with a mean CD4 count of 754 cells/mm³ and viral suppression (VL <150 copies/mL) in 91.3%. Mean adherence to intervention was 64.3%. On average, participants ran 9.4 km per week, 88% engaged in physical activity ≥3 times per week, 90.7% reported remaining injury-free over six months, and 82.0% rarely experienced illness. Low resilience (CYRM score <33rd percentile) was observed in 30.7% (n=46). Moderate-to-severe depression, anxiety, or both screens were identified in 9.3%, 5.3% and 12% of participants, respectively. Participants engaging in moderate-to-high physical activity had 2.55 higher odds of high resilience (95%CI: 0.91, 7.12), and lower odds of positive depression/anxiety screen (OR 0.28; 95%CI 0.09, 1.02) though statistical significance was not reached.

**Conclusions**: Our findings indicate that a high level of engagement in physical activity was associated with improved resilience and mental health. The Positive Running Program demonstrates the potential of culturally tailored, peer-led physical activity interventions to support improved physical and mental health among APHIV in resource-limited settings. Future research should explore the use of physical activity interventions in tandem with peer-delivered mental health counseling approaches to address the unique developmental and psychosocial challenges faced by this population.

107

# Strengthening Integration of Mental Health Care into HIV Services among the Adolescent and Young People in Kenya

Samwel O[1], Elizabeth O[3], Lidoros L[2]

[1]Maseno University, Kisumu, Kenya, [2]HERAF, Nairobi, Kenya, [3]KMTC-Rachuonyo Campus, Oyugis, Kenya

**Background**: The double burden of HIV and mental health problems among AYP in Kenya is the root cause to poor health outcomes and increased vulnerability to complications of HIV. The high prevalence of mental health conditions among AYP living with HIV, the effects on HIV treatment adherence and general well-being, and an understanding of such conditions informed a hypothesis that incorporating mental health support into HIV care would lead to better health outcomes: better ART adherence and reduced mental health distress.

**Methods**: The study was conducted between January-August 2023 in Kisumu, Siaya, Busia and Homabay counties of Kenya. The mixed-methods design approach with target sample size of 1,200 HIV-positive AYP aged 10-24 years attending ART care clinics. A baseline and follow-up survey to show the status of mental health conditions-depression, anxiety-and ART adherence, in-depth interviews, and focus group discussions to explore experiences related to integrated care. Analysis of quantitative data used descriptive statistics to evaluate the effects of integrating mental health into ART adherence. The qualitative data were thematically analyzed to describe participants' experiences and challenges.

**Results**: For the 600 participants in integrated care, 85% (510) were on ART compared with 70% (420) of the 600 participants receiving HIV treatment only. At six months, 60% (360) of participants in integrated care reported reduced symptoms of depression and anxiety compared to 40% (240) of participants in the control condition in mental health. Effect slightly stronger for females, where 75% (450) of females in the integrated care group reported improved mental health compared to 45% (270) in the control group. By age, the younger age group, 10-17 years, had a higher improvement in both mental health and ART adherence by 15% compared to the older group, 18-24 years. Key barriers to integration included stigma, lack of training in mental health among providers, and logistical challenges, especially in rural areas.

**Conclusion**: The integration of mental health into HIV services for AYP in Kenya has Improved ART adherence and mental health outcomes in the integrated care arm suggesting benefits for both physical and mental health among AYP living with HIV. Advocacy and policy reforms, in the healthcare sector should shift the focus on prevention strategies that seek to implement structured mental health support systems, promote resilience training, strengthen workplace policies that foster a positive culture which enhances self-care among AYPs.

108

# "I Can Be a Source of Motivation": Multiple Perspective Qualitative Analysis of the I'mPossible Fellowship for Adolescents and Young Adults with Perinatally-Acquired HIV in South India

Sannigrahi S[1], Raj M[2], Seenappa B[2], Sharma A[3], Reddy S[2], Nobbay E[4], Kant A[1], S K S[5], Dhaliwal B[1], Ganapathi L[6], Shet A[1]

*[1]Johns Hopkins Bloomberg School Of Public Health, Baltimore, United States, [2]RISHI Foundation, Bengaluru, India, [3]Robert Larner, M.D. College of Medicine, University of Vermont, Burlington, United States, [4]Adichunchanagiri Institute of Medical Sciences, Department of Psychiatry, B G Nagara, India, [5]Y.R. Gaitonde Centre for AIDS Research and Education (YRGCARE), Chennai, India, [6]Division of Pediatric Global Health, Massachusetts General Hospital, Harvard Medical School, Boston, United States*

**Background**: Youth living with HIV face multidimensional challenges including stigma, mental health struggles, and socioeconomic instability, which are further magnified among adolescents and young adults with perinatally acquired HIV (APHIV). Peer-led differentiated service delivery (DSD) models providing tailored support for this population have demonstrated improved outcomes, though their adaptation and implementation in India remain under-explored. We examined multi-stakeholder perceptions within a peer-support DSD intervention in India, the I'mPossible Fellowship, designed to address the health, educational, and livelihood needs of APHIV.

**Methods**: Between May-December 2023, we enrolled three stakeholder groups involved in the I'mPossible Fellowship: (1) intervention deliverers (APHIV "fellows"), (2) facilitators ("supervisors" of APHIV), and (3) beneficiaries (APHIV "peers"). To examine fellows' roles and growth, we conducted in-depth interviews with fellows (n=8; 75% female; mean age: 22.5yrs) and supervisors (n=7). Aiming to explore fellow-peer interactions and perceived program impact, we conducted three focus group discussions with peers (n=18; 66.7% male; mean age: 16.7yrs). All data collected was purposefully sampled, audio recorded, transcribed, and translated from Kannada to English for coding and analysis. Thematic deductive analysis was combined with triangulation across participant groups to analyze the data.

**Results**: Five key themes emerged, highlighting benefits and challenges of the I'mPossible Fellowship. First, mentorship provided knowledge and emotional support; second, peer influence contributed a sense of trust and affirmation; and third, personal growth experienced by fellows inspired their peers. Fourth, complex systemic challenges, such as stigma and discrimination, hindered educational and employment advancement of APHIV. Fifth, sustainability, through robust post-fellowship systems, was emphasized by supervisors and fellows as crucial for supporting APHIV in transitioning to independent living.

**Conclusions**: This study highlights the pivotal role of fellows in addressing multilevel factors to enhance outcomes for APHIV. By facilitating informational and empathetic communication that restores self-esteem and serving as credible role models providing affirmative care, fellows within the I'mPossible Fellowship exemplify a DSD model, incorporating the three essential attributes of peer support: informational, emotional, and affirmative support. These findings underscore the importance of integrating sustainable and culturally tailored peer-led interventions into HIV care frameworks to holistically support APHIV in India and similar settings.

109

# Empowerment for Transition: A Pilot Psychosocial Intervention for Adolescents and Young Adults Living with HIV in Uganda

Ashaba S[1], Comfort A[2], Perkins J[3], Baguma C[1], Nansera D[1], Maling S[1], Zanoni B[4,5], Tsai A[6,7]

*[1]Mbarara University of Science and Technology, Mbarara, Uganda, [2] University of California San Francisco San Francisco, , USA, [3]Vanderbilt University, Peabody College, Nashville, Tennessee, Nashville, USA, [4]Emory University School of Medicine, Atlanta, USA, [5]Children's Healthcare of Atlanta, Atlanta, USA, [6]Center for Global Health and Mongan Institute, Massachusetts General Hospita, Boston, USA, [7]Harvard Medical School, Boston, USA*

**Background**: Adolescents and young adults living with HIV (AYLHIV) face numerous challenges during the transition from pediatric to adult HIV care, including limited psychosocial support and elevated mental health risks. To address these needs, we developed and pilot-tested the Empowerment and Personal Transformation (EPT) intervention—a 6-session group-based program informed by Empowerment Theory and Social Cognitive Theory. The intervention was designed to improve transition readiness, health engagement, and mental health outcomes.

**Methods**: In a pilot randomized controlled trial, 80 AYLHIV aged 15–24 years were randomized 1:1 to receive the EPT intervention or standard of care. The intervention was delivered by trained lay facilitators. Quantitative data were collected at baseline, post-intervention, and 6-month follow-up. Primary outcomes included transition readiness and health engagement, while secondary outcomes included depression symptoms, HIV-related stigma, and ART adherence.

**Results**: In the intervention group, mean transition readiness scores increased from 59.7 (95% CI: 56.3–63.2) at baseline to 63.5 (95% CI: 60.8–66.2) post-intervention and remained stable at 63.2 (95% CI: 60.3–66.1) six months later. In the control group, scores rose from 60.5 (95% CI: 57.8–63.1) to 62.3 (95% CI: 59.9–64.6) post-intervention, but declined to 60.1 (95% CI: 57.5–62.6) at six months. Depressive symptoms in the intervention group decreased from 6.95 (95% CI: 4.54–9.36) at baseline to 4.25 (95% CI: 1.78–6.72) post-intervention but increased again to 7.40 (95% CI: 4.66–10.14) at six months. Depression scores in the control group remained relatively unchanged throughout the study period.

**Conclusions**: The EPT intervention demonstrated preliminary evidence of effectiveness in improving transition readiness and reducing depressive symptoms among AYLHIV. While mental health gains were not sustained, improvements in transition readiness persisted over time. A larger trial is needed to evaluate long-term outcomes and the implementation potential of this intervention.

110

# A Mixed Methods Evaluation of a Stepped Care Model Integrating HIV and Mental Health Services for Adolescents and Young Adults Living with HIV (AYLHIV) in Western Kenya

Hicks S[1], Mukumbang F[1], Kibugi J[2], Badia J[2], Owade W[2], Ounda N[2], Okumu O[2], Ouma L[2], Odote P[2], Songa V[2], Kohler P[1], John-Stewart G[1], Beima-Sofie K[1]

*[1]University Of Washington, Seattle, United States, [2]IMPACT Research & Development Organization, Kisumu, Kenya*

**Background**: Adolescents and young adults living with HIV (AYLHIV) are at increased risk of poor retention and adherence. Stepped care models tailor HIV services to AYLHIV needs, including use of differentiated service delivery for stable AYLHIV.

**Methods**: The Data-Informed Stepped Care (DiSC) study, a cluster randomized clinical trial conducted in 24 facilities across three counties in Western Kenya, tested implementation of a Stepped Care intervention that matched youth needs to service intensity. Using a convergent parallel mixed methods design, we conducted post-trial surveys and focus group discussions (FGDs) with AYLHIV from intervention sites. FGDs were conducted among participants from six intervention sites, and were recorded, transcribed, and analyzed using a thematic analysis approach. Satisfaction surveys were conducted among all participants at study exit (12 months) and analyzed using descriptive statistics.

**Results**: A total of 73 AYLHIV participated in 18 FGDs; 39 (53%) were aged 15-19; 66 AYLHIV completed the demographics survey, and 60.6% were female. Among 790 AYLHIV who completed the satisfaction survey, median age was 18 (IQR: 15-20) and 59.6% were female. FGD participants reported positive experiences during DiSC, describing more comprehensive and supportive discussions with providers and faster appointments due to tailored services. Correspondingly, the majority of quantitative survey respondents reported short wait times (83%), trust in their providers (91%), and believed providers listened to their concerns (93%). FGD participants reported being more likely to attend clinic appointments and adhere to ART during DiSC. Participants receiving higher intensity services reported benefits from mental health counseling and improved caregiver relationships. Some FGD participants felt depressive symptoms significantly decreased. Among 57 participants who reported receiving counseling services, 98% were satisfied with the counseling, 95% felt they could express themselves without restrictions, and 100% reported at least some benefits and that they would like to receive additional counseling. Some FGD participants reported challenges during the study, including minor schedule disruptions, lack of transportation, and disclosure fears, although DiSC was not designed to primarily address these determinants.

**Conclusion**: This mixed methods evaluation demonstrated that the stepped care intervention effectively matched services to AYLHIV needs, and the majority found the intervention highly acceptable.

111

# Empowering Adolescents for Zero New HIV Infections and STIs: Lessons from the Operation Triple Zero (OTZ) Model in Kilifi, Kenya

Hassan M[1]

[1]Youth for Sustainable Development, Kilifi, Kenya

**Background**: Adolescents and young people living with HIV (AYPLHIV) remain disproportionately affected by HIV and sexually transmitted infections (STIs), often due to inadequate access to youth-friendly healthcare, stigma, and poor adherence to treatment. In sub-Saharan Africa, adolescents face significant barriers, including limited sexual health education, fear of disclosure, and challenges in accessing preventive services. The Operation Triple Zero (OTZ) initiative, implemented in Kilifi County, Kenya, aims to address these challenges by focusing on three core goals: zero missed appointments, zero missed medications, and zero viral load. Through a structured peer-led approach, OTZ provides adherence support, sexual health education, and risk-reduction counseling. This study evaluates the effectiveness of OTZ in reducing HIV transmission and STI prevalence among adolescents by integrating peer-led support, adherence interventions, and sexual health education.

**Material and Methods**: A mixed-methods approach was employed to assess the impact of OTZ on HIV and STI prevention. Quantitative data were collected from 200 adolescents (aged 15-24) enrolled in the program, tracking viral load suppression rates, STI incidences, and condom use over a 12-month period. Data were obtained from electronic medical records, structured surveys, and adherence logs. Additionally, qualitative data were gathered through focus group discussions (FGDs) with 30 AYPLHIV and key informant interviews with healthcare providers to understand behavioral changes and barriers to adherence. Statistical analysis was conducted using SPSS, employing chi-square tests to compare STI rates before and after OTZ enrollment, and logistic regression to identify predictors of improved prevention behaviors.

**Results**: The findings demonstrated a significant improvement in key HIV prevention indicators. Viral suppression rates among participants increased from 68% at baseline to 89% after 12 months. Reported cases of STIs decreased by 41%, with condom use rising from 52% to 76%. Qualitative data from FGDs indicated that peer-led mentorship improved HIV knowledge, reduced stigma, and enhanced self-efficacy in negotiating safe sex practices. Additionally, 74% of participants reported increased confidence in discussing HIV prevention with partners. Healthcare providers noted increased clinic attendance and better engagement with prevention services. However, challenges such as partner disclosure, gender power dynamics, and limited access to STI treatment services remained significant barriers, especially for adolescent girls and young women.

**Conclusions**: The OTZ model provides a promising approach to HIV and STI prevention among adolescents by integrating peer support, adherence monitoring, and behavior change strategies. Findings suggest that peer-led interventions can effectively bridge gaps in traditional healthcare services by offering a more relatable and youth-friendly approach. Strengthening youth-friendly health services, expanding mental health support, and incorporating routine STI screening within HIV care can further improve outcomes. The study highlights the need for policy shifts toward holistic, community-driven interventions tailored for adolescents. Scaling up OTZ-like models across similar high-burden settings could accelerate progress toward ending HIV and STI transmission among young people. Furthermore, integrating digital health tools such as mobile-based adherence reminders and telehealth counseling could enhance accessibility and impact. Future research should explore the long-term sustainability of peer-led programs and their role in achieving global HIV prevention goals.

112

# "Hello BINTA": A Youth-Led Intervention to Advancing HIV PrEP Awareness and Acceptability amongst Youths in Yaba, Lagos, Nigeria

Ibrahim A[1], Babatunde Y[2], Adedeji O[2]

*[1]Slum And Rural Health Initiative (srhin), Ibadan, Nigeria, [2]National Agency for Food and Drug Administration and Control (NAFDAC), Lagos, Nigeria*

**Background**: Nigeria bears one of the world's highest HIV burdens, with young people aged 15–24 accounting for a significant share of new infections. Oral Pre-exposure Prophylaxis (PrEP) is a proven HIV prevention method, yet uptake among youth remains low due to limited awareness, misconceptions, stigma, and lack of youth-friendly services. In urban areas like Yaba, Lagos, accessible and relatable interventions are urgently needed. The "Hello BINTA" initiative was developed as a youth-led, community-based approach to bridge this gap, using tailored communication strategies that resonate with young people. The intervention model has relevance for other high-burden urban settings across Sub-Saharan Africa.

**Methodology**: "Hello BINTA" was implemented over five days in June 2023 using a community-based participatory approach. Co-created by and for youth, the program integrated both digital (e.g., social media campaigns, online discussions) and non-digital (e.g., street outreach, focus groups) strategies. A total of 107 young people were involved in co-designing and executing the intervention. Data were collected through interviewer-administered surveys and focus group discussions to evaluate baseline and post-intervention awareness and attitudes toward PrEP. Key research questions focused on awareness levels, perceptions and concerns about PrEP, and how youth-centered models can improve uptake.

**Results**: Post-intervention findings showed that 70% of sexually active participants expressed willingness to use PrEP, and over 50% were willing to pay for it. Before the intervention, over 60% had limited or no knowledge of PrEP, particularly those not affiliated with healthcare environments. Concerns centered around PrEP efficacy and distrust in providers. Participants preferred anonymous, real-time access to PrEP services and information. The intervention also demonstrated a peer-to-peer multiplier effect, as participants actively shared knowledge within their communities.

**Conclusion**: Youth co-creation increases program ownership and engagement, enhancing the reach and impact of HIV prevention efforts. The "Hello BINTA" model highlighted the importance of trust-building, digital access, and anonymity in service delivery. Misinformation and stigma remain critical barriers, but participatory, tech-driven interventions can drive change. This scalable, adaptable model offers valuable insights for other urban youth settings grappling with high HIV risk.

113

# Not Disclosing Their HIV Status to Adolescents Negatively Affects Their Mental Health in West Africa: Results from the OPTIMISE-AO Study

Dahourou D[1,2], N'Gbeche M[3], Yonaba C[4], Moh C[3], Kouadio K[5], Nindjin P[5], Eboua F[6], Boua B[6], Amegatse E[7], Ekue A[7], KABORE M[4], Jesson J[2], Kangah E[9], Thio E[10], Yatabaré A[11], Msellati P[8], **Leroy V**[2], for the IeDEA West-African Collaboration

*[1]Institut de Recherche en Sciences de la Santé (IRSS/CNRST), Ouadadougou, Burkina Faso, [2]CERPOP, Inserm, Université de Toulouse, Toulouse, France, [3]Centre de Prise en charge, de Recherche et de Formation (CePReF), Abidjan , Côte d'Ivoire , [4]Université Joseph Ki-Zerbo, Département de pédiatrie, Abidjan, Côte d'Ivoire , [5]Centre Intègre de Recherches Biocliniques d'Abidjan (CIRBA), Abidjan , Côte d'Ivoire, [6]Centre de traitement ambulatoire pédiatrique (CTAP), Abidjan, Côte d'Ivoire, [7]Centre Hospitalier Universitaire Sylvanus Olympio, Lomé, Togo, [8]Inserm U1219, Bordeaux Population Health, Université de Bordeaux, Bordeaux, France, [9]Programme ANRS-PACCI, Abidjan, Côte d'Ivoire, [10]Centre de Recherche Internationale pour la Santé, Ouagadougou, Burkina Faso, [11]Centre Africain de Recherche en Épidémiologie et en Santé Publique (CARESP), Lomé, Togo*

**Background**: Adolescents living with HIV (ALHIV) are at an increased risk of experiencing mental health issues, which may impact their overall well-being and adherence to antiretroviral treatment. However, there is a limited understanding of the mental health challenges faced by ALHIV in West Africa and factors worsening mental health issues. This study aimed to explore the mental health challenges and their contributing factors among ALHIV included in the OPTIMISE-AO project in Burkina Faso, Cote d'Ivoire and Togo.

**Methods**: OPTIMISE-AO-ANRS-12390 is a stepped-wedge trial aimed to improve HIV-disclosure and treatment adherence in ALHIV aged 10-17 years. The OPTIMISE-AO participants were recruited from 5 different clinical programs across three countries participating in the West Africa International Epidemiology Databases to Evaluate AIDS (IeDEA) cohort. At inclusion, depression and anxiety were assessed using the Patient Health Questionnaire-9 (PHQ-9), and the General Anxiety Disorder-7 (GAD-7), respectively administered by the trained psychologists. Depression was defined as a PHQ-9 score ≥5 and anxiety was defined as GAD-7 score ≥5. Full HIV-disclosure was defined as when the adolescent names his/her illness as HIV/AIDS. Using a logistic regression, we identified factors associated with depression at enrollment.

**Results**: From February 2021 to July 2023, 599 ALHIV were enrolled. Among them, 520 ALHIV with baseline mental health assessment were included in this analysis. At enrollment, the median age was 14 years (interquartile range: 12–15), 67% were >12 years, 51% were female, 22% at WHO clinical stage 3/4, 82% were treated with a Dolutegravir (DTG) based regimen, 71% were virologically suppressed (viral load less than 50 copies/mL), and 41% were fully HIV-disclosed. The overall prevalence of anxiety was 15% (74/520). Among these adolescents, the proportions with mild (GAD-7 score between 5 and 9), moderate (GAD-7 score between 10 and 14) and severe anxiety (GAD-7 score between 15 and 21) were 13.8%, 0.2% and 0.4% respectively. The overall prevalence of depression was 22%. Among adolescents with depression, the proportions with mild (PHQ-9 score between 5 and 9), moderate (PHQ-9 score between 10 and 14) and moderately severe depression (PHQ-9 score between 15 and 19) were 20%, 2.1% and 0.4% respectively. Overall, the prevalence of depression or anxiety was 26% (136/520). Furthermore, 1,7% (9/514) had suicidal thoughts over the last month prior the enrollment visit and 2% (8/514) have attempted suicide at least once ever in their life. Adjusted for gender, ALHIV aged 13 to 17 years at enrolment compared to those aged 10-12 years (adjusted Odds Ratio [aOR]: 1.68; Confidence Interval [95%CI]: 0.98-2.91), ALHIV not fully HIV-disclosed (aOR: 1.81, 95%CI: 1.09-3.04) and enrolled in Cote d'Ivoire (aOR: 6.86, 95%CI: 3.73-13.7) were at higher risk of depression.

**Conclusions**: In this West-African ALHIV cohort, one in five adolescents had mental condition. This mental health condition was worsened in middle-aged adolescents and by not disclosing their HIV status to adolescent. Tailored interventions such as timely and supportive disclosure are urgently needed to prevent and address mental health conditions among West African ALHIV.

114

# Can Social Media Advocacy End HIV Stigma among Adolescents?

Ekundayo I[1], Musa F[1], Olawoyin M[1]

[1]University Of Ilorin, College Of Health Sciences, Ilorin, Nigeria

**Background**: The introduction of combined antiretroviral therapy (ART) has revolutionized HIV treatment. However, HIV/AIDS remains a leading cause of mortality among adolescents aged 10–19 globally, with the burden disproportionately high in Sub-Saharan Africa. Adolescents living with HIV (ALWH) often experience stigma from peers, family, and society, adversely affecting their ART adherence, mental health, and social integration. The growing engagement of adolescents with social media presents an opportunity for stigma reduction through education and storytelling.

**Description**: We designed and implemented a social media-based anti-HIV stigma campaign targeting adolescents aged 10–19 in Africa, leveraging WhatsApp and Twitter. A team of 140 medical student volunteers was recruited to develop and disseminate educational and interactive content. On WhatsApp, personalized educational designs were shared via stories and group chats, while Twitter focused on interactive polls, myth-busting posts, and personal narratives under hashtags #TogetherAgainstHIV, #EndTheHIVStigma. Campaign effectiveness was evaluated using pre- and post-intervention surveys measuring changes in knowledge about HIV transmission and prevention, stigma-related attitudes, ART adherence (for ALWH), and engagement metrics, including interactions and sentiment analysis.

**Lessons Learned**: The campaign reached 8,500 individuals combined, generating 204 retweets and 308 likes on Twitter. Post-intervention surveys revealed a 30% improvement in attitudes toward individuals living with HIV and a 70% increase in knowledge about HIV transmission and prevention. WhatsApp provided a safe space for in-depth discussions, while Twitter enabled broad public engagement. However, sustainability on both platforms proved challenging, with occasional resurfacing of misinformation emphasizing the need for organized content moderation by social media companies.

**Conclusions**: Social media platforms such as WhatsApp and Twitter are effective tools for reducing HIV misinformation among adolescents, however it might be difficult to translate social media engagement to reduction of stigma. For long term impact, health content moderation by social media companies is essential. Future efforts will aim to scale the program, include additional platforms, and partner with influencers to amplify reach and normalize conversations around HIV.

115

# Caregiver Disclosure of HIV Status to Adolescents Who Are HIV-Exposed and Uninfected in Botswana

Schenkel S[1], Bulterys M[2], **Thankane K**[3], Kitsi I[3], Dube K[3], Kgole S[3], Masasa G[3], Cassidy A[4], Powis K[1,5,6]

*[1]Division of Pediatric Global Health and Infectious Diseases, Massachusetts General Hospital, Boston, United States, [2]Herbert Wertheim School of Public Health and Human Longevity Science, UC San Diego, San Diego, United States, [3]Botswana Harvard Health Partnership, Gaborone, Botswana, [4]Departments of Psychiatry & Psychology and Pediatric & Adolescent Medicine, Mayo Clinic, Rochester, United States, [5]Departments of Internal Medicine and Pediatrics, Massachusetts General Hospital, Boston, United States, [6]Department of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health, Boston, United States*

**Background**: Caregiver disclosure of HIV status to their children is a sensitive and complicated process, and there is a lack of interventions to support it. We sought to explore the experiences of both caregivers' living with HIV and adolescents' who were exposed to HIV in utero but uninfected, identifying barriers and facilitators surrounding HIV disclosure among participants within the Botswana-based Disclosure Intervention to Support Caregivers (DISC) study.

**Methods**: DISC participants were recruited from the NIH-funded FLOURISH study, a Botswana-based observational study investigating health outcomes among children and adolescents HIV-exposed uninfected (HEU). FLOURISH caregivers were eligible for DISC enrollment if they were living with HIV and had an adolescent aged ≥10 years who was HEU. Adolescents were eligible if they were HEU, ≥10 to 18 years, and their caregiver had disclosed her HIV status to them. Qualitative data were collected through focus group discussions (FGD) with caregivers and adolescents and in-depth interviews (IDI) with adolescents. Discussions were audio-recorded, transcribed, translated into English, and de-identified. Two independent researchers analyzed transcripts using a rapid qualitative analysis approach to identify patterns and key themes.

**Results**: Between December 2024 and March 2025, six FGDs with caregivers, one FGD with adolescents, and eight IDIs with adolescents were completed. Of the six FGDs with caregivers, two comprised of caregivers who disclosed to their adolescent, two of caregivers intending to, and two of caregivers who did not intend to disclose. Almost all disclosed caregivers reported that disclosure was prompted by adolescents before the caregiver felt ready, often due to questions about antiretroviral drugs. Upon disclosure, caregivers noted that several adolescents asked whether they too were "sick" and should be on the same medication; some caregivers brought their adolescent in for HIV testing to alleviate concerns. Caregivers who had not disclosed cited barriers such as uncertainty about conversation initiation, challenges addressing negative messaging about AIDS taught in school curriculum, fear of causing emotional distress or harm to the adolescent, perceptions of adolescent immaturity, and difficulty answering questions about HIV mode of acquisition. Facilitators of disclosure included strong and trusting caregiver-adolescent relationships, personal acceptance of one's HIV status, and support from partners, family, and friends. Adolescents who had been disclosed to valued knowing their caregiver's HIV status, expressing a desire to support treatment adherence and believing disclosure better prepared them to provide care if their parent became ill. Other themes included the importance of clear communication during disclosure to avoid confusion and the option of post-disclosure counseling.

**Conclusion**: The DISC study highlights the emotional and social challenges caregivers face when disclosing their HIV status to adolescents. These findings highlight the need for culturally sensitive interventions and/or tools to support caregiver disclosure and adolescent support during and after disclosure. Promoting safe and supported disclosure practices can improve communication, reduce stigma, and improve resilience in families affected by HIV, while providing the opportunity to follow adolescents who are HIV-exposed uninfected into adulthood to better understand health outcomes of this population.

116

# Uptake and Retention of Contraception and Relevant Health Outcomes among Adolescent Girls and Young Women with Predominantly Perinatally-Acquired HIV: A Cohort Study of Youth in the United States

Alpin E[1], Munger O[2], Unternaher J[2], Mohiuddin H[2], Anderson L[2,3,4], Williams T[2], Rakhmanina N[2,4,5]

*[1]School of Medicine, The George Washington University School of Medicine and Health Sciences, Washington, United States, [2]Department of Infectious Diseases, Children's National Hospital, Washington, United States, [3]Department of Adolescent and Young Adult Medicine, Children's National Hospital, Washington, United States, [4]Department of Pediatrics, The George Washington University School of Medicine and Health Sciences, Washington, United States, [5]Elizabeth Glaser Pediatric AIDS Foundation, Washington, United States*

**Background**: National data on contraception use among adolescent girls and young women with HIV (AGYWH) remain limited, despite the impact of HIV on sexual and reproductive health in this age group. Existing literature on their adult peers emphasizes dual protection as an important metric of sexual and reproductive health. We aimed to evaluate the contraception uptake, retention, and relevant health outcomes among AGYWH receiving care at Children's National Hospital (CNH) in Washington, DC, USA.

**Methods**: A retrospective cohort study of AGYWH, 12-19 years of age, and in care at CNH from January 2018 through December 2023. Data were extracted from participants' medical records (demographics, HIV disease characteristics, and sexual history). Dual protection against pregnancy and HIV transmission was defined as using a barrier method or maintaining viral suppression while concurrently using a highly effective method of contraception. Extended generalized estimating equation models with logistic regression were used to estimate the adjusted odds ratio (aOR) and 95% confidence intervals (CI) of variables associated with dual protection.

**Results**: Of 34 enrolled AGYWH (median age=15 (IQR:[13,17]), 82% African American/Black or African, 94% cisgender, 76% straight, 91% perinatally transmitted HIV), only 12 (35%) initiated four types of prescription birth control (etonogestrel implant (n=4), oral contraceptive pills (n=5), medroxyprogesterone acetate injections (n=5), and vaginal ring (n=1)). Recorded reasons for initiation included menses control (n=2), pregnancy prevention (n=10), and polycystic ovarian syndrome management (n=1). Of those who initiated prescription contraception, the majority (n=9, 75%) discontinued their use, and recorded reasons for discontinuation include nonadherence (n=2), weight gain (n=1), mood side effects (n=1), breakthrough bleeding (n=1), nausea (n=1), and inability to achieve menses control (n=1). Of sexually active (n=18) AGYWH, 15 (83%) reported condom use, and 3 (17%) reported no contraception use whatsoever throughout the study period. Sixteen (47%) AGYWH in the cohort never reported a sexual debut during the study window. Five participants (15%) had barriers to contraception stated in their medical records, which included lack of knowledge (n=1), not wanting their caretakers to know (n=3), and partner coercion (n=1). Seven (21%) AGYWH carried 10 pregnancies throughout the study period, and six (60%) resulted in live births. There were 31 STI transmissions to 8 (24%) AGYWH, with the majority (n=7, 88%) having ≥1 transmission event. STI transmission and pregnancies occurred primarily in AGYWH with self-reported high rates of condom use (81% and 60%, respectively). Five (28%) of the sexually active AGYWH were using contraceptive methods consistent with dual protection during the study period, and factors associated with dual protection were younger age (aOR=0.70, 95% CI: 0.55-0.90, p=0.006), and completing high school (aOR=3.40, 95% CI: 1.01-11.50, p=0.045).

**Conclusions**: In our cohort of AGYWH with predominantly perinatally-acquired HIV, we observed low uptake and retention on prescription contraception, low utilization of dual protection, and high rates of pregnancy and STIs. Studies are needed to evaluate the barriers to effective contraception among AGYWH in the US.

117

# Gamified Mobile Health Interventions to Promote HIV/STI Risk Reduction among Adolescents: A Mixed-Methods Assessment of Acceptability and Preliminary Outcomes

Ahanonu U[1], **Ojiaku C**[2]

*[1]Cook County Health, Chicago, United States, [2]STRIPES, Abuja City, Nigeria*

**Background**: Adolescents remain disproportionately affected by HIV and STIs worldwide. Traditional prevention services often fail to engage youth meaningfully, and stigma, lack of privacy, and low health literacy remain persistent barriers. Digital platforms offer new opportunities for youth-centered, scalable prevention. However, evidence on the acceptability and impact of gamified mobile health (mHealth) interventions for HIV/STI risk reduction among adolescents is limited.

**Methods**: We co-developed and pilot-tested "PlaySafe," a gamified mHealth app designed with input from adolescents aged 13–19 across urban U.S. and peri-urban South African settings. The app features scenario-based learning, quizzes, peer challenges, and badges. A mixed-methods design was used. Quantitatively, we assessed changes in HIV/STI knowledge, perceived risk, and intent to test using pre-post surveys over six weeks. Qualitatively, usability and engagement were explored through focus group discussions and in-app analytics.

**Results**: A total of 150 adolescents (mean age: 16.2; 56% female; 28% LGBTQ+) enrolled. HIV/STI knowledge improved significantly from baseline (mean increase: 18.7%, $p < 0.001$). Intent to test for HIV rose from 38% to 61% ($p = 0.002$). App completion rates were high, with 74% of participants completing at least 80% of modules. Qualitative feedback highlighted that anonymity, culturally relevant avatars, and interactive gameplay enhanced engagement. Participants viewed the app as a safe and fun way to learn about HIV and sexual health.

**Conclusions**: Gamified mHealth interventions like PlaySafe show strong potential to improve HIV/STI knowledge and testing intent among adolescents. Findings support further development and scaling of youth-designed digital tools that address stigma, privacy, and engagement in HIV prevention strategies.

118

# Engagement and Retention in Care of Adolescents and Young Adults Referred for Pre-Exposure Prophylaxis to Specialized HIV Program in Washington, DC

Williams T[1], Unternaher J[1], Munger O[1], Mohiuddin H[1], Rakhmanina N[1,2,3]

*[1]Division of Infectious Diseases, Children's National Hospital, Washington, United States, [2]Department of Pediatrics, The George Washington University School of Medicine, Washington , United States, [3]Technical Strategies and Innovation, Elizabeth Glaser Pediatric AIDS Foundation, Washington, United States*

**Background**: Adolescents and young adults (AYA) in the United States (US) lag in pre-exposure prophylaxis (PrEP) uptake. We aimed to evaluate the characteristics and clinical outcomes of AYA referred for PrEP counselling to Children's National Hospital (CNH) in Washington, DC.

**Methods**: An observational cohort study of AYA aged ≥12-<25 years referred to CNH HIV program for PrEP counselling and initiation between January 2023 and December 2024. Descriptive demographic data, from sexual history, education, insurance, referral data, STI history, uptake and retention on PrEP were analyzed.

**Results**: In two years, 129 AYA were referred for PrEP counselling (median age=18 years [IQR:17-20]; 63% cisgender female; 84% African American/Black; 74% publicly insured; 38% students or completed some high school). Among AYA with known sexual orientation (n=94), 25% identified as a sexual minority. On average, AYA had 2 (range:0-12) sexual partners within the previous 6 months and 44% (n=54) were diagnosed with an STI. Most AYA were referred from CNH emergency department (50%), followed by CNH adolescent health center (AHC) (36%) and by outreach/community organizations (7%). Staff were able to bi-directionally engage only with 23% (n=12) and 52% (n=27) of AYA referred from the ED and AHC, respectively. Among 15 AYA (19%) interested in oral PrEP, 12 (80%) attended the initial appointment after mean 24 days (range:2-122) and filled their PrEP prescriptions. Among 24 AYA interested in injectable PrEP, 12 AYA (50%) attended the initial appointment after mean 27 days (range:1-235) and 4 (33%) initiated injectable PrEP. Of those prescribed PrEP, 8/12 (67%) on oral and 2/4 (50%) on injectable PrEP were lost or discontinued care; 0 and 2 AYA were retained on oral and injectable PrEP at the end of the study period, respectively.

**Conclusions**: In our cohort of 129 AY referred for PrEP counselling, only 40% engaged with the staff and 36% engaged in care and started PrEP. The majority of those AYA who initiated PrEP, did not retain in care and on PrEP. Future studies are needed to determine factors that motivate AYA to initiate and stay engaged in PrEP in the US.

124

# Point-of-Care Ultrasound for the Diagnosis of Tuberculosis in Mozambican Infants Hospitalized with Severe HIV-Associated Pneumonia

Cassia U[1], Borrell J[2], Richardson S[2], Sidat M[1], Muvale G[3], Salgado M[4], Liasse S[4], Domingos C[5], Mavume C[1,4], Passanduca A[1], Martins S[1], Seni A[4,6], Chhaganlal K[6], Sacarlal J[1], Marcy O[7], Ballesteros Á[8], Domínguez S[8], Tagarro A[8,9,10], Moraleda C[8,11], Rojo P[8,11,12], Buck W[1,2]

*[1]Universidade Eduardo Mondlane, Faculty Of Medicine, Maputo, Moçambique, [2]University of California Los Angeles David Geffen School of Medicine, Los Angeles, USA, [3]Hospital Geral da Polana Caniço, Maputo, Mozambique, [4]Hospital Central de Beira, Beira, Mozambique, [5]Hospital Central de Maputo, Maputo, Mozambique, [6]Universidade Católica de Moçambique Faculdade de Ciências de Saúde, Beira, Mozambique, [7]University of Bordeaux, Inserm U1219, IRD EMR271, Bordeaux, França, [8]Foundation for Biomedical Research of the Hospital Universitario 12 de Octubre-Hospital 12 de Octubre Health Research Institute (i+12), Madrid, Spain, [9]Universidad Europea de Madrid, San Sebastian de los Reyes, Spain, [10]Servicio Madrileño de Salud (SERMAS), Infanta Sofia University Hospital, San Sebastian de los Reyes, Spain, [11]Servicio Madrileño de Salud (SERMAS), 12 de Octubre University Hospital-Paediatric Unit for Research and Clinical Trials (UPIC), Madrid, Spain, [12]Universidad Complutense, Madrid, Spain*

**Background**: Laboratory diagnosis of pulmonary tuberculosis (TB) in infants remains challenging due to the paucibacillary nature of the disease and difficulties in obtaining quality respiratory specimens, contributing to high TB-related mortality. Younger age and advanced HIV disease (AHD) increase the probability of having concurrent pulmonary TB and extrapulmonary TB disease, which could be detected by ultrasound. Focused assessment with sonography for HIV-associated TB (FASH), an exam performed at six thoracic and abdominal positions, has shown promise for pediatric TB diagnosis, but few infants were included in published studies.

**Methods**: EMPIRICAL (#NCT03915366), an EDCTP-funded (RIA2017MC-2013) randomized controlled trial, recruited infants <12 months of age hospitalized with severe HIV-associated pneumonia to assess the mortality impact of empiric TB and/or cytomegalovirus treatment in addition to the current standard of care. Current or past TB diagnosis and close TB contact were exclusion criteria. In an ancillary study performed at 5 hospitals in Mozambique from 2021-2024, participants had a baseline point-of-care blinded FASH exam performed along with Xpert Ultra on stool and nasopharyngeal aspirates, and urine lipoarabinomannan (LAM). An analysis was done comparing FASH findings in participants with and without laboratory-confirmed TB (LC-TB).

**Results**: Among 78 participants, the median age was 4.3 months (IQR:3.2-6.4) and 41 (52.6%) were female. HIV had been newly diagnosed during the hospitalization in 42 (53.8%) participants. The median viral load was 6.6 log (IQR:5.6-7.0 log) and the median CD4% was 14% (IQR:10%-22%). There was history of weight loss prior to admission in 40 participants (51.2%), and moderate and severe acute malnutrition were identified in 11 (14.1%) and 15 (19.2%), respectively. Cough for more than 2 weeks was reported in 28 (35.8%) participants, and fever for more than 1 week in 8 (10.2%). A total of 17 (21.8%) participants had LC-TB (16 LAM+, 1 stool Xpert+), and 61 (78.2%) did not have LC-TB. There was ≥1 positive positional FASH finding in 41.2% and 29.5% of participants with and without LC-TB, respectively (p=0.362), and ≥ 2 positive findings in 11.8% and 4.9% of participants with and without LC-TB, respectively (p=0.298). Pericardial effusion was the most common FASH positional finding in both groups, observed in 23.5% (4/17) and 21.3% (13/61) of participants with and without LC-TB, respectively, p=0.841. Findings at other positions for participants with and without LT-CB were: ascites in 11.8% (2/17) versus 6.6% (4/61), p=0.606; focal splenic lesions in 11.8% (2/17) versus 4.9% (3/61), p=0.298; pleural effusion in 5.9% (1/17) versus 1.6% (1/69), p=0.391. No focal liver lesions or abdominal lymphadenopathy were observed in either group.

**Conclusions**: Approximately one-third of participants in this study had at least one positive positional FASH finding, without significant differences between infants with and without LC-TB. Future analysis will also consider clinical TB diagnostic criteria using standardized TB case classifications of confirmed, unconfirmed, and unlikely TB based on laboratory results, chest radiography, and clinical history to assess the added diagnostic value of the overall FASH exam and position-specific findings for TB diagnosis in this high-risk population with AHD.

125

# Survival Analysis of Tuberculosis Infection in HIV-Positive Children Receiving Antiretroviral Therapy

Nwakamma I[1], Amuta C[1], Ikpe G[2], Onu E[1], Okoronkwo K[3], Okorie P[1], Mbuk Q[1], Adeleke O[1]

*[1]Caritas Nigeria, Umuahia, Nigeria, [2]Abia State Ministry of Health, Umuahia, Nigeria, [3]INERELA+ Nigeria, Abuja, Nigeria*

**Introduction**: Antiretroviral therapy (ART) significantly reduces the incidence of opportunistic infections, including tuberculosis (TB), among people living with HIV. However, children living with HIV remain at a higher risk for TB due to weakened immunity and various factors affecting treatment adherence. This study aimed to assess the time to TB infection and identify TB-associated risk factors among children living with HIV on ART in Abia State, Nigeria.

**Methodology**: A retrospective cohort design was used to collect data from HIV- positive children receiving ART across 38 health facilities in Abia State from October 2021 to September 2024. Data were extracted from ART and TB registers using a structured tool. Descriptive statistics, Kaplan-Meier survival analysis, log- rank tests, and Cox regression modeling were conducted using STATA version 18. The primary outcome was the time to TB diagnosis, with censoring for death or loss to follow-up.

**Result**: The study population had a mean age of 9. 9.6 years, with 52% being female. Participants resided in rural (44%), peri-urban (39%), and urban (17%) areas. The TB prevalence was 16%. Kaplan-Meier analysis showed that children from smaller families (fewer than five members) had a longer TB- free survival time. The highest incidence of TB occurred in the 6–10-year age group. Log-rank tests revealed no significant sex differences in the timing of TB infection. Cox regression identified rural residence (HR = 2.64), maternal unemployment (HR = 1.55), larger family size (HR = 1.12), and younger age (HR = 0.59) as significant predictors of TB infection.

**Conclusion**: The study highlights a 16% TB prevalence among HIV- positive children on ART, with most infections occurring in the 6–10 age group. Key factors influencing shorter TB-free survival include rural residence, maternal unemployment, and larger family size. These findings suggest the need for targeted TB prevention strategies in pediatric HIV care, particularly for socioeconomically disadvantaged groups.

126

# Improving TB Control among TB/HIV Co-Infected Children in Kisenyi Slums Through Integration of TB/HIV Services in Kampala District

Muwonge R[1]

[1]Aids Information Centre, Kampala, Uganda

**Background**: Tuberculosis (TB) remains one of leading causes of morbidity and mortality among children living in urban slums ,particularly those co-infected with HIV, Slums environment characterized by overcrowding, poverty, malnutrition, and limited access to health care, create conditions conductive to rapid TB transmission and poor outcomes, and Kisenyi slum has of the most active TB/HIV hotspots in Kampala contributing to over 15% new TB cases reported in Kampala district, Slum population are categorized as a key populations in the Global plan to end TB, On that note AIDS information Centre Kampala embarked on integration of TB/HIV services aimed at improving TB control among co-infected children in Kisenyi slums.

**Methodology**: Between July –September 2024 AIDS information centre, With support from community health workers, who were trained in HIV counselling and testing, identifying presumptive TB cases, conducting community mobilization and TB screening and linkages to TB services, collect TB sputum samples and they also helped in mapping of households in Kisenyi slums. To reach out to refugee populations, 3 specified CHWs were also trained to conduct TB screening and linkages to TB services. 3 CHWs together with 3 health workers were assigned to screen for TB per village using Intensified Case Finding (ICF) forms and collecting sputum samples from presumed individuals. These also updated locator information, filled TB relevant registers and referred samples for Gene Expert testing. The community health workers also conducted patient follow up and linkages to both prevention and treatment of individuals.

**Results**: Within a period of 3 months, 2,262 children were sensitized and screened for TB and HIV as per the national policy, 287 individuals were presumptive and offered sputum samples for testing with gene expert, 18 TB cases were identified, whom 5 were TB co-infected including 3 P-CDs, 2 refugees (Somalis). 1 MDR case were identified and linked to Mulago MDR clinic, 5 HIV-positive cases were identified and linked for ART initiation. The community health workers provided an integral role in tracking all the cases and linking them to treatment at various DTUs. They also intensified the use of TB locator forms for all clients for follow up and retention.

**Conclusion**: The approach used for TB screening in Kisenyi indicates that integration of TB/HIV services in TB screening activities in slums is vital for increased TB case identification, notification and retention in care among co-infected children.

127

# High Treatment Success Rates among Children Treated for Tuberculosis in Primary and Secondary Health Facilities in Malawi

Makonokaya L[1], Ngwira P[1], Kalitera L[1], Khumbanyiwa M[1], Maphosa T[1], Bhatt N[2]

*[1]Elizabeth Glaser Pediatric AIDS Foundation, Lilongwe, Malawi, [2]Elizabeth Glaser Pediatric AIDS Foundation, Washington, United States*

**Introduction**: Tuberculosis (TB) remains one of the leading causes of death among children. The Elizabeth Glaser Pediatric AIDS Foundation supports pediatric TB care by facilitating training and mentorship for healthcare providers to improve early TB case identification, treatment, and follow-up of pediatric clients. We evaluated TB treatment success rates among children in Malawi's primary and secondary health facilities.

**Methods**: Using a retrospective cohort study approach, we analyzed routine data pooled across 45 primary and secondary-level facilities in nine EGPAF-supported districts. We included all children (<15 years) registered for TB treatment between October 2021 and September 2023 and followed them up for six months. We used the WHO case definitions for tuberculosis diagnosis and treatment outcomes. We classified participants based on their history of previous treatment and HIV status. We categorized TB treatment outcomes as cured, treatment completed, treatment failed, died, lost to follow-up, and not evaluated. Treatment success was the sum of cured and treatment completed. We abstracted the data from facility-based TB registers and electronic medical records systems. We used descriptive statistics and Pearson's chi-square test to summarize the data using Stata18.0®.

**Results**: Overall, 528 children were included in the study; 269 (50.9%) were male. The median age was seven years (IQR: 3-11), and 347 (65.7%) were from rural facilities. Among the participants, 176 (33.6%) were HIV positive. Of these, 146 (78.5%) were on ART at the time of tuberculous treatment initiation, 30 (16.1%) started ART after initiating tuberculous treatment, and 10 (5.4%) had not started ART at discharge. Approximately, 498 (94.3%) had new TB infections and 28 (5.3%) had relapse TB. Notably, 221 (41.8%) of the cases were diagnosed bacteriologically, 133 (25.2%) of cases were identified radiologically, and 174 (33.0%) of the cases were diagnosed using history and physical examination alone. More children in rural facilities were initiated on tuberculosis treatment without radiological or bacteriological confirmation than in urban facilities: 142 (40.9%) vs. 32 (17.7%) ($p<0.001$). Furthermore, 503 (95.2%) achieved treatment success; 24 (4.5%) cured, and 479 (90.7%) treatment completed. There were no significant differences in treatment outcomes by sex, age group, facility location, and HIV status.

**Conclusions**: High treatment success rates were observed among children regardless of their age, facility location, or HIV status. However, a third of the cases were diagnosed clinically and a significant proportion of children initiating tuberculosis treatment were living with HIV. Interventions to improve diagnostic capacity in rural facilities for children are required.

129

# Characteristics and Treatment Outcomes of Adolescents and Young Adults Living with HIV with Drug-Resistant Tuberculosis Co-Infection in Uganda: A Retrospective Cohort Study

Pitua I[1], Kirya M[1], Kiberu D[1], Nabassa S[1], Namiiro A[1], Segawa M[1], Semakula P[1], Najjuka S[2], Baluku J[3], Olum R[4]

*[1]College of Health Sciences, Makerere University, Kampala, Uganda , Kampala, Uganda, [2]Infectious Diseases Institute, Kampala, Uganda, Kampala, Uganda, [3]Division of Pulmonology, Kiruddu National Referral Hospital, Kampala, Uganda, Kampala, Uganda, [4]Makerere University School of Public Health, Kampala, Uganda, Kampala, Uganda*

**Background**: Tuberculosis remains a significant global health challenge, particularly among people living with HIV (PLWH), with a high burden of drug-resistant TB (DR-TB) complicating treatment. Uganda, a high-burden TB/HIV country, faces significant challenges in the management of DR-TB. The purpose of this study was to describe characteristics and treatment outcomes of adolescents and young adults living with HIV (AYALH) with DR-TB in Uganda.

**Methods**: We conducted a retrospective cohort study among AYALH with DR-TB at Mulago National Referral Hospital in Uganda, reviewing medical records of patients who initiated DR-TB treatment or received care at MNRH during their treatment course, including cases requiring specialized management between January 2013 and December 2021. Data were analyzed using descriptive statistics and multivariable logistic regression to identify factors associated with treatment outcomes.

**Objectives**: The purpose of this study was to describe the characteristics, treatment outcomes, and factors associated with treatment success among adolescents and young adults living with HIV (AYALH) and DR-TB at a TB treatment unit in Mulago National Referral Hospital, Kampala, Uganda.

**Results**: Of the 327 participants, 52.6% (n=172) were males, with a mean age of 28.2 years (SD: 4.75). The overall treatment success rate was 65.7%. Participants with a BMI ≥18.5 kg/m² (54.1%) had 1.89 times higher odds of treatment success compared to those with a BMI <18.5 kg/m² (aOR 1.89, 95% CI 1.20–3.03, p=0.005). Similarly, individuals on EFV-based ART regimens (61.2%) had 1.79 times higher odds of treatment success compared to those on DTG-based or other regimens (aOR 1.79, 95% CI 1.12–2.86, p=0.014 for DTG-based; aOR 4.00, 95% CI 1.82–9.09, p=0.001 for other regimens). Participants with primary DR-TB (54.7%) had 2.38 times higher odds of achieving treatment success compared to those with secondary DR-TB (aOR 2.38, 95% CI 1.56–3.57, p<0.001).

**Conclusion**: The study revealed a treatment success in only two-thirds of participants emphasizing persistent challenge of achieving optimal treatment outcomes for AYALH. The findings highlight that a higher BMI and Efavirenz-based ART regimens are significantly associated with improved treatment success pointing to the necessity for addressing nutritional needs and optimizing ART regimens to improve the management of DR-TB among AYALH.

130

# Infant SARS-CoV-2 Antibody Detection at 6-Weeks Not Associated with Subsequent Neurodevelopmental Scores During 2-Year Follow-Up among Children with and Without in Utero HIV Exposure

Neary J[1], Njuguna I[1,2], Goecker E[1], Matemo D[2], Onyango A[3], King'e M[3], Mathew L[1], Bulterys M[1], Owiti P[3], Adogo C[2], Benki-Nugent S[1], Greninger A[1], Wamalwa D[3], John-Stewart G[1]

*[1]University of Washington, Seattle, United States, [2]Kenyatta National Hospital, Nairobi, Kenya, [3]University of Nairobi, Nairobi, Kenya*

**Background**: There is mixed evidence on whether in utero exposure to SARS-CoV-2 influences child neurodevelopmental outcomes. We evaluated the association between infant SARS-CoV-2 antibody detection and subsequent neurodevelopmental outcomes among children with and without in utero HIV exposure.

**Methods**: The HOPE study enrolled 1,000 children who were HIV exposed and uninfected (CHEU) and 1,000 children who were HIV unexposed and uninfected (CHUU) in Nairobi and Western Kenya from 2021-2022. Anti-N serology assays (which only detects SARS-CoV-2 infection not vaccine responses) on dried blood spots collected when infants were 6-weeks of age were used to detect SARS-CoV-2 infection as a proxy for past maternal SARS-CoV-2 infection (which, based on timing of the epidemic and durability of antibody responses, occurred sometime in the past 2 years). The Malawi Developmental Assessment Tool (MDAT) was used to assess social, language, fine motor, and gross motor scores at 12 and 24 months. We used linear mixed effects models to determine the association between infant 6-week SARS-CoV-2 antibodies and individual MDAT domain scores. Adjustment variables included infant sex, HIV exposure, site, enrollment date, maternal age, years of maternal education, and age at sample collection. Models were stratified by child HIV exposure status and by maternal COVID-19 vaccination status.

**Results**: Overall, 1,705 children, including 828 CHEU and 877 CHUU, had a 6-week anti-N assay result, among whom 1,164 (68%) reported maternal COVID-19 vaccination status during pregnancy, with 23% of mothers of CHEU vs. 10% of mothers of CHUU reporting that they received COVID-19 vaccination. Median age at sample collection was 6.6 weeks. CHEU had older mothers (median: 31 vs. 26 years), mothers with fewer years of education (median 8 vs. 11), and more siblings (median: 2 vs. 1) than CHUU.

Three hundred and thirty infants (19%) had detectable SARS-CoV-2 anti-N antibodies. CHEU had significantly higher likelihood of SARS-CoV-2 antibodies than CHUU (69% vs 31% p<0.001) as did children with moderate-to-severe household food insecurity versus minimal food security (26% vs 14% p<0.001).

Infant SARS-CoV-2 6-week antibody detection was not associated with poorer neurodevelopmental scores in CHEU and CHUU at 12 or 24 months. Children with 6-week SARS-CoV-2 antibody detection had unexpectedly better language scores at 12 months, social scores at 24 months, and gross motor scores at 24 months. These associations persisted in analyses of children whose mothers were not vaccinated (N=1,043), prior to sample collection. Among CHEU, 6-week SARS-CoV-2 antibodies were associated with higher language scores at 12 months and higher social scores at 24 months; similar associations were not detected among CHUU. In sensitivity analyses adjusted for date of birth, infant SARS-CoV-2 antibodies were not significantly associated with social and gross motor scores at 24 months but remained associated with higher language scores at 12 months.

**Conclusions**: SARS-CoV-2 antibody detection during early infancy, reflecting past maternal SARS-CoV-2 infection (including during index pregnancy), was not associated with poorer neurodevelopmental outcomes during 2-year follow-up. Our findings provide reassuring evidence of limited impact of pregnancy SARS-CoV-2 infection on long-term child neurodevelopment.

131

# Kidney Impairment in Children with HIV on Antiretroviral Therapy (ART) in Zambia: A Retrospective Cross-Sectional Study

Mutalange M[1], Siame L[1], Mupeta G[1], Cheelo C[1], Kamvuma K[1], Masenga S[1], Hamooya B[1]

[1]*Mulungushi University School Of Medicine And Health Sciences, Livingstone, Zambia*

**Background**: The burden of renal insufficiency is disproportionately higher in people with HIV than in the general population. However, most children are asymptomatic, leading to limited screening and increased risk of developing end-stage renal disease (ESRD). Despite the negative outcomes, there is limited data on the burden of kidney impairment among children. Therefore, this study aimed to determine the prevalence and factors associated with kidney impairment among children with HIV on antiretroviral therapy (ART) in Southern province of Zambia.

**Material & Methods**: We conducted a retrospective cross-sectional study among 195 children with HIV on ART. Clinical, laboratory and demographic characteristics were obtained using a data collection tool. The primary outcome was kidney impairment, defined as an estimated glomerular filtration rate (eGFR) of <60 ml/min/1.73m2 based on the Schwartz formula (2009). Logistic regression was used to assess factors associated with kidney impairment.

**Results**: The median age among the study participants was 8 years Interquartile range (IQR) 6-11, and 50.3% (n=98) were males. The prevalence of kidney impairment was 19.5% (n=38). Among those with kidney impairment, 61% (n=23), 24% (n=9), 11% (n=4), 5% (n=2) were in 3a, 3b, 4, and 5 stages of kidney impairment, respectively. After accounting for sex, age, WHO HIV staging, duration and baseline ART regimen, an increase in age was significantly associated with reduced odds of having kidney impairment (adjusted odds ratio (aOR) 0.65; 95% (Cl) 0.54, 0.80). While WHO HIV stage 4 was significantly associated with increased odds of having kidney impairment (aOR 71.0 95%Cl 4.2-120.0).

**Conclusion**: This study found a high prevalence (19.5%) of kidney impairment, with majority being in early stages thus indicating mild impairment. Increasing age was significantly associated with reduced odds of kidney impairment. Conversely, advanced HIV disease (WHO stage 4) was strongly associated with increased odds of kidney impairment among children with HIV, indicating the critical role of advanced disease in driving renal complications. There is a need to regularly monitor kidney function among children with HIV, especially those with advanced HIV disease, to prevent or delay the progression to ESRD.

132

# Cloud-Based African Brain Powered Games Apps Can Be Used to Dynamically Assess Brain/Behavior Integrity and Neurocognitive Performance in African School-Aged Children at the Community Level in Response to HIV Exposure and Treatment

Boivin M[1,2], Familiar-Lopez I[1], Wambuzi Ogwang L[3], Dadabhai S[4], Sikorskii A[1], Giordani B[2], Siarto J[1], Winn B[1]

*[1]Michigan State University, East Lansing, United States, [2]University of Michigan, Ann Arbor, United States, [3]Makerere University - Johns Hopkins University, Kampala, Uganda, [4]Johns Hopkins University, Baltimore, USA*

**Background**: Brain Powered Games (BPG) is an app with 10 games designed to improve attention, working memory and learning, visual-spatial analysis, and problem solving. In Phase II we developed Village Builder (VB) to engage school-age children in a prosocial game using reasoning and planning skills to garner the resources needed to build a simulated village community. The goal was to evaluate the use of cognitive game apps as online dynamic measures of brain/behavior integrity at the community level for children.

**Method**: Sixty children perinatally exposed and living with HIV (LWHIV), 120 exposed but uninfected (HEU), and 120 unexposed/uninfected (HUU) boys and girls in Kampala Uganda (N=300) and in Blantyre Malawi (N=300) were randomized to either 12 one-hour training sessions of BPG over 2 months (Phase I), or "wait-listed" to 12 sessions of VB in Phase II. Performance on BPG or VB before and following the training period was then compared to performance on our "gold standard" neuropsychological battery of the Kaufman Battery for Children (KABC-II), Tests of Variables of Attention (TOVA), and CogState computerized cognitive ability test.

**Results**: Children randomized to 12 BPG sessions in Phase I had significantly higher post-training performance on all principal test outcomes compared to "wait-listed" children. These included the KABC-II Mental Processing Index (MPI), Nonverbal Index (NVI), TOVA attention errors, TOVA impulsivity errors, CogState attention and maze learning, and CBCL internalizing symptoms (emotional problems). For VB pre- versus post-changes in Uganda, HEU and HUU benefitted across many outcomes (KABC, TOVA, CogState); LWHIV children did, too, but only on the KABC. For VB pre- versus post- changes in Malawi, the strongest benefit was for HEU and LWHIV children. Across all exposure groups in both countries, improvements in app performance from training was significantly related to neuropsychological test benefit.

**Conclusion**: VB results consistent with BPG in that children LWHIV benefitted from the cognitive games apps in Malawi, though less so in Uganda. HEU and HUU children in Uganda and Malawi benefitted from the app training. We also report on adapting our apps to the cloud for community-based scalability, comparing their game app performance in the home versus in the clinic.

133

# A Prospective Cohort Study of Adverse Birth Outcomes in Infants Who Are HIV-Exposed Uninfected and HIV Unexposed Uninfected, Western Cape, South Africa

Bovu A[1], Kalk E[2], Tomlinson M[1,3], de Beer S[2], Cupido H[1], Marlow M[1,6], Davies M[2], Zunza M[1,8]

*[1]Department of Paediatrics & Child Health, Faculty of Medicine & Health Sciences, Stellenbosch University, Worcester, South Africa., Cape Town, South Africa, [2]Centre for Integrated Data and Epidemiological Research, School of Public Health, University of Cape Town, South Africa., Cape Town, South Africa, [3]Institute for Life Course Health Research, Department of Global Health, Stellenbosch University, Cape Town, South Africa; and School of Nursing and Midwifery, Queens University, Belfast, UK, Cape Town, South Africa, [4]Centre for Integrated Data and Epidemiological Research, School of Public Health, University of Cape Town, South Africa., Cape Town, South Africa, [5]Department of Paediatrics & Child Health, Faculty of Medicine & Health Sciences, Stellenbosch University, Worcester, South Africa., Worcester, South Africa, [6]Institute for Life Course Health Research, Department of Global Health, Stellenbosch University, Cape Town, South Africa; and School of Nursing and Midwifery, Belfast, UK, Cape Town, South Africa, [7]Centre for Integrated Data and Epidemiological Research, School of Public Health, University of Cape Town, South Africa., Cape Town, South Africa, [8]Division of Epidemiology & Biostatistics, Stellenbosch University., Cape Town, South Africa*

**Background**: Despite increased access to antiretroviral therapy (ART) which has significantly reduced HIV prevalence among mothers and vertical HIV transmission, similar reductions in adverse birth outcomes in women living with HIV (WLHIV) have not been observed. We compared adverse birth outcomes in a cohort of women living with and without HIV and their infants who were HIV exposed uninfected (HEU) and HIV unexposed uninfected (HUU) in the Western Cape Province, South Africa.

**Methods**: This prospective cohort study enrolled pregnant women living with and without HIV between 24 – 36 weeks gestation attending antenatal primary care clinics in Breede Valley and Gugulethu, Western Cape, South Africa, from October 2021 to May 2025. We compared adverse birth outcomes (stillbirth (SB), low birth weight (LBW), preterm birth (PTB) and small for gestational age (SGA)) among infants HEU vs HUU and assessed the impact of ART initiation (before versus during pregnancy) on birth outcomes among (WLHIV). Adjusted risk ratios (aRRs) were calculated using log-binomial regression.

**Results**: Of 1271 pregnant women, 828 (65.1%) were living with HIV. Amongst WLHIV, 671 (81.0%) started ART before and 157 (19.0%) initiated ART during pregnancy. Overall, higher rates of LBW (15.7% vs 12.1%); PTB (15.4% vs 11.6%) and SGA (7.5% vs 5.7%) were observed in infants HEU vs HUU. No differences were observed in SB. Adjusting for confounders, (LBW 1.28 [0.91–1.78]; PTB 1.36 [0.96–1.92] and SGA 1.27 [0.78–2.06]) incidences were higher in infants HEU compared to HUU. Women who initiated ART during pregnancy had significantly higher incidence of LBW 2.44 [1.06–5.63, p=0.036], and increased risks of PTB 1.71 [0.99–5.97] and SGA 1.22 [0.37–4.07] compared to those who initiated before pregnancy.

**Conclusions**: Our findings demonstrated increased prevalence of LBW, PTB and SGA in infants HEU compared to HUU from the same communities, regardless of maternal ART initiation timing.

# E-POSTER ABSTRACT PRESENTATIONS

International Workshop
on Pediatrics & HIV

Hybrid Meeting

11 – 12 July 2025
Kigali, Rwanda

134

# Using a Pediatric Prescription Tool for ART Optimization: Improving Treatment Outcomes in Children Living with HIV in Tanzania

Temu A[1], Benedicto B[1], Van de Ven R[1], Mgeleka S[1], Selemani K[1], Haraka F[1], Kimambo S[1]

[1]*Elizabeth Glaser Pediatric AIDS Foundation, Dar Es Salaam, Tanzania, United Republic of*

**Background**: Pediatric HIV management poses unique challenges, particularly with respect to dosage accuracy and regimen selections, which are critical to achieving pediatric viral load suppression (VLS). We introduced a pediatric antiretroviral therapy (ART) prescription tool to improve ART optimization and present here lessons learnt from its implementation in Tanzania.

**Description**: The ART prescription tool was piloted to optimize dosages and regimen choices, aiming to improve prescribing accuracy, adherence, and treatment outcomes for children living with HIV (CLHIV). We provided capacity building for clinic workers on how to use the tool. A tailored ART prescription tool was utilized for each CLHIV at every visit. Chart review of the care and treatment cards was conducted for all CLHIV aged 0-14 years to review the accuracy of the ART (regime and dosage) and viral load monitoring. Descriptive analysis was done on aggregated routine programmatic data between April 2024 – September 2024 at 12 care and treatment clinics at Ikungi District in Singida Region.

**Lessons Learned**: A total of 171 children aged 0-14 years old receiving care and treatment services from 12 facilities were administered the ART prescription tool. At the start of the intervention in April 2024, there were 11/171(6.4%) CLHIV with dosing and /or regimen errors, 21/171(12.3%) CLHIV with unknown HIV viral load status, and 17/171(9.9%) CLHIV with high HIV viral load results. By September 2024, the dosing and/or regimen errors had decreased to 0% errors. We observed improved treatment outcomes in this cohort of CLHIV by improved clinical markers, i.e. viral load coverage (VLC) increased from 87.7% in May 2024 to 97.6% in September 2024, and viral load suppression (VLS) improved from 90.1% to 97.9% within the same period.

**Conclusions/Next Steps**: We observed a reduction in prescription errors and improvement of viral load suppression among children after the introduction of prescription tool. It will be important to monitor the cohort of children for a longer period. In addition, this strategy should be expanded to additional sites to see if the results are sustained.

135

# Time to Undetectable Viraemia among Children Newly Initiating Dolutegravir-Based Antiretroviral Therapy: A Programmatic Analysis

Nwanja E[1], Akpan U[1], Onwah O[1], Toyo O[1], Nwangeneh C[2], Okolo C[1], Igboelina O[3], Ogundehin D[3], Katbi M[3], Obiora-Okafo C[3], Idemudia A[3], Omo-Emmanuel U[3], Adebobola B[4], James E[3], Pius J[3], Oyelaran O[3], Onyedinachi O[1], Adegboye A[1], Eyo A[1]

*[1]Excellence Community Education Welfare Scheme (ECEWS), Uyo, Nigeria, Uyo, Nigeria, [2]FHI360, Abuja, Nigeria, [3]Office of HIV and TB, United States Agency for International Development, Abuja, Nigeria, [4]National AIDS, STI and Viral Hepatitis Control Program, Abuja, Nigeria*

**Background**: Undetectable viraemia reduces the likelihood of clinical disease and transmission. WHO recommends viral load (VL) testing within six months of initiating ART. This study assessed the time to undetectable viraemia among children newly initiating ART in Southern Nigeria.

**Methods**: This retrospective cohort study used data from electronic medical records of children aged below 15 years who initiated ART between October 2021 and September 2023 at 88 health facilities in Akwa Ibom and Cross River States. Data extracted at ART initiation includes sex, age, regimen type (Abacavir-Lamivudine-Dolutegravir [ALD] or Tenofovir-Lamivudine-Dolutegravir [TLD]), and VL test results with dates (extracted quarterly until September 2024). Viral load tests were routinely done every six months. VL results were categorised as undetectable (<50 copies/mL), otherwise detectable. Kaplan–Meier estimator was used to assess the time to undetectable viraemia (days between ART initiation and first undetectable VL), stratified by age (categorised into 0-4 years, 5-9years and 10-14 years) and regimen type, at a 0.05 significance level.

**Results**: During the study period, 1816 children initiated ART; 51.3% (932) were female, 37.3% (677) were aged 0-4 years, 28.5% (518) were aged 5-9 years, and 34.2% (621) were 10-14 years. 72.5% (1316) were initiated on ALD regimen. Overall median time to undetectable viraemia was six months (IQR: 4-9) and differed by age (0-4 years: 7 months [IQR: 5-10]; 5-9 years: 6 months [IQR: 4-6]; 10-14 years: 6 months [IQR: 4-9], log-rank p-value =0.05). Median time was comparable by regimen type (ALD: 6 months [IQR: 4-10]; TLD: 6 months [IQR: = 4-9months], log-rank p-value =0.621).

**Conclusion**: While the majority of children attained undetectable viraemia within six months of ART initiation, children 5 years and older attained undetectable viraemia earlier. Attention should be given to children <5 years to attain optimal treatment outcomes.

136

# Effects of Music and Counseling Programs on Mental Health and Antiretroviral Treatment Adherence of Adolescents and Young Adults Living with HIV in Northern Thailand

Khamrong C[1,2], Aurpibul L[2], Kosashunhanan N[1,2], Klaphajone J[3], Teerapong T[4], Kotchawat K[5], Khamrong N[6], Thammalangka R[2], Maneerat N[2]

*[1]School of Health Sciences Research, Research Institute For Health Sciences, Chiang Mai University, Muang, Thailand, [2]Research Institute For Health Sciences, Chiang Mai University, Muang, Thailand, [3]Department of Rehabilitation Medicine, Faculty of Medicine, Chiang Mai University, Muang, Thailand, [4]Department of Psychology, Faculty of Humanities, Chiang Mai University, Muang, Thailand, [5]Embrace Counseling Service & Psychological, Muang, Thailand, [6]Western music department, Faculty of Architecture and Fine Art, University of Phayao, Muang, Thailand*

**Background**: Mental health is a significant health determinant in adolescents and young adult with perinatal HIV (AYA-PHIV) in Thailand. It was associated with antiretroviral treatment (ART) adherence and always challenging to healthcare providers to detect and manage. This study investigated the effects of music and counseling programs on mental health and antiretroviral treatment adherence of AYA-PHIV in Northern Thailand.

**Methods**: This randomized controlled study was conducted at Chiang Mai University from July 2023 to June 2024. Inclusion criteria were 1) age between 15-24 years, 2) documented perinatal HIV infection, 3) receiving ART and willing to join the study. Participants were recruited from HIV clinics in Chiang Mai and neighboring provinces. They underwent mental health screening and HIV-1 RNA testing. Twenty-four AYA-PHIV were randomly selected from the mental health scores and viral load (VL) testing and stratified into 4 groups of six participants. Arm 1: Integrated Music and Counseling Program, Arm 2: Music Program, Arm 3: Counseling Program, and Arm 4: Control. The study interventions were conducted by trained psychological counselors using Trotzer's concept group counseling, and a university music instructor. It composed of 10 weekly sessions of 90-minute long. ART adherence and mental health questionnaires (Depression Anxiety Stress Scale (DASS-21), Self-esteem scale -10 (SES-10), Thai Internalized HIV-related Stigma Scale (Thai-IHSS) were completed before and after the end of the study intervention. Saliva samples for cortisol hormone testing and hair samples for hair Dolutegravir (DTG) concentration were collected.

**Results**: Of the 57 APHIV enrolled, 18 (31.6%) were male, 9 (15.8%) were university-graduated, 24 (42.1%) was studying, and 24 (42.1%) were working. Their mean age was 20.96 years (SD=2.34). Twenty-four participants (42.1%) were virologic suppressed (VL < 50 copies/mL).

We found that 21.1%, 31.6% and 7.0% of participants had mild to moderate depressive symptoms, anxiety, and stress, respectively. Low self-esteem was evidenced in 43 (75.44%), and high level of HIV-related stigma was seen in 38 (66.67%). APHIV with virologic non-suppression had a significantly higher mean HIV-related stigma score than those with virologic suppression (33.20 vs. 23.23, p<0.01), but no difference in the demographic characteristics, depression, anxiety, stress, and self-esteem scores. APHIV in Arm 1 had significantly higher median scores on self-esteem after the experiment (17 vs. 25, p=0.05). After the intervention, a significantly decrease in mean Thai-IHSS scores were observed in Arm 1 and 3, and a significantly increase mean DTG hair level was observed in Arm 3. All three arms had significantly increased VL at the end of the study, while no significant change in depression, anxiety, saliva cortisol level, and CD4 were observed.

**Conclusions**: This study demonstrated that the music and/or counseling program could increase self-esteem and decrease HIV-related stigma in AYA-PHIV. The group counseling program could decrease HIV-related stigma, increase the feelings of security, safety, and self-acceptance. Both integrated music and group counseling and group counseling only led to decreased depression, anxiety, and stress; and increased self-esteem.

137

# Enhancing Adherence, Emotional Well-Being, and Psychological Resilience: Exploring Expressive Art Therapy for Children and Adolescents Affected by HIV

Kokeyo A[1]

[1]Sunburst Projects Kenya, Kisumu, Kenya

Children and adolescents living with HIV face significant challenges in medication adherence, emotional well-being, and psychological resilience, often unmet by traditional interventions. Expressive art therapy offers a creative alternative, providing an outlet for emotional expression and communication.

Between October and December 2023, 100 children and adolescents (50 males, 50 females) aged 8-18 participated in a 12-week expressive art therapy program during support group sessions at Kisumu County Referral Hospital and Lumumba Health Centre. The sessions, led by trained therapists and counselors, addressed themes such as emotions, HIV education, medication adherence, disclosure, sexual health, and grief through activities like tie-dye, mask-making, friendship bracelets, letter writing, and performing arts.

Pre- and post-intervention assessments revealed notable outcomes: medication adherence improved by 80%, emotional distress decreased by 30%, and coping skills increased by 25%. Moreover, 85% of participants reported heightened self-esteem and overall well-being, while 90% experienced enhanced social connectedness and a stronger sense of belonging. Gender analysis revealed similar improvements for males and females, with older participants (13-18 years) showing slightly greater progress.

These findings highlight the effectiveness of expressive art therapy in enhancing adherence, emotional regulation, and psychological well-being for children and adolescents living with HIV. The intervention fosters resilience, empowerment, and peer support, suggesting its potential as an integrated component of pediatric HIV care to improve long-term outcomes and quality of life. Future research should examine the sustainability of these effects and the applicability of expressive art therapy across diverse healthcare settings.

138

# One-Stop Shop Model and Triple Elimination of Vertical Transmission of HIV, Syphilis, and Hepatitis B Infection Services at a Regional Referral Hospital Antenatal Clinic: Lessons from Northern Uganda

Kazibwe A[1], Toskin C[1], Apio A[1], Kyayimba J[2], Onencan E[1], Amongi D[1]

[1]*The Aids Support Organisation (TASO), Kampala, Uganda,*
[2]*Gulu Regional Referral Hospital, Gulu City, Kampala*

**Background**: Triple elimination of vertical transmission of HIV, syphilis and hepatitis B infections is a global priority. Hepatitis B and HIV prevalence in post-conflict Acholi region of northern Uganda are higher than national averages. At a regional referral hospital (RRH), coverage of services among pregnant and breastfeeding women (PBFW) and their infants was sub-optimal. We aimed to improve coverage of triple elimination services through a participatory health service integration model.

**Materials and Methods**: We implemented a site-based quality improvement initiative at Gulu RRH in northern Uganda. We reviewed and presented RRH performance data on proportion of eligible HIV exposed infants (HEIs) who had timely HIV early infant diagnosis (EID), proportion of pregnant mothers tested for hepatitis B infection at first antenatal clinic (ANC) visit, and proportion of hepatitis B positive eligible mothers linked to antiviral treatment. We brainstormed with RRH staff and community health workers (CHWs) and identified dispersed clinics as a major hindrance to holistic care. We tested a set of step-wise changes including a checklist for required staff, rapid diagnostic kits (RDTs), drugs and registers; two-hour refresher training on triple elimination guidelines for staff and CHWs, assigned a Triple elimination champion among the RRH staff, re-organised the ANC space, co-located Hepatitis B RDTs and antiviral drugs in ANC, co-developed standard operating procedures for Hepatitis B treatment linkage and conducted mentorships. We monitored improvement through weekly data reports.

**Results**: From September to December 2024, the weekly average percentage of pregnant mothers screened for Hepatitis B increased from 62% to 100%, the percentage of HEIs bled for first DNA PCR increased from 82% to 91%, and the percentage of pregnant mothers with a positive syphilis result who were linked to treatment increased from 85% to 100%.

**Conclusion**: We built capacity for a one-stop-shop integrated approach to delivery of HIV, syphilis and hepatitis B education, screening and treatment services increased service uptake at the ANC of this RRH. We recommend implementation of similar change packages to accelerate progress towards triple elimination of vertical transmission of HIV, syphilis and hepatitis B.

139

# Assessment of Uptake of Isoniazid Preventive Therapy (IPT) and Its Associated Factors among Children Living with HIV (CLHIV) at Queen Elizabeth Central Hospital (QECH) in Blantyre, Malawi

Magoya Ganya M[1]

[1]University Of Pretoria, Lilongwe, Malawi

**Background**: Tuberculosis (TB) and HIV co-infection pose significant health risks, particularly in children, where the progression from latent to active TB is accelerated by HIV. To mitigate TB-related morbidity and mortality in children living with HIV (CLHIV), the WHO recommends Isoniazid Preventive Therapy (IPT). However, uptake and adherence to IPT in children under five years of age remain underexplored in Malawi, particularly at Queen Elizabeth Central Hospital (QECH) in Blantyre.

**Methods**: We conducted in-depth interviews (IDIs) and focus group discussions (FGDs) with healthcare workers and caregivers to identify enablers and barriers to IPT uptake.

**Results**: Key enablers for IPT uptake included consistent medication availability, transport provision, counselling sessions, and peer support. Challenges included limited caregiver knowledge of IPT, pill burden, side effects, logistical barriers, and negative healthcare provider interactions. Caregivers expressed the importance of emotional and community support in sustaining adherence, while healthcare workers highlighted systemic constraints affecting their ability to deliver effective IPT services.

**Conclusion**: Uptake of IPT in CLHIV at QECH is influenced by a mix of structural, social, and individual factors. Interventions should focus on enhancing caregiver education, improving healthcare provider engagement, and addressing logistical barriers to optimize IPT adherence and reduce TB-related mortality in CLHIV. Further research is needed to incorporate quantitative data for a more comprehensive understanding of IPT uptake and outcomes.

140

# Six-Month Outcomes among 0- to 14-Year-Old Children with Advanced HIV Disease in Côte d'Ivoire

Bitty-Anderson A[1], Kingbo M[1], Ban I[1], Denoeud-Ndam L[2], Eboumou F[3], N'Goran M[1], Diby C[1], Tiam A[4,5]

*[1]Elizabeth Glaser Pediatric AIDS Foundation, Abidjan, Côte d'Ivoire, [2]Elizabeth Glaser Pediatric AIDS Foundation, Geneva, Switzerland, [3]Ministry of Health, Public Hygiene and Universal Health Coverage, Abidjan, Côte d'Ivoire, [4]Elizabeth Glaser Pediatric AIDS Foundation, Washington, DC, USA, [5]The George Washington University Milken Institute School of Public Health, Washington, DC, USA*

**Background**: Although representing 3% of people living with HIV, children account for 13% of AIDS-related deaths. The adequate management of Advanced HIV Disease (AHD) in children could offset this high mortality. An AHD care package was implemented in five health districts of Côte d'Ivoire. This abstract reports on AHD diagnosis and outcomes at six-months after diagnosis among 0- to 14-year-olds.

**Materials and Methods**: An AHD care package was implemented in September 2023 in thirty health facilities in Côte d'Ivoire. A quasi-experimental design was used to compare results from the pre- (June 2022 - February 2023) and post- (September 2023 - February 2024) intervention periods. Eligible clients included new patients, returning to care and in therapeutic failure. Among eligible clients, children aged <5 years were directly diagnosed with AHD; if ≥5 years, AHD criteria included CD4 count < 200 cells/mm3 and WHO clinical stage 3 or 4. Data on both periods were extracted from patients' files and captured in a database. A descriptive analysis of the cohort of children and comparisons of outcomes were completed.

**Results**: Out of 353 eligible children, 133 (37.7%) were identified with AHD: 103/103 aged <5 years with 47.6% female and 30/250 (12.0%) >5 years with 50.0% female. Median age was 2 (IQR: 1-3) and 10 (IQR: 8 -13) respectively among children aged < 5 and 5 to 14. More children <5 years were identified AHD in the pre- (n=74/89) than in post (n=29/44) period (p=0.02). Most children (n= 95; 71.4%) were new patients and 34.1% (n=44) entered care through index-testing (n=37; 27.8%) or pediatric services (n=13; 9.8%). Overall, 27.6% (n=35/127) were categorized as WHO stage 3 or 4, more in the pre- than (n=21) in the post-intervention period (p<0.05). Tuberculosis was diagnosed in 9 children (6.8%), 1 in the pre- and 8 in the post-period (p< 0.001). Outcomes at six months indicated, 64.1% (n=66) retention in care among children 0 to 5 and 76.7% (n= 23) among children 5 to 14. Overall, retention at 6 months was 66.9% (n=89; 33 in the post and 56 in the pre-intervention period; p=0.26). In regard to mortality, 5 deaths were recorded (3.8 %), 3 among children < 5 years old, due to other infections or HIV-related illness and 3 during the post - period (p=0.26), representing 3.1% of all deaths among AHD clients (p<0.001).

**Conclusions**: AHD in children is high (12%), even when we consider that children <5 years old are automatically identified with AHD; children represent 4.5% of people living with HIV in Côte d'Ivoire. Tuberculosis is the most common opportunistic infection, with improved diagnosis with the AHD package. No significant difference was found in retention and mortality outcomes, even with an AHD program in place, signaling the need for further evaluation of AHD package implementation among children. Additional effort is urgently needed in the prevention of mother-to-child HIV transmission.

141

# Perspectives on Family Resilience and Implications for Adolescent HIV Care in Kenya: Findings from a Human-Centered Design Study

Ng'anzi S[1], Apondi E[2], Omollo M[1], Omondi J[1], Rono W[1], Jaguga F[2], Puffer E[3], Enane L[4,5]

*[1]Academic Model Providing Access to Healthcare (AMPATH), Eldoret, Kenya, [2]Moi Teaching and Referral Hospital, Eldoret, Kenya, [3]Department of Psychology and Neuroscience, Duke Global Health Institute, Durham, United States, [4]The Ryan White Center for Pediatric Infectious Disease and Global Health, Department of Pediatrics, Indiana University School of Medicine, Indianapolis, United States, [5]Indiana University Center for Global Health Equity, Indianapolis, United States*

**Background**: Adolescents face unique challenges in navigating HIV care and mental health, often amid social, economic, and familial stressors. They experience dynamic transitions in their relationships with caregivers, with ongoing needs for emotional, financial, and practical support in managing their health as they gain independence. Family resilience—how families adapt, cope, and thrive in the face of adversity—critically shapes adolescent experiences of health challenges. An in-depth understanding of family resilience and its role in adolescent health management can provide valuable insights for developing interventions in this context.

**Methods**: At AMPATH in Eldoret, Kenya, we used a human-centered design (HCD) process, building from previous qualitative work to design a mental health and HIV care engagement intervention for adolescents with HIV. We conducted HCD workshops using creative participatory methods, with separate groups of adolescents/youth (ages 13-24), caregivers, youth peer mentors, and healthcare workers, in two phases. "Inspiration" workshops explored perspectives on family resilience, its role in HIV care, and possible areas for intervention. "Co-Design" workshops drew from initial insights to refine the design of an intervention leveraging caregiver support. Workshops were audio-recorded and transcribed. Notes posted during discussion were captured on the Miro platform. Transcripts and notes from discussion were used to develop themes and design insights, following a collaborative, inductive design analysis and synthesis process.

**Results**: Eight HCD workshops were conducted, including 4 Inspiration and 4 Co-Design workshops. Among 63 total participants (67% female) were 14 adolescents, 16 peer mentors, 20 healthcare workers, and 13 caregivers, with some participating in both HCD phases. Participants emphasized flexible cultural concepts of family which included immediate, extended, adoptive, and unrelated family, noting the diverse families in which adolescents live. While positive ideas about family predominated, some adolescents and youth peer mentors described negative aspects: generational barriers, disconnects, and restrictive environments. Conceptualizing what resilient families look like, participants emphasized the family support system, providing emotional support, guidance, and provision for basic needs. They discussed a range of challenges that families go through together, such as poverty, poor health, stress, addictions, and separations. Resilient families weathered the "ups and downs" of life through strong bonds, joyful moments, values, creativity, and problem-solving: "There is always a solution and a refuge for a resilient family." Family resilience was seen as central to adolescent HIV care, with emotional support, communication, and problem-solving being integral to adolescent acceptance of HIV status, adherence to treatment, and transitions in care. Adolescents and youth peer mentors expressed that such critical support could be undermined by rejection, stigma, or distrust, and that interventions should promote developmentally appropriate, empathetic communication. All participant groups expressed a need for interventions leveraging and strengthening family support for adolescent HIV care. Design insights were adolescent-centered, and focused on efficient peer counselor training and delivery, and applications to adolescent HIV care challenges.

**Conclusion**: Undertaking an HCD process allowed for a rich understanding of diverse perspectives on family resilience and adolescent HIV care, and for design insights for leveraging caregiver support to improve outcomes for adolescents living with HIV.

142

# Photovoice Insights on Factors Contributing to Persistent Non-Adherence to ART among Youth Living with HIV

Okinyi H[1], Nyapara F[1], Mukumbang F[2], Mugo C[1], Kohler P[2,6], John-Stewart G[2,3,4,5], Wamalwa D[7], Njuguna I[1,2]

*[1]Kenyatta National Hospital, NAIROBI, Kenya, [2]University of Washington, Department of Global Health, SEATTLE, United States, [3]University of Washington, Department of Epidemiology, SEATTLE, United States, [4]University of Washington, Department of Medicine, SEATTLE, United States, [5]University of Washington, Department of Pediatricss, SEATTLE, United States, [6]University of Washington, Department of child, family and population health nursing, SEATTLE, United States, [7]University of Nairobi, Department of pediatrics, NAIROBI, Kenya*

**Background**: Globally, non-adherence to antiretroviral therapy (ART) remains a significant challenge among youth living with HIV (YLH). Suboptimal adherence is associated with poor viral suppression, adverse health outcomes, and increased mortality. Despite HIV care and treatment programs having strategies to enhance ART adherence among YLH, some YLH continue to experience difficulties achieving optimal adherence. We employed the photovoice participatory research method to understand the underlying factors driving persistent non-adherence among Kenyan YLH.

**Methods**: We conducted an exploratory qualitative study using photovoice methodology with YLH aged 15–24 years, recruited from four health facilities in Nairobi. YLH aged 15–19 were eligible to participate if they had a viral load (VL) >1000 copies/mL or if counselors reported non-adherence to ART for more than six months if a VL result was unavailable. Those aged 20–24 were eligible if they had experienced adherence challenges lasting at least six months in the past but were currently adhering well to treatment. Between October and December 2024, we purposively sampled 18 participants and trained them on photovoice procedures. Participants were then asked to take photographs over one week, capturing ten images each, five representing their barriers and five representing facilitators to adherence, accompanied by brief narratives. Each participant then selected four photos they felt best captured their experiences for use in a follow-up focus group discussion (FGD). An adapted SHOWeD framework guided these discussions to facilitate reflection and identify initial themes.

**Results**: Of the 18 participants, 10 (56%) were female, with a mean age (SD) of 19 (3.3) years. We conducted two FGDs, during which 72 photos were discussed. Among older youth (aged 20–24), key facilitators of adherence included supportive healthcare providers, facility-based psychosocial support groups, encouragement from family, and a sense of hope for a better future. This group identified barriers to adherence, including lack of self-acceptance, non-disclosure of their HIV status to partners, poverty-related hopelessness, and difficulties maintaining privacy in boarding school settings, all of which contributed to extended periods of non-adherence.
For younger adolescents (aged 15–19), several barriers were depicted through their photographs. These included socioeconomic hardships such as food insecurity (symbolized by an empty plate), struggling to balance multiple responsibilities such as schoolwork and self-care, and often becoming distracted, leading to missed doses. Despite being expected by their caregivers to manage their treatment, many found it difficult to juggle competing demands. Facilitators for this group included feeling motivated by the hope of future success in activities they enjoy, such as sports. Family support played an important role in adherence, with youth appreciating reminders to take medication and drawing encouragement from seeing other family members (e.g., parents or siblings) take their medications.

**Conclusion**: Family support and future aspiration emerged as facilitators of adherence across both age groups, while significant barriers stemmed from psychosocial challenges, relationship dynamics, and socioeconomic constraints. Tailoring existing adherence interventions to address these interconnected factors is critical to improving treatment outcomes and ensuring sustained adherence among YLH.

143

# Overcoming Intersectional Barriers: A Gender-Transformative Physical Activity Intervention for Adolescents and Young Adults with Perinatally Acquired HIV in India

Filian K[1], Seenapa B[2], Sannigrahi S[1], Reddy S[2], Gowda M[2], Sathyamoorthy H[1], Tangney A[1], Kumar SK S[3], Babu Raj M[2], Ganapathi L[4], Shet A[1]

*[1]Johns Hopkins Bloomberg School of Public Health, Department of International Health, Baltimore, United States, [2]RISHI Foundation, Bengaluru,, India, [3]Y.R. Gaitonde Centre for AIDS Research and Education (YRGCARE), Chennai, India, [4]Division of Pediatric Global Health, Massachusetts General Hospital, Harvard Medical School, Boston, United States*

**Background**: Physical activity interventions improve mental health and reduce non-communicable disease risk among youth living with HIV. However, female adolescents and young adults with perinatally acquired HIV (APHIV) face intersecting barriers to participation, including societal stigma and health vulnerabilities. We applied an intersectionality framework to examine the adoption of a structured physical activity intervention among APHIV in India.

**Methods**: In 2022-2023, 167 APHIV participated in the Positive Running Program, a community-led physical activity intervention across five districts in Karnataka and Tamil Nadu for APHIV. Using a convergent parallel mixed-methods design aligned with community-based participatory research principles, trained youth investigators with lived experience of HIV administered culturally-adapted PHQ-9 and GAD-7 scales to screen for depression and anxiety among participants between March-August 2024. Concurrently, focus group discussions (n=26, males=14;females=14) and in-depth interviews (n=4) explored gender-related factors influencing participation. Grounded theory and inductive thematic analysis contextualized findings using intersectionality and Self-Determination Theory (SDT).

**Results**: Among 150 APHIV who provided consent and participated (17 had HIV-negative status), mean age was 17y (SD 4y), 33% identified as female, and 91% (94% male; 86% female) achieved viral suppression (VL <150). Mean adherence to the intervention was 64.3% (females: 61.6%; males:65.6%). Females were three times more likely to screen positive for moderate-severe depression and/or anxiety compared to males (OR:3.75, 95%CI 1.35, 10.38). Qualitative findings revealed insights on how intersecting challenges—gender norms of caregiving, marriage expectations, stigmatization of women in sports, clothing restrictions, societal perception of women running in public, and safety concerns—heightened anxiety and limited female participation. Using SDT, themes like autonomy (goal-setting, leadership opportunities), competency (exercise/nutrition education), and relatedness (peer networks, female role models) emerged as key motivators for overcoming barriers and sustaining physical activity and ART adherence.

**Conclusion**: This study highlights harmful gender norms and intersectional stigma, where overlapping biases related to gender, sexuality, and HIV status can lead to discrimination, psychological distress, and poor mental health outcomes, creating significant barriers to female participation in physical activity interventions. Findings underscore the importance of designing inclusive, gender-transformative strategies that address intersectional challenges to improve health outcomes for diverse groups of young people with HIV.

144

# The Effect of U.S. Government Freeze on Foreign Aid on HIV Programs in Nairobi, Kenya

Muhia J[1], Mathenge J[1], Onyango A[1], Macharia P[1]

[1]Hoymas Kenya, Nairobi, Kenya

**Background**: The U.S. Government through USAID and PEPFAR have been a partner in implementing HIV care and treatment programs in sub-Saharan Africa that has the biggest burden of HIV globally. Kenya has been a beneficiary over the years and this has enabled Kenya to make significant steps towards the UNAIDS target of ending HIV pandemic by 2030. Kenya has over 1.4 million Kenyans currently living with HIV. Kenya was on the verge of eliminating vertical transmission of HIV through sustained treatment of women of the reproductive age and timely initiation of prophylaxis among HIV-Exposed Infants (HEI). The freeze of the USG foreign AID put the HIV programs at crossroad disrupting commodities, sample networking and testing and subsequently reversing stigma into the underrepresented and minority populations.

**Methodology**: An assessment conducted in Nairobi targeting facilities previously supported by USG showed that HIV human resource for Health have been served with stop-work-orders effective 1st February 2025. Clinics were shut down and the Kenya Medical Supplies Agency (KEMSA) issued directives to MEDS to halt any procurement and any supplies immediately. A clinician admitted that viral load samples were not processed between 24th January to 7th March 2025. Staffs operating in other non-USAID supported facilities were instructed to limit the multi-month drug dispensing for clients previously not enrolled in their clinics. A number of clients were feeling frustrated by the disruption of health services.

**Results**: Data Obtained from the USAID Fahari Ya Jamii Community Based Surveillance (CBS) dashboard showed that during the 1st quarter of FY25, the program was supporting over 54,301 Persons Living With HIV (PLHIV) in Nairobi City County. Among them 41,997 (77.34%) had a Viral Load and were reported as suppressed (<50cp/ml) During the same quarter, 672 people were newly diagnosed and enrolled into care. 4578 children below 15 years were receiving treatment as well. The data also showed that 4,214 identified as Key and Vulnerable Population were receiving treatment during the same period. 5,632 were actively receiving Pre-Exposure Prophylaxis (PrEP).

**Conclusions**: The USG freeze on foreign order have disrupted care and treatment systems and will in turn have negative effect on the PLHIV who were relying on the system for ART and VL testing among other services.

**Recommendation**: The government of Kenya through the Ministry of Health may have to identify measures to lessen the effects of the disruption of the services. Improve the capacity of testing laboratories for baseline and follow up laboratory investigations. Develop sustainable and resilient funding mechanism of HIV/TB programs through budgetary allocation. Inclusion of Key and Vulnerable population into the service delivery model. Adopt and sustain the USAID already established systems.

145

# Strengthening the Circle of Care: Male Caregiver Involvement Improves Viral Load Suppression in Children on Antiretroviral Therapy at Lighthouse, Umodzi Family Centre Clinic

Chione B[1], Osman N[1], Ngulube G[1], Makweti A[1], Mndewere S[1], Chimphambano T[1], Phiri M[1], Munthali E[1], Wallrauch C[1,2], Heller T[1,3], Rambiki E[1]

*[1]Lighthouse Trust, Lilongwe, Malawi, [2]Institute of Infectious Diseases and Tropical Medicine, LMU , Germany, [3]3International Training and Education Center for Health, , Seattle, USA*

**Background**: Effective care for children living with HIV (CLHIV) receiving antiretroviral therapy (ART) is a complex psychosocial task. Male caregivers, including fathers, uncles, or grandfathers, can significantly impact children's well-being by providing physical and emotional support, whether this translates into better viral load (VL) suppression is unknown.

**Methods**: VL suppression and VL result distribution among CLHIV aged 0-9 years receiving ART at Lighthouse Umodzi Family Center, Blantyre, Malawi were retrospectively compared based on “male involvement” in care. VLs were assessed using standard laboratory techniques with suppression defined as VL<1,000 copies/ml; data was retrieved from electronic medical records (EMR). Information on caregiver type was extracted from medical records, signing and attendance sheets of the ART kindergarten (0-5 years) and preadolescent (6-9 years) differentiated service delivery clinics for CLHIV. Descriptive statistics were calculated and groups compared using ?2- and Mann-Whitney-U test defining statistical significance as p<0.05.

**Results**: Of the 293 CLHIV receiving ART assessed, 52.6% were males, median age 6 years (IQR: 4–9 years); overall VL suppression rate was 79%. 42 CLHIV (14%) had a male caregiver actively involved in treatment while for 251 (86%) the mother was the only recorded care supporter. CLHIV with involved male caregiver had significantly better VL suppression of 95.2% (40/42) compared to 76.1% (191/251) among children supported by mother only (?19.1%, p=0.005). VL result distribution showed a median of 40 copies/mL (IQR: 40–40) for CLHIV with male caregivers and 40 copies/mL with an IQR of 40–535 for those cared for by mothers only; the difference in distributions was statistically significant (p=0.02). Sex and age distribution of CLHIV did not differ significantly between the groups.

**Conclusion**: The findings suggest that CLHIV with male caregivers’ involvement achieved better VL suppression compared to those with female caregivers only. The observed differences could be due to more continuous support as two caregivers share responsibility of administering medications. Additionally, better disclosure within the family may lead to medications being given without fear of accidental disclosure. Based on the findings, we encourage involvement of male guardians in care whenever feasible.

146

# Impact of the Previous COVID-19 Misinformation on Health-Seeking Behaviors among Pregnant and Lactating Mothers in Uganda

Twimukye A[1,2], Bayigga J[1], Owuor Olungah C[2]

[1]Infectious Diseases Institute, Kampala, Uganda, [2]2. Department of Anthropology, Gender and African Studies, University of Nairobi, Nairobi, Kenya., Nairobi, Kenya

**Background**: The WHO emphasized the importance of combating misinformation for an effective public health response during emergencies. This study aimed to explore the impact of the previous COVID-19 misinformation on HIV and antenatal health-seeking behaviors and propose interventions to mitigate the harm caused by misinformation and disinformation in Uganda.

**Methods**: A retrospective qualitative methodology was used, based on cross-sectional data, involving focus group discussions (FGDs), individual interviews (IDIs), and key informant interviews (KIIs). A total of 28 IDIs were conducted with four participants from each of seven study sites. Two FGDs were held at each site, totaling 14 FGDs, and 21 KIIs were conducted with healthcare workers and Ministry of Health officials. Data analysis was done using a deductive thematic approach with NVivo version 12 software. The study identified COVID-19 misinformation, its impact on health-seeking behaviors, and strategies to address it, with themes mapped onto the explanatory model.

**Results**: Causal beliefs, the perceived meaning of illness, symptoms, severity, the course of illness, and treatment options all influence how COVID-19 misinformation impacts health-seeking behaviors among pregnant and lactating mothers living with HIV. Misinformation about the safety of COVID-19 vaccines and the potential transmission of COVID-19 through breast milk led individuals to perceive greater risks, resulting in reluctance to engage in health behaviors like breastfeeding or vaccination. At the perceived meaning of illness level, some participants viewed COVID-19 as fatal for illness, while others wrongly believed these women were immune to the virus or not at risk of severe illness. Misinformation linking COVID-19 to common illnesses like malaria, flu, or anemia caused confusion in identifying true symptoms and contributed to self- and community stigma. The perception of COVID-19 as a deadly disease or a weapon designed to harm Africans increased fear and mistrust, leading some women to avoid healthcare services and poor ART adherence. Additionally, some participants relied on herbal or traditional remedies to prevent or cure COVID-19 symptoms.

**Conclusions**: These findings show a critical need for accurate, consistent health messaging and community-based education to counter misinformation and improve health-seeking behaviors that ensure better maternal and child health outcomes for pregnant and lactating mothers living with HIV during public health crises or pandemics.

147

# Uptake of Test and Treat Strategy among Adolescent Girls and Young Women at High Risk of Acquiring HIV in a Rural Ugandan Setting

Nabawanuka J[1], Nabwana M[1], Matovu Kiweewa F[1]

[1]MU-JHU Research Collaboration, Mulago, Kampala, Uganda

**Background**: HIV incidence is declining in many settings, yet new infections remain high among adolescent girls and young women (AGYW). To curb rising infection rates, at the end of 2013, the Ugandan government through the test and treat policy under the treatment as prevention strategy recommended ART for all persons with HIV regardless of CD4 count. We assessed the uptake of the test and treat strategy among AGYW at high risk of acquiring HIV in the SIENA (eStimating hIv incidEnce amoNg Agyw) study conducted in rural Uganda.

**Methods**: SIENA was a cross sectional survey evaluating HIV incidence rates among AGYW at two sites in Mityana/ Mubende and Hoima using HIV recency tests. A cross-section of AGYW were recruited from HIV testing facilities and areas of commercial sex activities including lodges, bars, restaurants, landing sites and goldmines between June and October 2021. HIV risk was assessed using interviewer administered questionnaires on sexual behavioral characteristics. AGYW testing positive for HIV were referred for care to a health facility of their choice with close physical follow-up done by the study team to ensure they are initiated on ART. We describe linkage to care among AGYW diagnosed with HIV at the Mityana/Mubende site.

**Results**: Of the 144 participants who were diagnosed with HIV, 135 (93.7%) accepted and 9 (6.25%) declined to be referred to an HIV treatment facility. ART uptake under the test and treat approach among those who accepted referral was 87(64.4%). Reasons for not enrolling into care among the remaining 48 (35.6%) AGYW included; failing to accept that they had HIV (n=19, 39.5%), unwillingness to take the daily pill (n=11, 22.9%), migrating out of the area soon after receiving positive results (n=8,16.6%) and could not be traced on phone (n=10, 20.8%). Alarmingly, among the AGYW who initiated ART, only 28.7% (n=25) went back for a second refill.

**Conclusions**: While the test and treat policy is a great strategy, policy makers need to re-evaluate the preparedness of AGYW newly diagnosed with HIV to immediately engage in life long HIV treatment. Targeted patient centered interventions are urgently needed to link and retain AGYW with HIV in care.

148

# Predictors of HIV Testing and Status Disclosure among Young Adolescents in Post-Conflict Settings: Findings from a Pre-Post Study Design in Nimule Peri-Urban Town of South Sudan

Bojo S[1]

[1]Strathmore University, Nairobi, South Sudan

**Objective**: To assess HIV testing and status disclosure rates and explore their associated predictors among young adolescents (10-17 years) who received health education through the Orphans and Vulnerable Children (OVC) program in Nimule, South Sudan.

**Design**: A pre-post evaluation study with data collected at baseline (December 2020) and at the end line (December 2022).

**Setting**: The study was conducted in Nimule, a densely populated peri-urban town characterised by high HIV prevalence and substantial cross-border movement between Uganda and South Sudan, making it a relevant setting for an HIV prevention project.

**Intervention**: The primary intervention was HIV risk education delivered through forty peer-led health clubs. Adolescents were screened for HIV risk factors and referred for HIV and other sexually transmitted infection testing at health facilities.

**Participants**: The study included young adolescents aged 10-17 years recruited from HIV-affected households within seventeen neighbourhoods in Nimule peri-urban town. Informed consent was obtained from both carers and adolescents.

**Primary and Secondary Outcome Measures**: The primary outcome was self-reported HIV testing and status disclosure. Binary logistic regression was used to assess the association between the study outcome variables and associated sociodemographic factors.

**Results**: A total of 557 (73.0%) of the 768 enrolled adolescents were surveyed at baseline and endline, including 301 (54.0%) females and 276 (46.0%) males. The median age was 14 years (IQR: 11-16) at baseline and 15 years (IQR: 12-17) at endline. HIV testing increased from 315 (56.7%) at baseline to 557 (100%) at endline. The odds of undisclosed HIV status were 49% lower at endline, aOR 0.51 (95% CI 0.92, 0.67; p<0.001). Status disclosure was nearly universal, with 557 (100%) at baseline and 556 (99.8%) at endline. Male adolescents aOR 0.77 (95% CI: 0.59, 0.99; p<0.04) and those cared for by their siblings or other relatives were less likely to know their HIV status (aOR 0.59; 95% CI: 0.41, 0.84; p<0.003).

**Conclusions**: Gender (male) adolescents and type of carer (non-parents) were strongly associated with lower HIV testing and status disclosure. These findings underscore the importance of targeting efforts towards this category of vulnerable adolescents with approaches that identify their specific vulnerabilities and design a differentiated service delivery model of prevention packages.

149

# Possible Reasons Behind HIV Vertical Transmission: Use of Clinical Mentorship to Inform the PMTCT Program in Rwanda

Marie Madeleine U[1]

[1]Rwanda Biomedical Center, Kigali, Rwanda

**Introduction**: Globally, an estimated 1.3 million women and girls living with HIV become pregnant each year. In the absence of intervention, transmission of mothers living with HIV rate ranges from 15% to 45%. Since 2012, Rwanda has been implementing a lifelong treatment for all pregnant women living with HIV and exclusive breastfeeding for up to six months with protection of ART. Clinical mentorship plays a crucial role in enhancing the effectiveness of Prevention of Mother-to-Child Transmission (PMTCT) programs.

**Description**: Nurse Clinical mentors from all hospitals were invited for an orientation meeting, where guidance and required tools and materials were provided. Each team was generally appointed to reach at least 5 health facilities per week. RBC staff provided supportive supervision. Clinical mentors had the responsibility to provide all necessary PMTCT information to Health Care Providers(HCPs) and collect data about possible reasons behind HIV acquisition for all children living with HIV (CLHIV) below 15 years at the Health facility.

**Lesson Learnt**: In total 174 health facilities have been visited in five days and 929 CLHIV identified as being on ART and the following were noted: 33.5% (311) of mothers had never attended a PMTCT program, 30.2% (281) of mothers seroconverted during the breastfeeding period, 18% (167) of mothers were non-adherent to ART, 9.8% (91) attended antenatal care (ANC) late, and 8.5% (79) were lost to follow-up during the PMTCT period.
High number of HIV-infected children were born to mothers who did not attend PMTCT and mothers seroconverted during the breastfeeding period. Clinical mentorship was a good way for onsite refresher training of HCPs and identification of possible reasons for HIV transmission in children.

**Recommendations**: It's crucial to focus on improving PMTCT services through community-based awareness campaigns about the importance of ANC visits and the benefits of early HIV testing and treatment. Healthcare workers who receive regular mentorship feel more competent and confident in providing PMTCT services.

150

# From Data to Action: Addressing Disparities in Early Infant Diagnosis and Maternal Retesting in Nigeria

Aliyu Magaji R[1], Egwu J[1], Ajisegiri T[2]

[1]National Agency For The Control Of Aids, Fct Abuja, Nigeria,
[2]Federal Ministry of Health, FCT Abuja, Nigeria

**Background**: Mother-to-child transmission of HIV remains a significant challenge in Nigeria, with an estimated 14.4% transmission rate at six weeks and 23.4% after cessation of breastfeeding. Timely maternal HIV retesting and early infant diagnosis (EID) are essential to closing the vertical transmission gap.

**Material and Methods**: Data were extracted from Nigeria's 2023 HIV Health Sector Report. National-level indicators analyzed included HIV testing uptake at antenatal care (ANC), maternal retesting and seroconversion rates, facility-based delivery among women living with HIV, provision of ARV prophylaxis to infants, and EID coverage and positivity.

**Results**: Out of 2.8 million pregnant women tested for HIV in 2023, only 0.8% underwent retesting after an initial negative result. Of these, 634 women seroconverted, representing a 2.9% positivity rate. Among 15,145 deliveries by women living with HIV, 90% of infants received ARV prophylaxis within 72 hours. Additionally, 15,796 infants received DNA PCR testing at two months, with a 3% positivity rate. A 47% increase in EID testing was observed compared to 2022, attributed to national EID optimization efforts using point-of-care platforms.

**Conclusions**: The 2023 data underscore the urgent need to institutionalize routine maternal HIV retesting and ensure timely EID for all HIV-exposed infants. The documented seroconversion rate among previously negative pregnant women reinforces the importance of WHO-recommended retesting protocols. Addressing these gaps through improved ANC testing policies, community outreach, and follow-up mechanisms will be critical to reducing vertical transmission and improving outcomes for infants and mothers.

151

# Influence of Community-Based Oral 'PrEP' Refill Model on Adherence and Retention among Adolescents in Homabay County Kenya

Oyare S[1], Odero J[1]

[1]Ministry of health, MBITA, Kenya

**Background**: HIV incidence rate in Kenya among adolescents is four times higher than the other age groups. HIV oral PrEP has proved to have significant efficacy and efficiency in reducing new HIV infections. However, stigma remains a barrier to access PrEP among adolescents, hence suboptimal uptake, adherence and retention. We examined the role of community PrEP refill model in improving adherence and retention among adolescents in Tom Mboya hospital in Homa-Bay County, Kenya.

**Methodology**: Adolescents with potential risk of HIV infection were referred to the health facilities for PrEP initiation. Community PrEP refill model was created by grouping between 4-6 adolescents on PrEP from the same geographical area and community PrEP refill sites established. The groups subsequent follow ups done at the community refill sites 90 days post initiation for follow-up HIV testing, 90 days refill and literacy sessions through the PrEP champions. With Interventions aiming to improve adherence and retention.

**Results**: Pre and post intervention evaluation on PrEP by analysing data on adolescents initiated, continuity and adherence. At baseline 125 were initiated on PrEP across all ages of which 17(13.6%) were adolescent (15-24 years), 55(44%) remained active, while 6(35%) were adolescents. After interventions, 157 were initiated on PrEP, 72(45.8%) were adolescents depicting 32% increased access to PrEP. 64 of the 72(88.9%) adolescents were active with good adherence, marking 42% increased retention. 52 of 64(81.2%) were on 90 days drug refill while 18% are still having treatment concerns, no adolescent has seroconverted.

**Conclusion**: Community PrEP refill model improved adherence, retention and enabled referrals that improved PrEP uptake among adolescent. The support groups improved knowledge on PrEP reducing myths and misconceptions within the community. As the Kenya ART guidelines 2022 addresses ART community model, this can also be upscaled to HIV negative persons on PrEP.

152

# Implementing a Peer Navigator Program for Street-Connected Youth in Kenya and Canada to Increase Access to HIV Prevention and Treatment

Kiptui R[1], Apedaile D[2], Nyambura M[1], Apondi E[1]

*[1]Ampath, Eldoret , Kenya, [2]Dalla Lana school of public health, University of Toronto , Toronto , Canada*

Street-connected and homeless youth (SCY) face significant barriers in accessing HIV prevention and treatment services. We implemented a peer navigator program for SCY aged 16-29 in Kenya and Canada from March 2021 to August 2024. Individuals with lived experience of homelessness and some living with HIV were hired as peer navigators (PN) at diverse sites: an adolescent medicine clinic (Eldoret, Kenya), comprehensive care clinics (Huruma and Kitale, Kenya), a public health unit (London, Canada), and a 2SLGBTQ+ youth transitional housing program (Toronto, Canada).

The PN program was evaluated using surveys completed by SCY participants at all encounters with PNs. In Kenya, 343 SCY were recruited in Eldoret (50% cisgender women, median age 22, 14% living with HIV), 110 in Huruma (57% cisgender women, median age 23, 12% living with HIV), and 178 in Kitale (15% cisgender women, median age 19, 4% living with HIV). In Canada, 38 SCY were recruited in London and 11 in Toronto. Across both sites, the median age was 23, 14% were living with HIV, and 65% were cisgender women, with participants also reporting diverse sexual orientations (e.g., bisexual, pansexual) and gender identities (transgender and gender diverse).

The PNs successfully linked SCY with HIV testing: the proportion of SCY knowing their HIV increased from 72% to 100% in Eldoret, 83% to 98% in Huruma, 30% to 78% in Kitale, and 76% to 82% in Canada. Among HIV-negative SCY, only 8 in Kenya and 1 in Canada reported PrEP use over follow-up. Among SCY living with HIV, 81% in Kenya and 71% in Canada reported an undetectable viral load while in the program. The PNs were effective at linking SCY with HIV testing services. Supports beyond improved access to healthcare are needed to improve PrEP uptake and viral suppression, such as housing, employment, and mental health services.

153

# The Role of Men in the Disproportionate Burden of HIV among Adolescent Girls in Mulago, a Suburb in Kampala, Uganda: A Male Perspective

Nagawa E[1], Wagaba D, Nuwasiima S

[1]Clinical Epidemiology unit, Makerere University, Kampala, Uganda

**Introduction**: In 2024, the Uganda AIDS Commission reported that 80% of new HIV infections among young people occurred among adolescent girls. This disproportionate burden is driven by a range of structural and socio-cultural factors that disproportionately increase girls' vulnerability. While men are frequently positioned as key contributors to the epidemic, due in part to structural and cultural factors that reinforce male dominance. Their perspectives on HIV among adolescents as a burden, their role in driving the epidemic or their ability in reducing the burden are scarcely available. This study explored male perceptions of HIV risk among adolescent girls, focusing on how men understood their role in exacerbating this risk and their perceived capacity to contribute to its reduction.

**Methods**: We conducted an exploratory, descriptive qualitative study based on the Social Cognitive Theory (SCT) among male participants aged 18 years and above, in three randomly selected villages in Mulago. Using maximum variation, purposive sampling and with guidance from a village leader, participants were selected based on their knowledge of or engagement with adolescent girls. Data were collected through in-depth interviews using a pre-tested interview guide, continuing until data saturation. Transcripts were analyzed using inductive thematic analysis in the open code software.

**Results**: A total of 20 in-depth interviews were held. The majority of participants were aged 25-29 years and were self-employed. Four major themes emerged regarding the perceived role of men in the disproportionate HIV risk among adolescent girls: “Misconceptions” included beliefs that HIV risk is low among adolescents or that girls primarily acquire HIV through vertical transmission. “Desire for material luxuries” included girls’ pursuit of items such as dresses, smartphones, and car rides. “Neglect of responsibility” highlighted the perceived failure of fathers in parenting roles and the declining emphasis on public health strategies like the ABC (Abstinence, Be faithful, Condom use) approach. Finally, “perceived helplessness” among men reflected sentiments of limited power or responsibility among men in addressing the high HIV risk among adolescents, reliance on government interventions, and a focus on self-protection if HIV negative.

**Conclusion**: Men’s exploitation of adolescent girls’ desire for material luxuries contributes to an increased HIV risk, while perceiving themselves as powerless to address the issue. These findings underscore the need for targeted interventions that engage men in HIV prevention and challenge misconceptions about their role in the high HIV incidence among adolescents.

154

# Responsive Caregiving in HIV-Exposed and Unexposed Children: Preliminary Data from a Modified HOME-21 Assessment in South Africa

van Wyhe K[1], van Huyssteen H[1], Fanqa B[1], Lindani F[1], Hamana T[1], Cupido H[1], Genu S[1], Laughton B[1]

[1]*Family Centre for Research with Ubuntu, Stellenbosch University, Cape Town, South Africa*

**Background**: Early caregiving quality, especially responsive caregiving, plays a crucial role in shaping children's developmental outcomes [1–3]. Children who were perinatally exposed (CHE) to both HIV and antiretroviral therapy (ART) may face unique challenges due to maternal health factors, socioeconomic stressors, and reduced stimulation opportunities [4–6].

**Objective**: We explored caregiving quality by comparing children perinatally exposed to HIV and ART with children unexposed and living without HIV (CHU) using a modified Home Observation for Measurement of the Environment -21 (HOME-21) tool [10–12], assessing household stimulation (interview) and observed responsive caregiving (play session).

**Methods**: We assessed 52 caregiver–child pairs (mean child age of 6 years), including 33 children with perinatal HIV exposure (CHE) and 19 HIV-unexposed children (CHU). All children were living without HIV. The modified HOME21 tool comprised two components:
1.Caregiver Interview (21 items): This measured cognitive stimulation, emotional support, and household structure through dichotomous scoring (0/1), generating a total interview subscore (range: 0–21).
2.Observation (8 items): A 10-minute caregiver–child playroom interaction was video recorded and scored for responsive caregiving behaviours, including verbal responsiveness, emotional warmth, engagement encouragement, and behavioural regulation (range: 0–8).
A combined HOME-21 score (range: 0–29) was calculated by summing the two subscores. Shapiro–Wilk tests were used to assess normality. A Mann–Whitney U test was used for the non-normally distributed total score, and independent-samples ttests were applied to the normally distributed subscale scores. Effect sizes (Cohen's d) and 95% confidence intervals (CI) were calculated.

**Results**: The child participants were predominantly male (CHE: 58%; CHU: 53%), and most primary caregivers were mothers (CHE: 88%; CHU: 95%). Caregivers in the CHE group were older (M = 40.0 years, SD = 9.2) than those in the CHU group (M = 34.7, SD = 5.7). Educational attainment differed between groups, with only 36% of CHE caregivers completing 12 years of education versus 79% in the CHU group. Household income below R5,000/month (245 $US) was more common among CHE families (76%) than CHU families (42%). The HOME-21 total score was slightly higher for CHE caregivers (M = 15.8, SD = 4.5) than for CHU caregivers (M = 15.2, SD = 4.4), but the difference was not statistically significant (z = 0.172, p = 0.869; Cohen's d = 0.135, 95% CI [–0.431, 0.699]). Interview subscores were higher in the CHE group (M = 10.97, SD = 3.85) compared to CHU (M = 10.28, SD = 3.25), t(49) = 0.65, p = 0.521, with a small effect size (d = 0.189, 95% CI [– 0.387, 0.764]). Observation subscores were marginally higher among CHU caregivers (M = 5.47, SD = 1.61) than CHE (M = 5.00, SD = 1.68), t(49) = – 0.99, p = 0.329, with a small negative effect (d = –0.286, 95% CI [–0.855, 0.286]). At the observation item level, 92% of caregivers vocalized or conversed with their child at least twice, and 82% encouraged engagement with playroom materials. However, 90% did not show physical affection, and 73% did not praise their child during the observation. Only 53% introduced the child by name to the assessor. These patterns were similar across study groups, though praising behaviour appeared slightly more frequent among CHU caregivers.

**Conclusion**: Caregiving quality was broadly similar between HIV- and ART-exposed and unexposed groups. While scores were not significantly different, CHE caregivers reported slightly higher home-based stimulation, and CHU caregivers showed marginally more responsive behaviours during play. Despite these differences being small and not statistically significant, they may reflect distinct caregiving strengths: CHE caregivers may be more structured and intentional, possibly due to health system engagement or compensatory caregiving strategies [6,13]. CHU caregivers may demonstrate more behavioural warmth during unstructured play [9]. Low levels of affection and praise across both groups highlight a critical need for caregiver support focused on emotional

connection and positive reinforcement [2,14]. The modified HOME-21 proved to be a feasible and culturally appropriate tool for assessing caregiving in low-resource, high-adversity settings [10–12]. Ongoing research will examine how these patterns relate to children's developmental trajectories.

155

# Enhancing Comprehensive Care and Support for Paediatrics and Adolescents Living with HIV Through Primary Healthcare Integration and Community-Based Strategies

Oluoch W[1], okal c[1], Mbugua M[2]

[1]Ministry Of Health, Homabay, Kenya, [2]Paediatrics Adolescents Treatment Africa, Nairobi, Kenya

**Background**: Primary healthcare (PHC) integrates HIV services into routine care, ensuring equitable access to prevention, treatment, and psychosocial support while reducing stigma and improving outcomes. Community-based strategies complement PHC by extending care into the community through trained Community Health Assistants (CHAs) and Promoters (CHPs). These teams engage households, provide HIV adherence education, facilitate psychosocial support, and strengthen community-facility linkages. At Nyagoro Health Centre in Homabay County, where viral suppression among adolescents on ART was 68% in 2018, a scorecard conducted in August 2022 among AYP (Adolescent and young persons) aged 10-24years supported by PATA identified barriers like inadequate HIV literacy and disclosure challenges. Community health strategies addressed these gaps, improving care and retention for PALHIV (Paediatrics and Adolescents living with HIV).

**Objectives**: To improve viral suppression to treatment from 68% to 95% among PALHIV through community-based interventions by December 2024.

**Methodology**: Following the facility AYP scorecard, 2 Community Health Assistants (CHAs) and 10 Community Health Promoters (CHPs) were trained to engage adolescents as mentors, providing accurate information and support regarding HIV adherence issues. Each CHP engaged 10 households visiting them once a month linking them to formal health facilities. They used mobile phone registers and face to face interactions, distributing IEC materials and sensitizing them on HIV literacy, adherence information and Daily witnessed Ingestion (DWI) for those failing treatment among others. They also spearheaded engagements with community owned resource persons to raise awareness about the importance HIV adherence and retention of PALHIV.

**Results**: Following community-based interventions in 2018 90 PALHIV, 32% with high viral loads, 10 attached to peers. In 2021, 90 PALHIV, 20% with high viral loads, 15 attached to peers. In 2022, 85% suppression, 86 PALHIV, 15% with high viral loads, 18 attached to peers. In 2023, 88% suppression, 90 PALHIV, 12% with high viral loads, 20 attached to peers. In 2024, 90% suppression, 89 PALHIV, 10% with high viral loads, 25 attached to peers. The project enhanced viral suppression and peer support, reducing high viral loads among adolescents that were affordable.

**Conclusion**: Primary Health Care and Community health strategies are affordable, sustainable, and effective means of addressing adherence challenges among Paediatrics, adolescents and young people.

156

# Risk of Virologic Failure Increases with Failure on Initial Viral Load and with Increased Levels of Past Viremia in Children and Adolescents Living with HIV in Tanzania

McKenzie K[1,2,3], Komba L[2], Ketang'enyi E[4], Kipiki N[4], Mgeyi E[4], Mwita L[4], Nguyen D[3]

*[1]Texas Children's Global Health Network, Houston, United States, [2]Baylor College of Medicine Children's Foundation - Tanzania, Mbeya, Tanzania, [3]Baylor College of Medicine, Department of Pediatrics, Houston, United States, [4]Baylor College of Medicine Children's Foundation - Tanzania, Mwanza, Tanzania*

**Background**: Evidence shows that a history of virologic failure (VF) predicts current failure in children and adolescents living with HIV (CALHIV). However, there is limited evidence on how higher viral load (VL) levels influence the risk of current VF.

**Methods**: A retrospective chart review was performed on data collected from October 2004 to December 2022 from the Baylor College of Medicine Children's Foundation – Tanzania sites in Mbeya and Mwanza. CALHIV (aged 0-19 years) on antiretroviral therapy (ART) for ≥6 months, with ≥2 total viral loads (VL), were included. Multivariable logistic regression modeling was performed to evaluate the association between viremia and VF; odds ratios (OR) with 95% confidence intervals (CI) are presented.

**Results**: A total of 2825 CALHIV were included in the analysis (median age 13.1; 52.5% female). ART initiation occurred at a median age of 4.1 years (interquartile range [IQR] 1.5, 7.9) with a median time on ART of 6.8 years (IQR 3.6, 9.3). Compared to participants who had remained with VL<50 copies/mL, there were increased odds of current VF in those with low-level viremia (OR 2.07 [1.26, 3.38]; p=0.004), VL 1,000-9,999 (OR 2.89 [1.68, 4.98]; p<0.001), VL 10,000-99,999 (OR 4.23 [2.58, 6.93]; p<0.001), and VL≥100,000 (OR 5.89 [3.58, 9.69]; p<0.001). In terms of log values, this risk of VF increased with each log increase of VL (OR 1.17 [1.12, 1.22]; p<0.001). When looking at first VL on record after initiation of ART, the risk of current VF increased with LLV of 400-999 copies/mL (OR 2.34 [1.28, 4.29]; p=0.01) and VL≥1000 copies/mL (OR 2.91 [2.08, 4.07]; p<0.001).

**Conclusions**: All levels of viremia over 50 copies/mL confer higher odds of having future VF with higher levels of viremia associated with higher odds of VF. Moreover, increased viremia at initial VL is also linked to current VF.

157

# Assessing the Effectiveness of Cabotegravir Injection Pre-exposure Prophylaxis Method for HIV Prevention in Livingstone, Zambia: A Retrospective Cohort Study

Mukumbuta J[1], Mwale J[1], Sakuhuka P[2], Hamwaaba G[1], Muyenga T[5], Muyenga M[2], Mwape E[2], Chilangisha C[1], Watala K[3], Chiyenu K[1], Sakala M[3], Chewe W[4], Kayembe M[4], Mpoyi E[4], Hamooya B[5]

*[1]Ministry Of Health-livingstone University Teaching Hospital, Livingstone, Zambia, [2]Ministry of Health-Livingstone District Health office, Livingstone, Zambia, [3]Ministry of Health-Southern Province Health Office, Choma, Zambia, [4]AIDS HEALTHCARE FOUNDATION, Lusaka, Zambia, [5]Mulunguishi University, Livingstone, Zambia*

**Background**: Despite the advances in treatment and prevention strategies, HIV remains a global public health concern, especially in Sub-Saharan Africa where the rate of HIV acquisition is unacceptably high. The introduction of long-acting Cabotegravir (CAB-LA) injections marks a significant advancement in HIV prevention. However, limited data in Zambia exist on its effectiveness as well as other resource-constrained settings. The study aimed to assess the effectiveness of the Cabotegravir injection as a pre-exposure prophylaxis (PrEP) method for HIV prevention in Livingstone District, Zambia.

**Methods**: We conducted a retrospective cohort study among individuals aged between 16 years and 69 years who received CAB-LA injections from three implementing health facilities in Livingstone district from July 2024 to January 2025.HIV Seroconversion rates, incidence of syphilis, side effects, adverse reactions and demographic information were collected from the medical records. Descriptive statistics were used to analyze the data STATA version 15.

**Result**: A total of 224 recipients of care were recruited in the study, of whom 120 (53.57% were females and 104 (46.43%) males. The median age and follow-up period were 32 years (interquartile range (IQR) 26, 41) and 1 month (IQR 0, 3) respectively. The majority of the participants had secondary education (n=164 (73.21%) and belonged to the general population (GP) (n=177 (79.02%). Adolescent Boys and Young Men (ABYM) were only five (5). 102 (45.54%) of the participants were married, 10 (4.46%) were divorced, and 102 (45.54%) were unemployed. During the follow-up, all maintained an HIV-negative status on all the recorded visits. In the case of syphilis, month 0 (visit 1 or baseline), only 2/224 recipients of care had syphilis, with a steady increase in month 1 (visit 2) 25/224 cases were recorded. Furthermore, at month 3 (visit 3), 11/149 were recorded, and at month 5 (visit 4), 4/56 cases were recorded. The general population had the highest incidence of syphilis with 19 recipients of care testing positive by month 1, followed by the Adolescent Girls and Young Women (AGYW), where four (4) tested positive by month 1. Side effects were seen in 11/224 participants, and all were from the general population, with the site of injection being noted as the most common complaint. Of the 11 recorded side effects, 8 of them were recorded in month 1, 3 in month 3, and no side effects were recorded in month 5.

**Conclusion**: CAB-LA proved effective in reducing the risk of HIV infection, with mild side effects, the most common being injection site reactions among our study participants. The study observed an increase in syphilis infections, highlighting the need to strengthen comprehensive HIV prevention strategies, including condom use and the introduction of Sexually Transmitted Infection (STI) prophylaxis for individuals receiving CAB-LA injections as well as continued sensitizations to adolescents and other HIV high risk populations. Furthermore, active and passive Pharmacovigilance is key in the scale-up of CAB-LA. There is a need for prospective longitudinal studies with a longer follow-up period to understand the implementation of CAB-LA in low- and middle-income countries.

158

# Acceptability, Appropriateness, and Preferences of HIV Self-Testing among Adolescent Girls and Young Women in Rural Northern Uganda: A Cross-Sectional Study

Ronald O[1], Okello M[2], Freddy E. K[3], Philippa M[4], Elvin H. G[5]

*[1]Faculty of Medicine, Gulu University, Gulu, Uganda, [2]School of Public Health, Makerere University, Kampala, Uganda, [3]Department of Pharmacy, Makerere University, Kampala, Uganda, [4]MU-JHU Care Limited, Kampala, Uganda, [5]Washington University in St Louis, Missouri, USA*

**Background**: Adolescent girls and young women (AGYW) in Uganda bear a significant HIV burden, accounting for 25% of new infections. Despite improved HIV testing services, AGYW in rural areas face barriers to facility-based testing due to stigma, physical access barriers, and confidentiality concerns. This study assessed the acceptability, appropriateness, feasibility and preferences of HIVST among AGYW in Northern Uganda.

**Methods**: This cross-sectional study was part of a baseline assessment for a quasi-experimental trial evaluating community-led HIVST among AGYW aged 15–24 years in 5 sub-counties in Omoro District. Data were collected using systematic random sampling of households, with trained research assistants administering structured questionnaires on tablets. The survey captured demographic characteristics, sexual history, HIV knowledge, prior testing practices, and attitudes toward HIVST. Factors influencing willingness to use HIVST were analyzed using simple logistic regression in Stata 18.0.

**Results**: Among 415 AGYW (median age 19 years, IQR 17–22), 23.1% had at least secondary education, 41.4% were married or cohabiting, and 16.9% had been in more than one marriage or union. Sexual activity was reported by 74.2%, with a median age at first intercourse of 16 years (IQR 15–18); 12.7% had multiple partners in the past year. Although 75.6% had been tested for HIV, only 28.0% had heard of HIVST, and 17.5% of these had used it. More than two-thirds of the participants found HIVST acceptable, appropriate, and feasible. Willingness to use HIVST was high (93.0%), with preferences for blood-based (53.3%) and oral fluid-based tests (46.3%). Willingness to use HIVST was associated with older age (COR 1.19, 95% CI 1.03–1.37, p=0.017), ever had sexual intercourse (COR 2.67, 95% CI 1.25–5.71, p=0.011), and prior HIV testing (COR 2.32, 95% CI 1.07–5.04, p=0.033). Preferred access points included government health facilities (64.8%), community hotspots (57.8%), friends (33.3%), and CHWs (21.9%). Over half (61.0%) desired additional support when testing, mainly from health workers (69.6%) and friends (26.1%). Anticipated challenges included result interpretation (57.1%), insufficient usage information (53.7%), and performing the test correctly (52.3%).

**Conclusion**: Our findings indicate high acceptability of HIVST among AGYW in rural northern Uganda, influenced by age, sexual activity, and prior HIV testing experience. Targeted implementation strategies addressing knowledge gaps, providing beneficiary support, and leveraging existing community structures could further optimize HIVST uptake. Research on optimal models of HIVST will be critical to reaching underserved AGYW, reducing undiagnosed HIV infections, and strengthening HIV prevention and care outcomes in this key population.

159

# Adolescent and Young Adults' Experiences with an In-Person Peer Navigation Intervention for HIV Care Engagement in Western Kenya

Ontuga G[1], ADHIAMBO H[1], Kulzer J[2], Mangale D[3], Bukusi E[4], Geng E[5], Abuogi L[6], Kwena Z[1]

*[1]Kemri, KISUMU, Kenya, [2]University of California San Francisco, San Francisco, CA, USA, Department of Obstetrics, Gynecology and Reproductive Sciences, San Francisco, CA, USA, United States, [3]Washington University in St. Louis, St Louis, Division of Oncology, Department of Medicine, St Louis, Missouri, USA., United States,, St Louis, Missouri, USA, United States,, [4]Kenya Medical Research Institute, Kisumu, Kenya, Research Care Training Program-Centre for Microbiology Research, NAIROBI, Kenya,, NAIROBI, Kenya,, Kenya,, [5]Washington University in St. Louis, Department of Medicine, St. Louis, Missouri, USA, St. Louis, Missouri,, USA, [6]University of Colorado, Denver, Division of Pediatrics, Denver, Colorado, USA, United States, Denver, USA,*

**Background**: Adolescents and young adults living with HIV (AYAH)face the lowest rates of viral suppression and retention in care In-person peer navigation (IP-NAV) incorporates the unique needs of AYAH and may help address these challenges and This study explored the experiences of IP-NAV among AYAH.

**Methods**: This convergent mixed method analysis was nested in the A4A trial in Kisumu, Kenya. A total of 84 A4A study participants received IP-NAV after experiencing at least one missed visit > 14 days or high viral load > 200 copies/ml. A purposive sample of 20 AYAH who received IP-NAV for > 6 months were selected for in-depth qualitative interviews conducted between June and July 2023. Interviews explored participants' experiences, perceptions, challenges, and the role of peer navigation. Additionally, surveys to assess satisfaction, communication, and peer navigation interaction frequency were conducted. Qualitative data were analyzed thematically, and quantitative data were summarized using descriptive statistics. Findings were integrated through a side-by side comparison to elaborate trends observed and to provide a comprehensive understanding of participants experience.

**Results**: Participants with a median age 19 years and 60% female expressed positive experiences with IP-NAV intervention, citing increased HIV care knowledge and a strong supportive relationship with peer navigators, as key to treatment engagement. They valued peer navigators as adherence role models and appreciated counseling sessions for improving medication and appointment adherence. Survey data corroborated these findings, with (60%) reporting improved access to health information. Most participants valued frequent and in-depth communication with peer navigators, which fostered trust and confidentiality. Similarly, survey findings echoed this showing high satisfaction: 95% with ease of communication, while 65% with friendliness, and 63% with trustworthiness. All respondents (100%) reported the navigator "very helpful "for medication adherence while 58% felt helped with clinic appointments. Overall, 85% of participants reported being "very satisfied" with IP-NAV, and 91% expressed strong interest in continuing with peer navigation.

**Conclusions**: Peer navigation for AYAH with recent treatment engagement or virologic failure was well received and contributed to increased care knowledge while supporting medication and visit adherence. AYAH report the importance of fostering trust and building relationships for better health outcomes.

160

# Using Full Blood Count in Monitoring Immune Status and Identifying Hematological Anomalies in Adolescents Living with HIV on TLD in Cameroon: Evidence from the CIPHER-ADOLA Study

Forgwei L[1], Ka'e A[1], Yagai B[2], Gnambi A[1], Fainguem N[1], Gouissi D[1], Nka A[1], Kamgaing R[1], Tetang S[3], Beloumou G[1], Sonia T[1], Moko L[1], Tchouaket M[1], Ngoufack E[1], Wiadamong A[7], Takou D[1], Colizzi V[4], Perno C[5], Sosso S[1], Fokam J[6]

*[1]Chantal Biya International Reference Centre for Research on HIV/AIDS Prevention and Management (CIRCB), Yaounde, Cameroon, [2]UniCamillus - Saint Camillus International University of Health Sciences, Rome, Italy, Rome, Italy, [3]Essos Hospital Centre, Yaounde, Cameroon, [4]University of Bandjoun, Bandjoun, Cameroon, [5]Bambino Gesu Pediatric Hospital, Rome, Italy, [6]Central Technical Group, National AIDS Control Committee, Yaounde, Cameroon, [7]Central African Protestant University, Yaounde, Cameroon*

**Background**: Monitoring the immunological and hematological profiles of adolescents living with HIV (ALHIV) is critical in resource-limited settings but remains a challenge. This difficulty restricts the prevention of opportunistic pathologies, as virologic failure might persist especially in this young population despite the use of dolutegravir (DTG)-based regimens. In Cameroon, CD4 count monitoring faces accessibility challenges, while Full Blood Count (FBC) is more routinely available. This study explores the relationship between immune status and hematological profiles in ALHIV on Tenofovir-Lamivudine-Dolutegravir (TLD) regimens.

**Methods**: We conducted a cross-sectional, multicenter study among 252 ALHIV aged 10-19 years on a TLD regimen in urban and semi-urban health centers in Cameroon. Data was collected through medical records and questionnaires. Blood samples were analyzed for FBC and CD4 counts [cells/mm3]. Spearman correlation analysis assessed relationships between hematological and immunological parameters. Statistical significance was set at $p < 0.05$.

**Results**: Among 252 adolescents (50.2% male), the median age was 15 years [IQR: 13-18]. Median levels of total white blood cells (TBC), total lymphocytes (TLT), hemoglobin (Hb), and platelets (TP) were 5.77x10³/mm³ [4.9-6.7], 2504/mm³ [2077-3071], 12.2 g/dl [11.3-13.1], and 254x10³/mm³ [204-300], respectively. Immunodeficiency (CD4 < 500 cells/mm³) was observed in 28.2%, predominantly in older adolescents ($p = 0.012$) and those with poor ART adherence ($p = 0.007$). Hematologic anomalies included anemia (40.5%), leukopenia (8.3%), lymphopenia (7.1%), and thrombocytopenia (6.7%), all significantly associated with immunodeficency ($p < 0.05$). Notably, CD4 count positively correlated with TLT ($r = 0.52$, $p < 0.001$) and Hb levels ($r = 0.48$, $p < 0.01$).

**Conclusion**: FBC presents a viable alternative for monitoring immune status in ALHIV, as it provides accessible and cost-effective insights into immune function. Significant correlations between hematological anomalies and immunodeficiency highlight its utility for identifying patients at risk, particularly in resource-limited settings where CD4 testing is inaccessible. Integrating hematological surveillance into routine HIV care can optimize outcomes for this vulnerable population.

161

# Enhancing Access to HIV Prevention Information and Services Through Peer-to-Peer Digital Dissemination in Peri-Urban Zimbabwe

Manyanga R[1], Murungu J[1], Mahaka I[1]

*[1]Pangaea Zimbabwe, , Zimbabwe, [2]ViiV Health Care, , United Kingdom, [3]Avert- BOOST, , United Kingdom*

**Background**: Although Zimbabwe achieved an impressive decline in the total new HIV infections (59% decrease since 2010), subpopulation groups such as adolescent girls and young women (AGYW) are lagging with the highest proportion of new HIV infections in AGYW at 24% and their male counterparts contributing 19% (UNAIDSDATA 2024, ZNASP IV 2021-2025). According to the 2024 Zimbabwe Demographic and Health Survey, knowledge about HIV prevention remains low among adolescents and young people. Only 44% of 15–19-year-olds and 57% of 20–24-year-olds have HIV prevention knowledge. To raise awareness, improve literacy, and uptake of HIV prevention services, PZ implemented the BOOST App, a digital job aide for peer educators and community health workers. The Boost App is a freely accessible, data-efficient, and fully offline functional App with content translated into local languages.

**Methods**: 18 Combination HIV Prevention (CHIP) Champions (AYP), were capacitated to provide peer-to-peer digital dissemination using the Boost App. The App was co-designed by community health workers across Southern Africa to deliver evidence-based information aligned with WHO guidelines. The CHIP Champions used this App to provide age-appropriate Ministry of Health and ChildCare (MOHCC)-endorsed screening and referrals for HIV testing, STI symptoms, and mental health. Screening was done in hot spot areas during outreaches and in their communities. App-based visually appealing modules on sex and relationships, HIV, and mental health were used during literacy sessions and quizzes facilitated interactive and engaging learning during economic strengthening practical demonstrations.

**Results**: Since introducing the Boost App in December 2024, 321 adolescents and young people (AYP) were reached through group literacy sessions and 1024 were screened in one-on-one sessions during outreaches with correct and accurate HIV prevention information. Consequently, the number of clients initiated on PrEP has increased threefold from 23 in December 2024 to 63 in March 2025. The Champions have reported a confidence boost in relating with peers due to easy access to up-to-date, interactive, and engaging HIV prevention information. There has been a better reception of information by peers due to the training materials used. Peers are now more likely to act on the shared screening results and visit the given referral clinics.

**Conclusion and Recommendations**: Peer-to-peer digital dissemination of HIV prevention information could increase access to HIV prevention information and improve service uptake. It also potentially improves the effectiveness of peer educators.

162

# Predictors of Viral Load Unsuppression among Adolescent Patients on Antiretroviral Therapy in North-Central and South-West Nigeria

Akueshi C[1], Ibiloye O, Abolarin O, Alade A, Olaifa O, Isujeh O, Isah A, Oladipo T, Oyelayo B, Inya S, Omole T, Jwanle P, Onwualtuelo I, Samuels J, Okonwko P

[1]Apin Public Health Initiatives, Fct, Nigeria

**Background**: Scale-up of antiretroviral therapy (ART) will prevent transmission of HIV in the community by improving viral load suppression and the well-being of people living with HIV. Despite the availability of effective antiretrovirals (ARV) and multiple studies about predictors of viral suppression, virologic unsuppression remains a challenge among adolescents living with HIV (ALHIV) in Nigeria. This study aims to determine the prevalence rate and predictors of unsuppressed viral load among ALHIV receiving ART in Nigeria.

**Method**: This is a cross-sectional study of routinely collected data in 345 CDC-supported ART sites in Nigeria. These sites are located in five states of Nigeria (Three in the South-West and two in the North-Central). ALHIV, who initiated ART between October 2019 and December 2023, were included in the Study. Client-level data were extracted from the electronic medical record. Variables of interest were age, sex, ART duration, ART regimen, differentiated service delivery (DSD) model, WHO Clinical Stage, TB status, educational level, multi-month delivery (MMD), and viral load. A suppressed viral load was defined as less than 1000 copies per ml. Summary statistics and logistic regression were used to determine the prevalence rate and estimate the risk predictors of unsuppressed VL.

**Result**: A total of 26,943 ALHIV were enrolled on this study; 56.4% were female, 51.1% were aged 10–14 years, and the mean age was 14.6±2.9. Out of 13,718 (50.9%) ALHIV active on treatment as of December 2024, 96.7% (13,254) had at least one viral load test result. The prevalence of unsuppressed viral load was 14.5%. Having controlled for confounders, clients' enrolment in facility-based DSD model (OR=2.96, 95%CI:1.29 - 6.79)], multi-month dispensing of less than three months (OR=9.67, 95%CI: 2.46 - 7.92)], and using non-DTG based regimen (OR=3.18, 95%CI: 0.64-15.88)] were significantly associated with unsuppressed viral load.

**Conclusion**: These findings highlight the importance of optimising ART regimens and DSD models to improve viral suppression rates among ALHIV. Targeted interventions could significantly enhance treatment outcomes, such as scaling up MMD3-6 and promoting TDF-3TC-DTG regimens.

163

# Effect of Digital Adherence Tools on Adherence to Antiretroviral Treatment and Viral Load Suppression among Children Living with HIV in Tanzania

Swai I[1,2,4], Msosa T[2,3,4], Ngowi K[1], Maro R[1], F. Rinke de Wit T[4], Aarnoutse R[5], Sumari-de Boer M[1,4,6,7]

*[1]Kilimanjaro Clinical Research Institute, Kilimanjaro, Tanzania, United Republic of, [2]UMC, Amsterdam University Medical Centre, Location AMC, , Amsterdam, The Netherlands, [3]Helse Nord Tuberculosis Initiative, Kamuzu University of Health Sciences,, Blantyre, Malawi, [4]Amsterdam UMC, location University of Amsterdam, Department of Global Health, Amsterdam Institute for Global Health and Development, , Amsterdam, the Netherlands , [5]Radboud University Medical Centre, Department of Pharmacy, Pharmacology and Toxicology, Research Institute for Medical Innovation, , Nijmegen, the Netherlands , [6]Kilimanjaro Christian Medical Centre University, , Moshi, Tanzania, [7]Kilimanjaro Christian Medical Centre, , Moshi, Tanzania*

**Introduction**: Interventions that assist with antiretroviral treatment (ART) adherence are highly needed to help children living with HIV (CLHIV) achieve viral suppression and avoid HIV drug resistance. We investigated the effect of a Digital Adherence Tool (DAT) on improving adherence to ART among CLHIV in Kilimanjaro, Tanzania.

**Methods**: We conducted a pragmatic trial in which CLHIV were randomized to either the intervention (DAT) or control arm. Children in the intervention arm received daily reminder SMS, used the Wisepill device that monitored their medication intakes by recording each opening as intake, and received adherence feedback based on the device-generated report. We followed them for twelve months, in an interval of 2-3 months' visits. We collected self-reported and pharmacy refill adherence at each visit and viral load at baseline and study completion. We categorized viral suppression as viral load above or below 50 copies/mL. We performed a chi-square test to compare the difference in proportion of CLHIV achieving 95% adherence and viral suppression between the two arms. To estimate the adjusted risk ratio of viral suppression and to account for repeated adherence measurements within individuals over time, we conducted a quasi-Poisson model with robust standard errors analysis.

**Results**: We randomized 154 children: 78 in the intervention and 76 in the control arm. The proportion achieving 95% adherence was 62(84%) vs 64(90%) (P-value = 0.26) based on self-reported adherence and 54(70%) vs 50(68%) (P-value= 0.73) by pharmacy refill methods. Sixty-three (86%) children in the intervention achieved viral suppression, compared to 51(73%) in the control arm, p-value 0.0456. The adjusted analysis showed no significant difference in adherence and viral suppression between the arms. However, children with suppressed baseline viral load had 2.36 times higher chance of being suppressed at the end of the study than those with unsuppressed viral load at baseline (IRR=2.36; 95% CI: 1.73-3.31).

**Conclusion**: This trial showed a weak effect of DAT in improving viral suppression (our secondary outcome) but didn't show an effect on adherence (primary outcome). This could be due to a nondifferential misclassification error in measuring adherence in both arms. We recommend a trial powered on viral load and measuring viral suppression as the main outcome.

164

# Ensuring Quality in Early Infant Diagnosis of HIV through Local Proficiency Testing Panels Production for GeneXpert Point-of-Care Testing

Omo-Emmanuel U[1], Yakubu T[2], Usha T[1], Oyawola B[1], Anika O[3], Onwuzuruigbo U[4], Airiagbonbu B[5], Abbah F[3], Suleiman I[3], Ayodele G[6], Bulus D[7], Emmanuel O[8]

*[1]United States Agency for International Development, Abuja, Nigeria, Abuja, Nigeria, [2]DauLab BioGenomics, Kaduna, Nigeria, [3]Family Health International, Abuja, Nigeria, [4]Excellence Community Education Welfare Scheme (ECEWS), Uyo, Nigeria, [5]Heartland Alliance LTGE, Lagos, Nigeria, [6]Health Initiatives for Safety and Stability in Africa (HIFASS), Abuja, Nigeria, [7]Achieving Health Nigeria Initiative (AHNi), Maiduguri, Nigeria, [8]National AIDS, Sexually Transmitted Infections Control and Hepatitis Programme (NASCP), Abuja, Nigeria*

**Background**: Point-of-care testing (POCT) early infant diagnosis (EID) significantly reduces turnaround times from sample collection to caregiver result receipt and antiretroviral therapy initiation for HIV-exposed infants. To ensure accurate and reliable EID testing, sites are required by ISO15189 to participate in quality assurance. However, the high cost of procuring proficiency testing (PT) panels has been a barrier. To address this, USAID collaborated with FMOH to pilot local production and validation of GeneXpert EID PT panels (EPP). This study reports on the performances of sites using the locally produced EPPs between 2023 and 2024.

**Methods**: The EPPs consists of 7-blinded DBS specimens: four HIV-negative and three HIV-positive. Positive EPPs were prepared by spiking HIV-negative EDTA–anticoagulated packed cells with pooled HIV-positive plasma containing HIV-1 RNA (11,000, 5,500, and 2,200) copies/ml to whole blood. EPPs were labeled with coded identifiers prior to spotting with 100ul of HIV-negative whole blood or HIV-spiked whole blood to DBS cards in separate processing rooms and dried overnight at room temperature in a biosafety cabinet. Mini EPPs were prepared and tested on GeneXpert and Cobas 4800 platform to verify the characteristics of each. EPPs were packed in glassine paper, and stored in liquid-tight plastic sealable storage bags with desiccant sachets and humidity indicator card. Validation was carried out by testing 10 EPPs randomly selected from the beginning, middle and end of each batch produced prior to packaging and shipment

**Results**: Two cycles of EPPs were prepared and administered, Cycle 0123/June 2023 and Cycle 0124/March 2024. For Cycle 0123, 82 Laboratories were enrolled but 72 submitted results (87.8% participation), 34.7% (25/72) passed with a score of ≥90%. 65.3% (47/72) failed due to wrong identification/interpretation of panels (83.9%) and incomplete documentation (16.1%). Cycle 0124 enrolled 98 laboratories with 94% (92/98) submitted results; 88% (81/92) passed. 12% (11/92) failed due to wrong identification and interpretation (80%), incomplete documentation (10%), and stockout of cartridges (10%). A comparison of performance of both Cycles showed a significant improvement in complete documentation ($p<0.01$), correct interpretation/identification of panels ($p<0.01$), and performance score ($p<0.01$).

**Conclusion**: Our data showed an improvement in enrolment, participation and performance of the laboratories in the PT program. The PT program has contributed in improving the competence of the testing laboratories, documentation, and interpretation of EID test results at participating POCT laboratories in Nigeria.

165

# Father-to-Child Transmission of HIV: Expanding the Evidence and Mechanisms

Jadhav S[1]

[1]SUVIHAAN BIONOBEL SOLUTIONS, DHARWAD, India

Mother-to-child transmission (MTCT) of HIV is well-documented and accounts for most pediatric HIV cases. In contrast, father-to-child transmission (FTCT) is extremely rare, as HIV is not inherited genetically. However, anecdotal evidence and isolated cases suggest alternative transmission routes, particularly in settings lacking proper infection control. Due to its rarity, FTCT remains poorly understood, yet documented cases highlight unique pathways requiring further study.

One case involved a 10-month-old infant who tested HIV-positive despite the mother being confirmed HIV-negative. The father, diagnosed with HIV, was actively involved in caregiving. Maternal and transfusion-related transmission were ruled out, but the father regularly pre-chewed food for the child—a practice previously linked to pediatric HIV transmission. Genotypic sequencing confirmed the viral strain in the child matched the father's, establishing direct transmission. This underscores non-traditional risks that may inadvertently expose infants to HIV.

Pre-chewed food transmission is one of the most plausible FTCT mechanisms. HIV has been detected in saliva, and rare cases document transmission when an HIV-positive caregiver with bleeding gums or oral lesions pre-chews food. If an infant's oral mucosa is compromised, exposure to contaminated saliva increases the risk. This is particularly concerning in regions where pre-mastication is common.

Household exposure through open wounds or contaminated sharp objects is another possible route. Shared razors, toothbrushes, or items carrying residual blood can pose risks, especially when children have cuts or abrasions. Intrafamilial HIV transmission due to blood contact reinforces the need for strict hygiene practices. Educating caregivers on safe practices is crucial to preventing accidental exposure.

Cultural practices, including ritualistic bloodletting, scarification, or non-medical circumcision, could also pose transmission risks. Though poorly documented, such traditions may involve direct blood contact, increasing the possibility of FTCT. Investigating these practices can help identify risks and inform targeted prevention strategies.

Rare cases also suggest HIV transmission through artificial insemination. While sperm does not carry HIV, improper handling or unwashed semen could facilitate transmission. Medically supervised reproductive assistance is essential to minimize such risks.

Strengthening HIV education and family counseling is critical, as most prevention programs focus on MTCT, leaving gaps in awareness regarding FTCT. Safe caregiving practices, such as discouraging pre-chewing of food and reinforcing household precautions, should be emphasized. Families with an HIV-positive parent must adopt measures to prevent blood-to-blood exposure, such as using separate grooming items and following universal hygiene precautions.

Although FTCT is rare, documented cases highlight the need for broader HIV prevention strategies. While MTCT rates have been successfully reduced to below 2% in many settings, addressing non-maternal transmission risks remains vital. Continued research and surveillance can enhance our understanding of FTCT, leading to more comprehensive HIV prevention efforts. Expanding policies to include family-centered strategies will help protect at-risk populations and work toward an HIV-free future.

166

# The Effect of Age-Appropriate Disclosure on Adherence to ART and Viral Load Suppression among Adolescents Living with HIV in Edo State, Nigeria

Jackson J[1]

[1]Heartland Alliance Limited Guarantee (halg), Benin City, Nigeria

**Background**: Adolescents living with HIV (ALHIV) face unique challenges that can impact adherence to antiretroviral therapy (ART) and viral load suppression. Age-appropriate disclosure of HIV status has been identified as a potential intervention to improve these outcomes. This study aims to evaluate the effect of age-appropriate disclosure on adherence to ART and viral load suppression among adolescents aged 10–19 years receiving ART in Edo State, Nigeria.

**Methods**: A cross-sectional study was conducted among 1133 adolescents receiving ART across 28 facilities in Edo State. The data source was the Pediatric Disclosure checklist abstracted from the medical records (folders) of the clients in the cohort. Participants were categorized into two groups: those who had undergone age-appropriate disclosure (n=1097) and those who had not (n=36). Data were collected on ART adherence (defined as ≥95% medication adherence) and viral load suppression (defined as 1000 copies/mL). While descriptive statistics was used to summarize adherence and suppression rates across the two groups, Chi-square tests was employed to compare proportions of adherence and suppression between the groups. Odds ratios (ORs) with 95% confidence intervals (CIs) was valuable in quantifying the association between age-appropriate disclosure and outcomes. Multivariate logistic regression was used to adjust for potential confounders, such as age and duration on ART.

**Results**: Adolescents who received age-appropriate disclosure had significantly higher adherence rates (97%) compared to those who had not (67%) ($p < 0.001$). Similarly, viral load suppression rates were higher in the disclosure group (91%) compared to the non-disclosure group (75%) ($p < 0.001$). Age-appropriate disclosure was associated with a 7.3-fold increased likelihood of adherence (OR: 7.3; 95% CI: 3.2–16.8) and a 3.9-fold increased likelihood of viral load suppression (OR: 3.9; 95% CI: 1.9–8.2) after adjusting for confounders.

**Conclusion**: Age-appropriate disclosure significantly improves ART adherence and viral load suppression among adolescents living with HIV in Edo State, Nigeria. These findings underscore the importance of integrating disclosure interventions into adolescent HIV care programs to optimize treatment outcomes. Further research should explore strategies for effective disclosure.

167

# Prevalence of Exclusive Breastfeeding among Basotho Mothers Living with and Without HIV in Maseru Rural, Lesotho

Nyofane M[1], Makhetha L[1], Moeno L[1], Tshiambara P[2]

*[1]National University of Lesotho, Roma, Lesotho, [2]University of Pretoria, Pretoria, South Africa*

**Background**: Exclusive breastfeeding (EBF) rates are low in Lesotho, and lower in mothers living with HIV (MLWH). Breastfeeding is a life-saving intervention to prevent malnutrition. We determined and compared the prevalence of EBF among MLHIV vs mothers not living with HIV (MnLWH).

**Methods**: A quantitative cross-sectional study design with a convenience sampling method was used. Previously used and semi-structured questionnaires were used to collect data on sociodemographic and breastfeeding feeding practices of mothers of children aged 6-12 months who attended regular visits at Maseru district clinics. Data was collected in 2022. The data was processed and analyzed using Statistical Package for the Social Sciences (SPSS) version 29.0 for descriptive statistics. The comparison between MLWH vs MnLWH was performed using the Chi-squared test (non-normal distributed data) and independent t-test (normal distributed data). All significance tests were performed at the 0.05 level of significance. Correlations were determined using Bivariate analysis (Spearman correlation coefficients), and correlations were significant at the level of 0.05.

**Results**: About 151 mother-child dyads (MLWH; n=73 and MnLWH: n=78) were investigated. There were no significant differences regarding the sociodemographic information of participants. The overall prevalence of EBF was 40.4%. MLWH had significantly lower rates of EBF than MnLWH (28.8% vs. 51.3%; p=0.005). Most MLWH introduced complementary feeding from as early as 1-3 months (19.2% vs 9.0%) and more than half of MLWH started giving solids foods from 4-5 months (52.1% vs 39.7); p=0.012. Above a quarter of mothers in this study received EBF support from the health facility, spouse, and other family members, with 31.5% of MLWH receiving support from their spouses. In both groups, mothers believe that breastmilk is only adequate for infants during the first 6 months of life was correlated with EBF: MLWH: r=0.5; p<0.001 and MnLWH: r=0.4; p=0.001.

**Conclusion**: The low EBF rate is a persistent public health concern among mothers living with HIV in Lesotho, despite enormous efforts to support, promote, and encourage breastfeeding.

168

# Ensuring Every Dose, Every Day: The Effectiveness of Directly Observed Therapy for Children with High Viral Load at Umodzi Family Centre Clinic, Blantyre, Malawi

Chione B[1], Osman N[1], Mndewere S[1], Ndulube G[1], Makweti A[1], Nhlema A[1], Heller T[1], Rambiki E[1]

[1]*Lighthouse Trust, Lilongwe, Malawi*

**Background**: Adherence to antiretroviral therapy (ART) is crucial for achieving viral suppression and optimal health outcomes in children living with HIV. However, challenges with adherence exist as ART intake in paediatrics is sorely caregiver dependent. We evaluated data from a home-based Directly Observed Therapy (DOT) programs which targeted young children aged 0-4 years with high viral loads (HVL) enrolled in the kindergarten clinic at the Lighthouse Umodzi Family Centre Clinic in Blantyre, Malawi. The children were paired with an expert client who conducted home visits 3 times/week and directly observed ART intake by the child.

**Methods**: We reviewed routine data among children 0-4 enrolled in the DOT program between January to April 2024. Descriptive analysis was conducted to describe outcomes of viral suppression and patient characteristics.

**Results**: We identified 34 children with HVL in January 2024 of whom 27(79%) caregivers gave consent for DOT and 1 was excluded with 6(18%) declined. DOT was started with 22/27(81%) as the 5 resuppressed before the intervention started. Of these 12 (55%) were males and the median age was 3 years. All were on Dolutegravir based regimen. After 3 months of DOT, 18/22(82%) virally resuppressed (VL=<1000 copies). The remaining 4 were referred for resistance testing, of which 1 had intermediate DTG resistance and 3 had pending results.

**Conclusion**: DOT program by treatment supporters has the potential to improve treatment outcomes in children struggling with HVL. There is need for strong community collaboration for sustainability of the program to understand and manage family dynamics that affect adherence to ART by children who are greatly affected by family and society situations.

169

# HIV and Syphilis Testing at Antenatal Care in Lubumbashi, the Democratic Republic of Congo: Insights from Public and Private Facilities

Ilunga T[1], Ilunga T[2], Musau A[2], Mahuridi A[2], Mutombo D[2], Lakula N[2], Mihala A[2], Semaan A[1], Benova L[1], Ntambue A[2], Hensen B[1]

[1]*Institute of Tropical Medicine Antwerp, Antwerp, Belgium,* [2]*Ecole de Santé Publique Lubumbashi, Lubumbashi, Democratic Republic of Congo*

**Background**: Among pregnant women, untreated HIV and syphilis may lead to vertical transmission, contributing to adverse maternal and perinatal outcomes. Integrating HIV and syphilis testing into antenatal care (ANC) – a near universally-used service – is crucial for reducing transmission. However, little is known on the integration of HIV and syphilis testing into ANC in the Democratic Republic of Congo. This study explores HIV and syphilis testing service delivery through ANC by describing testing provision per ANC visit across healthcare facilities in Lubumbashi.

**Methods**: Between July 29 and December 1, 2024, data were collected from 187 of the largest maternal healthcare facilities providing ANC across all 11 health zones in Lubumbashi. Data on weekly number of ANC visits and HIV and syphilis tests conducted were collected from registers. Testing coverage was calculated as the percentage of ANC visits with HIV or syphilis testing and described per healthcare facility characteristics, including sector, level of care, and health zone.

**Results**: Over half of the 187 healthcare facilities were in Lubumbashi (29.4%; 55/187), Mumbunda (14.4%; 27/187), and Kampemba health zones (14.4%; 27/187). Most were private (86.6%; 162/187); 64.2% (120/187) were primary-level healthcare facilities. During the study period, 28,146 ANC visits, 13,725 HIV and 7,164 syphilis tests were recorded. Overall, the coverage of HIV testing was 48.8% and of syphilis was 25.5%. Public (56.5%; 2,249/3,979) and private-for-profit (51.5%; 8,165/15,861) healthcare facilities had a higher HIV testing coverage compared to private-non-profit (39.9%; 3,311/8,306) facilities. Syphilis testing coverage was highest in private-for-profit (30.4%; 4,823/15,861) healthcare facilities compared to public (18.7%, 746/3,979) and private-non-profit (19.2%; 1,595/8,306) facilities. HIV testing coverage was similar between higher-level (49.6%; 4,831/9,742) and primary-level healthcare facilities (48.3%; 8,894/18,404), while for syphilis coverage was 33.1% (3,229/9,742) in higher-level compared to 21.4% (3,935/18,404) in primary-level healthcare facilities. Tsamilemba health zone recorded the highest HIV coverage (82.4%; 3,177/3,854), Kenya health zone led syphilis (71.2%; 1,030/1,446).

**Conclusions**: This study highlights that syphilis testing coverage lags behind HIV testing across healthcare sectors, facility levels, and health zones. Promoting broader adoption of dual HIV/syphilis rapid diagnostic tests will be critical to improve testing access and enhance maternal and perinatal health outcomes.

170

# Clinical Management Issues Specific to Adolescents

Smith R[1], Oraya S[1]

[1]Nazareth Hospital, Nairobi, Kenya

**Introduction**: Globally, approximately 1.7 million adolescents live with HIV, with Sub-Saharan Africa accounting for the majority. In Kenya, both HIV prevalence and incidence rates among adolescents are high. Approximately 42% of new HIV infections are among adolescents and young people aged 15-24 years. Critical challenges in ART adherence persist. Various barriers, such as stigma, limited access to care, and treatment complexity Which fuel these challenges. Ensuring adherence to ART for these young individuals is crucial in managing their health and curbing the epidemic's progression. Therefore, addressing the challenges faced by adolescents and young adults demands their active involvement in the design of interventions. Positive Health Dignity Prevention (PHDP) Is an initiative that seeks to empower adolescents to take charge of their treatment and aims to keep ALHIV physically, mentally and psychologically healthy by involving ALHIV in prevention activities.

**Methods**: Retrospective review of PHDP Clubs implementation for Adolescents aged 10-19 years from March 2025-September 2019. Support groups were held during school holidays. PHDP Plans: Knowledge of HIV status, Disclosure to sexual partners, U =U, Prep, Adherence, STI screening and treatment, Transitioning to Adult care. Other PHDP activities included soap making, flower vase making, bead work, wall decors, and peer-to-peer mentorship through regular home visits.

Transition Model “Moving Out Model”: Four Phase Preparation
Phase 1. Provider begins to discuss the transitioning
Phase 2. Client and provider discuss comprehensive transitioning
Phase 3. Provider and client review the self-care goals
Phase 4. Constant communication and regular follow up with care provider until stable

Motivational incentives such as watches, tea, snacks, and empowerment materials were provided to All PHDP Club members. U=U Diamond pocket card for discordant couples practicing U=U.

**Results**: A total of 167 Adolescents were enrolled into PHDP Clubs. The mean suppression improved from 76% September 2019 to 99% as at March 2025. A total of 11 PHDP clubs where Formed and each club had 1 club captain and 1 influencer who was also guiding the club's activities. 39 Adolescents where unsuppressed before we started the PHDP clubs, The suppression improved from 39 Adolescents who were unsuppressed to 2 who are currently unsuppressed by the end of March 2025. We started U=U support groups for Adolescents aged 15 years and above. On April 2024, 89 adolescents enrolled and 56 referred sexual partners for testing and assisted disclosure was done. A total of 44 adolescents currently on U=U discordant group and 7 of them are on PMTCT care. A total of 19 adolescents started on PrEP.

**Conclusions**: PHDP Clubs implementation demonstrated significant improvements in treatment outcomes among adolescents living with HIV.
The initiation of life skills during clubs support groups has fostered a feeling of communal acceptance and an atmosphere conducive to young individuals. The act of peer-to-peer mentorship during home visits instilled a powerful sense of empowerment and belonging within the recipients, as these mentors had themselves successfully navigated similar experiences.

171

# Parental and Non-Gestational Parent Consent in Biomedical HIV Research Participation During Pregnancy: A Qualitative Comparison of Adolescent Perspectives from the US and Southern Africa

Baron H[1], Masese R[1], Mussa A[2,3], Thom A[4], Rajeshmohan R[2,5], Hagan-Bezgin A[2,6], Bapabi M[2], Ramontshonyana K[2], Mmodzi P[4], Winner P[4], Tshume O[7], Kasule M[2], Bula A[4], Morroni C[2,8], Lyerly A[1], Day S[9]

*[1]University of North Carolina at Chapel Hill, School of Medicine, Department of Social Medicine, Center for Bioethics, Chapel Hill, United States, [2]Botswana Harvard AIDS Institute Partnership, Gaborone, Botswana, [3]Usher Institute, University of Edinburgh, Edinburgh, United Kingdom, [4]UNC Project Malawi, Lilongwe, Malawi, [5]University of Michigan, School of Public Health, Ann Arbor, United States, [6]Southport Hospital, Mersey & West Lancashire Teaching Hospitals NHS Trust, Liverpool, United Kingdom, [7]Botswana Baylor Children's Clinical Centre of Excellence, Gaborone, Botswana, [8]MRC Centre for Reproductive Health, University of Edinburgh, Edinburgh, United Kingdom, [9]University of North Carolina at Chapel Hill, Department of Medicine, Division of Infectious Diseases, Chapel Hill, United States*

**Background**: Adolescent participation in HIV research is shaped by numerous ethical and legal considerations, including parental consent requirements. For pregnant adolescents, there is additional complexity in whether/how to involve the non-gestational parent (NGP). To examine cultural variance in perceptions of parental and NGP consent for biomedical HIV research participation during pregnancy, we compared adolescent perspectives on these consent processes in the US, Malawi, and Botswana.

**Methods**: In-depth interviews were conducted with adolescents ages 15-24 years old in the US, Malawi, and Botswana. Participants were recruited from local clinical research settings. Eligibility criteria included current or previous pregnancy and living with HIV or at risk of HIV acquisition. The semi-structured guide explored views on biomedical HIV research participation during pregnancy, including parental and NGP consent. Audio-recorded interviews were translated to English and transcribed verbatim, then coded using NVivo software. Thematic analysis was used to identify emergent themes for comparison across the three sites.

**Results**: A total of 120 adolescents were interviewed (60 living with HIV, 60 at risk of HIV acquisition). Most (76.7%) supported parental consent requirements for study participation during pregnancy. Thematic analysis revealed common reasons for this across the sites, including perceived adolescent inability to make independent decisions, and belief that parents know best. Concerns were also shared across the sites, including parental refusal and hindering adolescents' rights to decide for themselves. In contrast, views on NGP consent for research participation during pregnancy varied, with only 37.5% supporting NGP consent. Support for NGP consent in the US and Botswana centered on protection from study risks, whereas participants in Malawi felt that consent should only be required if living with the NGP. Common cross-site concerns included NGP consent conflicting with pregnant adolescents' decisional independence, and NGP refusal, misunderstanding, or absence hindering research participation.

**Conclusion**: Across diverse cultural contexts, shared themes emerged in participants' views on parental and NGP consent for biomedical HIV research participation during pregnancy. These findings have implications for designing biomedical studies that include pregnant adolescents, supporting engagement of parents as a source of decisional support, while appreciating potential participants' diverse views on NGP involvement in consent processes.

172

# Biomedical HIV Research Participation During Pregnancy: Perspectives of US Adolescents

Baron H[1], Masese R[1], Lyerly A[1], Day S[2]

*[1]University of North Carolina at Chapel Hill, School of Medicine, Department of Social Medicine, Center for Bioethics, Chapel Hill, United States, [2]University of North Carolina at Chapel Hill, Department of Medicine, Division of Infectious Diseases, Chapel Hill, United States*

**Background**: Pregnant adolescents face increased risk of HIV acquisition, vertical transmission, and poor pregnancy outcomes, highlighting the urgent need for their inclusion in HIV prevention and treatment studies. To identify factors that may support or hinder pregnant adolescents' inclusion in biomedical HIV research, we examined views of adolescents in the United States related to research rules that may shape their participation.

**Methods**: In-depth interviews were conducted with ever-pregnant adolescents living with HIV (age 15-24 years old) and at-risk of HIV acquisition (age 15-20 years old) recruited from clinical research settings across the US. The semi-structured interview guide explored adolescents' views on participating in biomedical HIV research during pregnancy with reference to three common rules: (1) parental and non-gestational parent (NGP) consent, (2) abuse disclosure, and (3) two required forms of contraception. Interviews were transcribed verbatim and coded using NVivo software by three independent coders. A thematic analysis approach was used to identify emergent themes in the advantages and disadvantages of participation rules.

**Results**: Forty adolescent interviews were conducted in total, with 20 individuals living with HIV and 20 at-risk of HIV acquisition. Thematic analysis revealed mixed support for the three common rules, with adolescents describing both risks and benefits of each. While participants noted advantages of obtaining parental consent for adolescent research participation during pregnancy, some noted that pregnant individuals under 18 can provide independent consent. For NGP consent requirements, relationship dynamics emerged that could facilitate or hinder participation in HIV research during pregnancy. While most favored disclosure of abuse as a way of providing protection for the adolescent by authorities, some also noted the importance of consulting with the adolescent before reporting. Finally, support for contraception requirements centered on pregnancy prevention, but participants emphasized that contraceptive uptake should be the adolescent's choice rather than a study participation requirement.

**Conclusions**: Adolescents identified advantages and disadvantages of common clinical research rules that would impact their decisions to participate in biomedical HIV studies during pregnancy. Mitigating concerns about disadvantages, while leveraging the advantages as facilitators of participation will be important in designing trials that foster respectful inclusion of this population.

173

# Compliance with Maternal HIV Retesting for Pregnant Women Attending Care in Selected Health Facilities in Namutumba District, Uganda

Malende S[1]

[1]Makerere University Joint Aids Program, Kampala, Uganda

**Background**: HIV remains a major global public health challenge, with 39 million people living with the virus by 2022. Sub-Saharan Africa bears the highest burden, with women disproportionately affected and mother-to-child transmission (MTCT) a critical concern. Uganda, with an adult HIV prevalence of 5.8% in 2021 (7.2% among women), has adopted strategies like integrating HIV testing into antenatal care (ANC) and universal antiretroviral therapy (ART) to reduce MTCT. However, retesting during the third trimester or labor, essential to addressing late-acquired infections, remains inconsistent. This study examined maternal HIV retesting adherence in Namutumba district, where only 15% and 4% of pregnant women were retested during the third trimester and labor, respectively, between April and June 2023.

**Methods**: A cross-sectional design was employed across six public health facilities, with quantitative and qualitative methods capturing factors associated with HIV retesting, barriers, and facilitators. Data were collected from randomly selected mothers who delivered during the study period using a structured questionnaire. Qualitative data were gathered through key informant interviews to explore barriers and facilitators to HIV retesting. Data analysis was done using STATA for quantitative data and manual thematic analysis for qualitative data.

**Results**: Among 224 participants analyzed, the mean age was 25.7±5.6 years, with 64% aged 20–29 years, 89.3% residing in rural areas, and 66.1% initiating ANC in the second trimester. HIV retesting was reported by 85% of participants, varying significantly by facility (59.1%–96.7%). Higher education levels (secondary: APR 1.55, p=0.04; tertiary: APR 1.72, p=0.01), attending ≥5 ANC visits (APR 1.11, p=0.03), and spousal accompaniment (APR 1.18, p=0.007) positively influenced retesting. Late ANC initiation reduced retesting uptake (APR 0.38, p=0.03). Barriers to retesting included test kit stockouts, stigma, human resource constraints, and poor documentation, while facilitators included health education, counseling, community sensitization, outreach, and material incentives.

**Conclusions**: To meet Uganda's Ministry of Health and WHO's 95% target for eliminating MTCT, public health strategies should promote early ANC attendance, address systemic barriers like resource shortages, and leverage facilitators such as community engagement and health education to improve maternal HIV retesting compliance.

174

# Symptoms of Depression, Anxiety, and Post-Traumatic Stress among Adolescents and Young Adults Living with HIV at Enrolment in the Sauti ya Vijana Randomized Clinical Trial in Tanzania

Mollel G[1], Ketang'enyi E[2], Komba L[3], Mmbaga B[4,6,7,8], Sigalla G[1], Senkoro E[4], Shayo A[6,7], Gallis J[5,9], Turner E[5,9], O'Donnell K[10], Dow D[4,5,11]

*[1]Ifakara Health Institute, Ifakara,, Tanzania, United Republic of, [2]2. Baylor College of Medicine Children Foundation of Tanzania, Mwanza, Tanzania, [3]3. Baylor College of Medicine Children Foundation of Tanzania, Mbeya, Tanzania, [4]4. Kilimanjaro Christian Medical Center-Duke Collaboration, Moshi, Tanzania, [5]5. Duke Global Health Institute, Durham, United States of America, [6]6. Kilimanjaro Christian Medical Centre, Moshi, Tanzania, [7]7. Kilimanjaro Christian Medical University College, Moshi, Tanzania, [8]8. Kilimanjaro Clinical Research Institute, Moshi, Tanzania, [9]9. Duke Department of Biostatistics & Bioinformatics, Durham, United States of America, [10]10. Center for Child and Family Policy, Sandford School of Public Policy, Durham, United States of America, [11]11. Duke University Medical Center, Department of Pediatrics, , Durham, United States of America*

**Background**: Adolescents and young adults (AYA) are facing a growing mental health (MH) burden. This is particularly true for AYA with HIV (AYAWH) who atop this critical period of self-realization and physical, social, and brain maturation, they must navigate HIV related stigma and disclosure. As a result, adherence to antiretroviral therapy may decrease resulting in unsuppressed HIV and risk of transmitting to others. We describe symptoms of depression, anxiety, and post-traumatic stress among AYAWH enrolled in a mental health intervention trial, Sauti ya Vijana (SYV, The Voice of Youth) across four regions of Tanzania.

**Method**: Enrolment criteria included participants aged 10-24 years, aware of their HIV diagnosis, attending HIV clinic for at least six months, prescribed ART, and able to attend weekly intervention sessions if randomized to intervention arm. Youth with active psychosis or cognitive disability precluding their ability to consent, understand questionnaires, or participate actively in group were excluded. A research assistant conducted a structured interview marking participant response on a tablet. MH measures include: PHQ-9 to measure depression (range 0-27, symptomatic > 5); GAD-7 to measure anxiety (range 0-21, symptomatic > 5); UCLA-RI to measure post-traumatic stress (modified range 0-51, symptomatic > 18). Data were collected using REDCap Mobile and analysed using R software.

**Results**: There were 690 participants enrolled. The mean age was 17.5 years (sd 2.5 years); 50% were females. At enrolment, 23% of participants reported symptoms of depression, 10% reported symptoms of anxiety, and 16% reported symptoms of post-traumatic stress.

**Conclusion**: Symptoms of depression, anxiety, and post-traumatic stress were common at enrolment into SYV. The trial is ongoing and will be unblinded to evaluate change in symptoms by trial arm prior to the July 2025 meeting.

175

# Improving Retention in Care and Viral Load Suppression among Children and Adolescents Living with HIV Using Modified Community Client Led ART Delivery Groups at Taso Tororo

Esele B[1], Ikaka C[1], Asio C[1], Ogwang C[1]

[1]*The Aids Support Organisation - Uganda, Tororo, Uganda*

**Background/Introduction**: TASO-Tororo serves over 8,000 people living with HIV (PLHIV) of which 556 are children and adolescents (0-18years). Retention and Viral load suppression among children and adolescents living with HIV (CALHIV) had stagnated around 80% and 75% respectively far below the national target of 95%. The earlier community models have been targeting adult PLHIV and have yielded.

To decentralize service delivery to CALHIV in the community, the facility team formed small groups known as modified community client-led ART delivery (mCCLAD) groups. The model aimed at improving retention and viral load suppression among CALHIV by addressing the lack of transportation fees as a barrier by taking services closer.

**Description/Methodology**: The modified CCLAD model works by providing a conducive and accessible platform for the CALHIV, the groups also contain adults between 18-24 years who are in the process of transition to the adult clinic and are still school going. The clients from a particular sub-county (location) agreed on a venue that was easily accessible and conducive, they selected a group leader and convenient time to meet. Each group was attached to a TASO Young People and Adolescent Peer Supporter (YAPS), a team of clinicians and counselors who visited these groups on the suggested days and time. Group drug adherence counselling sessions were made interactive to enable sharing of experiences, best practices, challenges and ways forward among these young groups of people. Services offered include; ART refills, viral load bleeding, Sexually Transmitted Infections (STI) screening, Intensive adherence counseling (IAC), Assisted Partner Notification (APN), index testing for siblings and peer psychosocial support.

23 modified CCLAD groups were formed, the group appointment dates were added to the health facility CCLAD refill calendar and work plan

**Results**: Between October 2023 and September 2024, 96% of the health facility CALHIV kept drug refill appointments, 92% viral load suppression was achieved, 34 sexual partners of sexually active adolescents were elicited and later tested, 2 of which tested HIV positive and were linked to care.

**Lessons Learned**: Community models have a higher acceptability and are effective in addressing gaps in care of CALHIV. Client-led interventions allow for joint efforts in addressing treatment barriers and offer peer support to each other.

176

# Sustained Retention and Enhanced Viral Load Coverage for Optimal EMTCT Outcomes Through Community Differentiated Service Delivery Models: A Cross-Sectional Study in Kampala

Fredrick N[1]

[1]Aids Information Centre, Kampala, Uganda

**Background**: The prevention of mother-to-child transmission (PMTCT) of HIV is a crucial public health strategy, with ART playing a pivotal role in reducing transmission rates and contributing on the UNAIDS 95-95-95 goal. Globally, interventions to support the prevention of the vertical transmission of HIV have resulted in a precipitous decline in perinatal infections over the last three decades. The Ministry of Health (MOH) recommends viral load (VL) testing every three months to monitor ART response. At AIDS information Centre of excellence, we implemented a comprehensive strategy in pregnant and breast feeding mothers living with HIV to ensure timely viral load bleeding.

**Methodology**: To effectively track viral bleeding timely follow-up lists for PWLHIV who had missed appointments were given to the mentor mothers who had counter books to update the current telephone contact and address of the clients. PMTCT audit tool was updated and offered necessary missed services. Task shifting and on job training of counsellors to offer quality services in the absence of clinicians, leveraging at distribution of vacutainers to private facilities with collaboration of the CHWS in the deep villages to do viral load bleeding. A retrospective cohort study analyzed the impact of these strategies on mothers who were active in PMTCT during Oct 2024 to March 2025.

**Results**: Between October 2024 to March 2025 112 pregnant and breast feeding mothers who were active in care mobilized through community DSDM models for viral load bleeding ,112 mothers were bled achieving comprehensive viral load coverage of 100% and retention. Remarkably 4 mothers had un suppressed viral load yielding a suppression rate of 96% surpassing the 95% threshold for both coverage and suppression. However, such outcomes underscored our strategy efficiency.

**Conclusion**: Our comprehensive approach significantly improved viral load monitoring frequency and consistency, ensuring mothers achieved viral suppression. Weekly follow-ups, audit tool use, line list reviews, and private facilities were critical. These results affirm our commitment to UNAIDS targets and contribute to eliminating mother-to-child transmission. This model is replicable, offering insights for enhancing PMTCT programs.

177

# Stakeholder Engagement Enhances Viral Load Suppression among Adolescent and Young People Living with Human Immunodeficiency Virus in Kitale County Hospital Trans Nzoia County

Odhiambo R[1], Maero B[2], Misigo J[3]

[1]AMPATH, Eldoret, Kenya, [2]AMPATH, ELDORET, KENYA, [3]KENEPOTE, TRANS NZOIA, KENYA

**Introduction**: It is estimated that there are 18,004 new human immunodeficiency virus (HIV) infections and 2,797 deaths among adolescents 10-19 years annually in Kenya. As per the National Syndemic Diseases Control Council progress report, 39% of adolescents living with HIV are affected by the epidemic and face unique challenges in achieving successful long-term management. To address the gap intervention was integrated into Adolescent fun days and school programs with focus designed to support adolescents in developing solutions to the various challenges affecting them and other young people. To enhance adolescents and young people viral load suppression and increase retention.

**Methodology**: From July to December 2024, Operation Triple Zero (OTZ) Champions from Kitale County Hospital, in collaboration with the Kenya Network of Positive Teachers (KENEPOTE), Mapped and supported the implementation of a school program, community sensitization, and community fun days. Following multi-disciplinary team meeting at the champion's module, the team line listed the active AYPs, including their locator and school information. They identified 40 schools with the highest number of adolescents and young people in care. KENEPOTE and OTZ supported the initiative by taking students and teachers through basic HIV literacy, teenage pregnancy and HIV prevention among AYPs.

**Result**: The team reached 11,410 students and 358 teachers. An improvement of adherence and viral suppression was noted from 90% to 94% and an uptake of 94% to 97% respectively. As a control measure similar follow, up was conducted in 20 schools with no empowerment on teachers and students on HIV education, this indicated stagnation in retention at 90% viral load suppression of 94%. We also managed community sensitization , we reached 1,000 AYPs who received information on HIV diagnosis, prevention, and treatment.

**Replication**: Stakeholder engagement has a potential benefit in the provision of quality HIV care among AYPs living with HIV.

178

# Vision 2030: Scaling-Up of Early Infant Diagnosis (EID) Point of Care Testing Towards Elimination of HIV in Zambia

Mutukwa M[1], Toloka P[2], Chiyimbi E[2], Ikowa W[1], Dailofa K[1], Mpanda G[1], Namushi W[1], Sakala M[2], Hamooya B[3]

*[1]Choma District Health Office, Choma, Zambia, [2]Southern Province Health Office, Choma, Zambia, [3]Mulungushi University School of Medicine and Health Sciences, Livingstone, Zambia, Livingstone, Zambia*

**Background**: HIV-exposed infants are highly vulnerable to rapid disease progression, often leading to death if not promptly diagnosed and treated. Early Infant Diagnosis (EID) and timely initiation of antiretroviral therapy (ART) can significantly reduce HIV-related morbidity and mortality. In sub-Saharan Africa, the EID program still faces significant challenges, particularly in ensuring timely result delivery, reducing turnaround time (TAT), and improving treatment rates. Therefore, we implemented quality improvement strategies to enhance testing for exposed infants following the decommissioning of Roche's centralized PCR testing platform.

**Materials and Methods**: We conducted implementation research in which a new testing Point of Care (POC) platform (multi-disease diagnostic GeneXpert) was introduced. In the existing prevention of mother-to-child transmission of HIV (PMTCT) community structures, we trained mentor mothers on EID testing schedule, sample collection and provided the necessary tools for demand creation. Systems were created to ensure linkage of HIV-positive infants to treatment and support services such as Orphans Vulnerable Children (OVC).This approach provided timely, onsite sample processing and rapid results return, facilitating quicker ART initiation for HIV-positive infants.

**Results**: In fiscal year 2023, EID testing services were offered to 1037 HIV-exposed infants (553 before introducing the POC testing and 484 after POC testing). The TAT for conventional PCR was 55.4 days (34.9 -75.8, 95% CI) while POC was 4.4 days (2.4 - 6.5, 95% CI). Among the participants exposed to POC testing, 1.65% (n=8) infants were identified as HIV positive; while 1.80% (n=10) infants tested positive for HIV before introduction of POC with one death recorded. All positive children after introduction of POC were linked to optimal ART treatment, nutritional support, and OVC services within 7 days of results receipt. The mothers were further paired with a mentor mother for adherence support.

**Conclusions**: POC testing for EID improved the speed of HIV diagnosis and treatment initiation, which could significantly reduce HIV-related morbidity and mortality in infants. Scaling up POC testing through additional GeneXpert platforms, along with ongoing training for facility staff, is recommended to sustain and expand these improvements.

179

# Early Infant Diagnosis of HIV in Mombasa, Kenya: A Retrospective Analysis of 2024 Laboratory Data

Suleiman T[1], Mwanake J[1], Mwanyalu N[1]

[1]Mombasa County Department Of Health, Mombasa, Kenya

**Background**: Early detection of HIV in infants is critical for the timely initiation of antiretroviral therapy (ART), which significantly reduces mortality and improves health outcomes among HIV-infected children. This study evaluates the performance of the Early Infant Diagnosis (EID) program in Mombasa County, Kenya.

**Methods**: A retrospective review of HIV-1 DNA PCR testing data was conducted from the Mombasa HIV reference laboratory for the year 2024. Variables analyzed included test type, age distribution, entry point, and HIV positivity rates.

**Results**: A total of 3,373 samples were tested; 53% were from male infants. Test distribution included 36% initial PCR, 32% second PCR, 31% third PCR, and 1% confirmatory tests. Age at testing was <2 months (33%), 2–9 months (35%), 9–12 months (35%), 12–24 months (18%), and ≥24 months (14%). The median age at initial testing was 3 months. The overall HIV positivity rate was 1.5%. Among positives, 33% were detected at initial PCR, 6% at second PCR, 18% at third PCR, and 43% at confirmatory testing. The highest positivity was observed in infants aged 2–9 months (17%), followed by 9–12 months (15%). The main testing entry point was Maternal and Child Health/PMTCT clinics (91%), while the highest positivity rate was noted at outpatient departments (5%; n=1/20).

**Conclusion**: The EID program in Mombasa has effectively identified HIV-infected infants and met the national target of less than 5% HIV positivity among HIV-exposed infants. These findings underscore the value of EID services in facilitating early intervention. Continued program monitoring and targeted strategies are essential to maintain and enhance these gains.

180

# Rapid Results, Healthier Futures: Point-of-Care Viral Load Testing in Lesotho's Maternal and Pediatric HIV Response

Mokone M[1], Seetsi L[1], Phatsoane K[2], Puseletso M[1], Yemaneberhan A[1]

[1]Elizabeth Glaser Pedaitric Aids Foundation, District of Columbia , United States, [2]Ministry of Health Lesotho, Maseru, Lesotho

**Background**: In Lesotho, limited access to HIV viral load monitoring for Pregnant and Breastfeeding Women (PBFW) and children, caused by infrequent tests and prolonged turnaround times, led to delayed client management and increased cases of lost-to-follow-up. To address this issue, in 2020, the Ministry of Health (MOH), in collaboration with the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) and other partners, integrated Point-of-Care Viral Load (POC-VL) testing into the existing GeneXpert technology to enhance turnaround time (TAT).

**Program Description/Methods**: The implementation of POC-VL testing was initiated by the MOH and EGPAF in collaboration with other partners. This involved the development of POC-VL reporting tools, the procurement of cartridges, the creation of training materials, and the training of facility personnel. Additionally, VL tests were verified at 21 sites with Gene-Xpert and 13 mini-labs. 81% (n=21) of Gene-Xperts and 38% (n=13) of mini-labs were established as hubs, and 70 spoke sites were linked.

**Results**: In 2023, 1,179 VL tests were administered through POC-VL, as opposed to 459 at the National Reference Laboratory. TAT was reduced from one month to 0–7 days by POC-VL. Prior to the implementation of POC EID/VL in 2019 and 2020, the percentage of HIV Exposed Infants (HEI) with final outcome coverage was 71% and 69%, respectively and increased from 76% in 2021 to 90% in 2024. After POC-VL was used, PBFW VL suppression rose from 94% to 98% from 2020 to 2024 and CLHIV VL suppression improved from 88% in 2020 to 96% in 2024. These improvements have enhanced timely clinical management for PBFW and CLHIV.

**Conclusions and Recommendations**: POC-VL testing in Lesotho has significantly increased testing uptake and reduced turnaround time, contributing to marked improvements in viral load suppression among both PBFW and CLHIV. These outcomes underscore the effectiveness of POC-VL in supporting timely clinical decision-making and improving treatment outcomes. Scaling up POC-VL testing nationwide and expanding access to other priority populations, including clinically unstable PLHIV, is critical to sustaining gains and accelerating progress toward HIV epidemic control.

181

# Integration of HIV/TB Healthcare Services for Children Under Five Years with Severe Acute Malnutrition in Rural Health Facilities in Rwanda

Nyirimanzi J[1], Mukankurunziza R[1], Nsengiyumva F[1], Mukantwaza P[1], Mbonyinshuti F[1]

*[1]Rwanda Medical Supply Ltd, KIGALI, Rwanda, [2]Shyira District Hospital, MUSANZE CITY/NORTHERN PROVINCE, Rwanda, [3]Shyira District hospital, MUSANZE CITY/NORTHERN PROVINCE, Rwanda, [4]Shyira District Hospital, KIGALI, Rwanda, [5]The African Centre of Excellence in Data Science, College of Business and Economics, KIGALI CITY/NORTHERN PROVINCE, Rwanda*

**Background**: With an HIV prevalence of 0.3% of pregnant women from July 2023 to June 2024, Rwanda was among five African countries achieved the UNAIDS 95-95-95 targets. To achieve the aforementioned target, screening and treatment of HIV/TB have been decentralized up to the rural settings. The WHO strongly recommend that all children be routinely tested for HIV in order to initiate early antiretroviral therapy and improve treatment outcomes. Children with HIV who are treated for severe acute malnutrition (SAM) have a much higher risk of mortality compared to those who are not infected. Furthermore, SAM compromises the immune response to TB, resulting in more severe disease manifestations worsening disease outcomes.

**Methods**: A descriptive cross-sectional study was carried out in Shyira District Hospital retrospectively from January 2020 to December 2024. Data on SAM, HIV and Tuberculosis for children under five years were collected from both electronic records and paper-based tools (registers). Data were cleaned, edited and analyzed using SPSS version 20. Descriptive and inferential statistics were performed to understand key variables and generate meaningful insights.

**Results**: Of 106 children under 5 years diagnosed for SAM 55 (51.9%) were female and 51 (48.1%). Children with SAM tested for HIV constituted 60(59.4%). All children (100%) who were HIV positive initiated ART immediately after being tested. The prevalence of children with SAM living with HIV among those tested was 3(2.8%). Children who had severe acute malnutrition tested for tuberculosis were 81(76.4%). The prevalence of TB among the SAM children was 0.9% and there was no association between HIV and SAM (P>0.0001).

**Conclusions**: The integration of HIV/TB service increased chances for HIV/TB testing and treatment of HIV/TB infected children with SAM. Testing rates and their association with ART initiation among HIV positive children under years improved HIV care. These results align with governmental commitments to achieve sustainable development goals.

182

# Assessing the Cost-Effectiveness of Households Visitation on HIV-Affected Children's Health Outcomes in Eswatini

Themba M[1]

[1]Young Heroes, Hhohho, Eswatini

**Conceptual Framework**: HIV infection and undernutrition remain significant public health concerns for young children. Proper management of nutrition and related nutrition complications in these groups with increased nutrition needs are prominent challenges, particularly in HIV-prevalent poor-resource environments. In Eswatini, the prevalence of malnutrition in children below the age of 5 years marks huge disparities between rich and poor households. Efforts to improve child health and nutrition status culminated in different strategies being employed, which amongst them is household nutrition support and care. Sabelo Sensha project implemented by Young Heroes Organization supports the government of Eswatini to prevent new HIV infections and reducing the HIV vulnerability for orphans and vulnerable children.

**Objective**: To measure the effects of Home visitation on Eswatini HIV affected children's health outcome.

**Methodology**: Secondary data analysis of routine data collected from June 2024 to December 2024 within ongoing implementation of Sabelo Sensha project was explored. Trained Community Health care workers called Home Visitors (HVs) identify vulnerable children, provide consent to identified households for assessment and enrollment into the project and provide health education, nutritional screening and support, linkages to clinical and social services. Through phone calls and constant monthly households visitations, caregivers are linked to services as per need and provided health education. Data is documented in online mobile systems, cleaned and descriptive analyses were conducted. All children were assessed of their needs at baseline at six and twelve month through follow-ups.

**Results**: June 2024 about 7396 children less than 5 years were assessed by HVs where 1970 (27%) were malnourished, in which 70 of 294 (24%) were malnourished HIV positive children. The cohort received monthly HIV and nutrition education and support and linkages to care from HVs. Over a six months period the number of malnourished children decreased by 15%, and after a year about 53% (1052/1970) of the young children in the intervention showed an acceptable weight-for-age and faster catch up growth.

**Conclusion**: Home visitation by HVs is an effective strategy that provides knowledge and support necessary to change the behavior of families at risk, improves development and health outcomes for malnourished children. HV programs increases affected families' s sense of control and comfort, allowing them to get the most benefit from more tailored services offered. There is need for future studies to determine the intensity of the intervention required to generate long-lasting benefits.

183

# Characteristics and Clinical Outcomes of Mother-Infant Pairs with HIV Exposure and Breastfeeding Experience: Observational Cohort in the United States

Unternaher J[1], Alpin E[2], Anderson L[1,3,4], Awofeso O[1], Williams T[1], Rakhmanina N[1,4,5]

*[1]Children's National Hospital, Washington, United States, [2]School of Medicine, The George Washington University School of Medicine and Health Sciences, Washington, United States, [3]Department of Adolescent and Young Adult Medicines, Children's National Hospital, Washington, United States, [4]Department of Pediatrics, The School of Medicine and Health Sciences, George Washington University, Washington, United States, [5]Elizabeth Glaser Pediatric AIDS Foundation, Washington, United States*

**Introduction**: Infant feeding guidelines for mother-infant pairs with perinatal HIV exposure (MIPHE) in the United States (US) significantly evolved in recent years. National data on breastfeeding outcomes among MIPHE remains limited. We aimed to evaluate the characteristics and clinical outcomes of MIPHE cared for at Children's National Hospital (CNH) in Washington, DC.

**Methods**: A retrospective cohort of MIPHE in care at CNH from January 2018 through July 2024 was analyzed. Data were extracted from mothers' referral forms (maternal demographics, HIV diagnosis duration, HIV viral load before delivery, and antiretroviral treatment information) and infants' medical records (infant demographics, birth parameters, antiretroviral prophylactic drugs, breastfeeding duration and complications, maternal support systems, and HIV testing results). Infants were deemed definitively HIV negative after two negative HIV RNA tests following breastfeeding cessation.

**Results**: Twenty-one mothers with HIV (median age =33 years [IQR:29-37]; 95.2% African American/Black or African; median HIV diagnosis duration=8 years [IQR:4-12]) breastfed 22 infants (54.5% female, 86.4% with low-risk HIV exposure, 68.2% prescribed zidovudine only). Known maternal regimens (n=20) prior to delivery were 2NRTI+1NNRTI (13.6%), 2NRTI+1PI (13.6%), and 2NRTI+1INSTI (63.6%). Majority (77.3%) of MIPHE attended their first postnatal appointment within 4.5 weeks (range:2-64.9). Median duration of breastfeeding was 11 weeks (IQR:5-36), and 13 (59.1%) MIPHE mixed breastfeeding with formula feeding (n=11, 84.6%) and/or solid oral feeding (n=3, 23.1%). Nine (42.9%) mothers reported complications (low milk supply (n=4), viral blips (n=3), difficulty latching (n=2), sore nipples (n=1), and clogged milk duct (n=1)) while breastfeeding. Among three mothers who experienced viremia while breastfeeding (range: 30-1,700 copies/mL), two continued breastfeeding and one stopped after a viral load of 60 copies/mL. Mother's known main support systems (n=19) were their partner (n=8), family (n=6), or partner and family (n=5). Four mothers documented that their partner was absent. Eleven infants were lost to care while breastfeeding (n=4) or after one HIV test (n=7); one MIPHE transferred care. Only 10 (45.4%) infants completed all required testing following breastfeeding discontinuation and were deemed definitively HIV negative.

**Discussion**: In our cohort of >20 MIPHE in the US, the median breastfeeding period was relatively short (11 weeks) and many mothers mixed breastfeeding with formula and oral solid feeding. A high proportion of MIPHE was lost to care; less than half completed recommended HIV testing after breastfeeding. More data on infant feeding practices are needed to design optimal clinical and support services for MIPHE in the US.

184

# Barriers to Antiretroviral Treatment Success: Exploring Predictors of Virologic Failure among Adolescents Living with HIV in Kilimanjaro, Tanzania

Charles A[1]

[1]Temeke specialized RRH, DAR ES SALAAM, Tanzania, United Republic of

**Background**: Despite the availability and use of ART in the world, virologic failure is still a problem among adolescents who are on ART. World Health Organization (WHO) and its joint partners target achieving 90% sustained virologic suppression among children and adolescents living with Human Immunodeficiency Virus (HIV)/AIDS, in Sub Saharan Africa the burden of the problem is 29% despite Several interventions have been put into actions to improve viral suppression but it has only been achieved to a greater percent among adults while adolescents fall behind. The study aimed to determine the prevalence and determinants of virologic failure among adolescents living with HIV under ART and came up with appropriate measures that will address treatment failure and prevent unnecessary switch to second line regimens.

**Methods**: A cross-sectional study was conducted at Kilimanjaro Christian Medical Centre (KCMC) and Mawenzi Regional Referral Hospital, located in the Kilimanjaro Region of Tanzania. The study population comprised adolescents Living with HIV who are on care at the Care and Treatment Clinics (CTCs). Structured questionnaires were administered to collect relevant data. The collected data were cleaned, prepared, and analyzed using SPSS Software Version 25 to determine the prevalence and predictors of virologic failure among the study participants.

**Results**: A total of 216 participants enrolled. Their median age was 17 (IQR 14-18); 60.2% were males and 39.8% were females. Of total, 13.9% had VF. After adjustment of other covariates, the likelihood of having VF was higher among adolescents who were consuming alcohol (RR= 3.49, 95% CI 1.58-7.72), smoking cigarette (RR= 7.0, 95% CI 4.19-11.69), poor ART adherence (RR= 14.46, 95% CI 7.63-27.3) and having HIV/TB co-infection (RR= 1.43, 95% CI 0.55 3.70).

**Conclusions**: The study found that 86.1% of adolescents living with HIV achieved viral suppression, indicating a relatively high proportion of successful treatment outcomes. However, falls short of the UNAIDS 95-95-95 target for viral suppression among individuals on treatment. The findings suggest that targeted programs focusing on younger adolescents and those transitioning from pediatric to adult clinics are critical. Interventions such as psychosocial support and enhanced treatment counseling could play a significant role in improving viral suppression rates.

185

# Improving Viral Load Coverage among Pregnant and Breastfeeding Women Living with HIV on Treatment Through Focused Site Support in Zimbabwe: Lessons Learned for Program Implementation, 2024

Mhangara M[1], Mukungugwa S[1], Tapera T[1]

[1]Usaid, Harare, Zimbabwe

**Background**: Zimbabwe, with 1.28 million people living with HIV (PLHIV), has made significant progress in HIV treatment, with 95% of PLHIV on antiretroviral therapy (ART) and 91% achieving viral suppression. However, viral load (VL) testing coverage among pregnant women (PGW) remains suboptimal at 57%, far below the national target of 95%. VL monitoring is crucial to ART effectiveness and preventing mother-to-child HIV transmission. This study examines the impact of focused site support on improving VL coverage in USAID-supported districts in Zimbabwe.

**Description**: In FY24, quarter 3, USAID Zimbabwe implemented quality improvement (QI) initiatives across 16 districts to address VL testing gaps. These initiatives enhanced clinic-laboratory interfaces to optimize ART management for pregnant and breastfeeding women (PBW). QI teams identified eligible ART clients for VL testing, streamlined patient flow, improved VL sample transport, and used data to track and improve coverage. Monthly multidisciplinary meetings assessed progress and adapted strategies. Activities and outcomes were documented in a QI corner with run charts.

**Lessons Learned**: Data from FY24 quarter 4 showed significant improvements in VL testing and suppression. VL coverage among PGW increased from 81% to 92%, while VL suppression among PGW rose from 94% to 97%. VL suppression among breastfeeding women also increased from 96% to 97%. These results underscore the effectiveness of focused QI interventions in improving both VL coverage and suppression rates.

**Conclusion**: This case study highlights that quality improvement initiatives can significantly enhance VL testing and suppression among pregnant and breastfeeding women living with HIV. Scaling these low-cost, high-impact strategies across all ART sites is essential to meet the 95% VL coverage target and contribute to the goal of ending the HIV epidemic in Zimbabwe and similar settings.

186

# Improving Viral Load Coverage Initiative among Children 0-14 Years Living with HIV on Treatment Through Intensified Site Support in Zimbabwe 2024: Lessons Learnt Through Implementation

Mhangara M[1], Mukungunugwa S[1], Tapera T[1]

[1]*Usaid, Harare, Zimbabwe*

**Background**: Zimbabwe has approximately 69,000 children aged 0-14 living with HIV (CLHIV). The country's progress toward achieving the global 95:95:95 targets for children lags behind adults, with coverage rates of 82:81:88 compared to 97:98:96 among adults, according to 2023 UNAIDS estimates. National viral load testing and suppression coverage among children remain suboptimal at 93% and 64%, respectively, with geographic and age-related variability. This abstract discusses the lessons learned from a PEPFAR initiative aimed at improving viral load coverage in 24 USAID-supported districts in Zimbabwe.

**Description**: To address viral load testing gaps, USAID supported 24 of Zimbabwe's 44 PEPFAR districts with an intensified improvement plan. This involved reviewing HIV case management files and creating a line list of children missing viral load tests. Follow-ups were conducted through SMS, phone calls, and community visits. Dedicated teams managed appointments, follow-ups, and data entry, ensuring testing in health facilities or communities based on caregiver preference. High viral load clinics were established to address suppression gaps, with monthly audits guiding program adjustments.

**Lessons Learned**: Viral load coverage improved across age groups, with children under 1 year increasing from 25% in FY23 Q4 to 44% in FY24 Q4. Coverage in the 1-4-year age group rose from 45% to 70%, and in the 5-9 and 10-14 age groups, coverage increased from 64% to 74% and from 76% to 83%, respectively. Despite these gains, viral load suppression remained suboptimal (<95%) for children under 1 year and those in the 1-4-year group.

**Conclusion**: Viral load monitoring is essential to ending HIV/AIDS in children by 2030. This case study demonstrates the feasibility of improving viral load coverage and suppression through community and facility collaboration. Further efforts are needed to scale these initiatives across all ART sites for continuous improvement.

187

# "We Want Our Clients to Be as Comfortable in Themselves as the Peer Navigators Are": The Role of Peer Navigators in Adolescents Living with HIV's Disclosure and Self-Worth

Boal A[1], Sawarkar S[1], Aluoch J[2], Embleton L[1], Ott M[1], Vreeman R[1], Apondi E[3], Chory A[1]

*[1]Icahn School of Medicine at Mount Sinai, New York, USA, [2]Academic Model Providing Access to Healthcare (AMPATH), Eldoret, Kenya, [3]Moi Teaching and Referral Hospital, Eldoret, Kenya*

**Background**: HIV stigma is a barrier to the health and wellbeing of adolescents living with HIV (ALWH), impacting medication adherence, clinic attendance and mental health, as well as delayed HIV disclosure. Adolescent peer navigators, other young people living with HIV, foster close relationships with patients to support care engagement; disclosure of their own status puts the peers in a unique position to support ALWH as they navigate life with a stigmatized health condition. Our objective is to explore how peers' provision of psychosocial support to ALWH helps to foster resilience and increase feelings of self-worth.

**Materials and Methods**: The Moi Teaching and Referral Hospitals' Rafiki Centre for Excellence in Eldoret, Kenya, is a comprehensive adolescent health clinic specializing in the care of ALWH; the clinic includes a robust adolescent peer program. We conducted in-depth, semi-structured interviews with 8 current (63% female, median age: 25) and 6 former peers (33% female, median age: 31), and 9 healthcare workers (HCW) (100% female) employed at Rafiki. Interviews explored the relationship between peers and their clients and its influence on both disclosure, experiences of HIV-related stigma and feelings of self-worth. A mixed deductive and inductive thematic analysis was led by AC, AB and SS based on an initial coding framework derived from the interview questions. The researchers independently analyzed data using ATLAS.ti qualitative software and generated initial themes independently before comparing results and reaching consensus.

**Results**: All participant groups spoke about the strength of the relationships between peers and their clients. They viewed peers as critical in helping ALWH navigate HIV disclosure, amid an environment of pervasive stigma and doubts about self-worth. All participant groups identified that peers' disclosure of their own status was an integral part of relationship-building; this disclosure shows clients what it looks like to accept their own status and helps demonstrate that their status doesn't have to define them. Peers and HCWs commented on the culture of acceptance at Rafiki; peers mention sharing "everything" with clients with "no consequence," reporting it helps ALWH to navigate stigma and negative self-perception that can come with an HIV diagnosis. All participant groups shared that peers treating clients like brothers or sisters ("it is a friend helping a friend") and ALWH seeing them as examples of healthy, "victorious" young people encourages their own sharing while reshaping stigmatizing narratives such as HIV being a death sentence. Participants consistently reported that these close relationships between peers and ALWH facilitate open dialogue about challenges and problem-solving. Participants shared that virally unsuppressed ALWH may only confess medication adherence challenges secondary to concerns of being seen by classmates, to their peer; they noted that the peer is able to use, in their words, "my life" to help the ALWH to feel less alone in stigmatizing experiences and come to a solution.

**Conclusion**: Peers help ALWH navigate HIV disclosure and medication adherence by providing psychosocial support and problem-solving, helping to combat feelings of loneliness and self-doubt which may reduce ALWH internalized stigma.

188

# "It Is the Foundation for the Child": Caregiver Perspectives on the Nurturing Care Framework in Kenya and Botswana

Bulterys M[1,2,4], Garcia S[2], Njuguna I[2,3], Thankane K[4], Kitsi I[4], Schenkel S[4,7], Okinyi H[5], Mulupi P[5], Maeri I[5], Kgole S[4], Masasa G[4], Kellogg A[2], Wamalwa D[2,6], Cassidy A[8], Makhema J[4], John-Stewart G[2], Powis K[4,7]

*[1]University Of California San Diego, La Jolla, United States, [2]University of Washington, Seattle, 98107, [3]Kenyatta National Hospital, Nairobi, Kenya, [4]Botswana Harvard Health Partnership, Gaborone, Botswana, [5]University of Washington-Kenya, Nairobi, Kenya, [6]University of Nairobi, Nairobi, Kenya, [7]Mass General Hospital, Boston, United States, [8]Mayo Clinic, Rochester, United States*

**Background**: The WHO/UNICEF Nurturing Care Framework (NCF) features five domains necessary for healthy child development – physical and mental health, responsive caregiving, adequate nutrition, security and safety, and opportunities for early learning. We explored caregiver perspectives on the NCF and unique challenges faced by families affected by HIV.

**Methods**: Between Nov 2023 – Jul 2024, 14 FGDs were conducted with caregivers living with and without HIV; eight with mothers in Gaborone, Botswana, and six in Nairobi, Kenya (three with mothers and three with fathers). FGDs were stratified by country, sex, HIV status, and partnership status. Semi-structured interviews with interactive activities elicited perspectives on the NCF , including the "most important", "easiest", and "most challenging" domains to fulfill.

**Results**: Botswanan and Kenyan caregivers identified physical and mental health as the "most important" domain ("If you have pain, that pain affects your child"). The "most challenging" domains were adequate nutrition in Botswana, due to stigma around infant feeding choice (breast vs. formula) and widespread formula shortages. Ensuring security and safety was challenging in Kenya, because caregivers often left children in others' care during the workday. The "easiest" domains were responsive caregiving in Botswana and opportunities for early learning in Kenya. Kenyan caregivers noted that spiritual nourishment was also critical for wellbeing but was missing from the NCF. Caregivers living with HIV experienced isolation, stigma, and treatment disruption, impacting their ability to provide nurturing care; they highlighted the importance of self-acceptance, disclosure, mental health counseling, and treatment adherence.

**Conclusions**: Caregivers faced unique challenges depending on their environments, cultural norms, and HIV status. HIV disrupts caregivers' physical and mental health, which has important implications for raising children within families affected by HIV. Interventions that support caregivers' abilities to fulfill all NCF domains and address common challenges will be essential to ensure children reach their developmental potential.

189

# "It's Not About Money to Be a Perfect Father, It's About Love": A Qualitative and Photovoice Study on Father Engagement in Kenya and Botswana

Bulterys M[1,2,4], Garcia S[2], Njuguna I[2,3], Thankane K[4], Kitsi I[4], Schenkel S[6], Okinyi H[5], Mulupi P[5], Maeri I[5], Kgole S[4], Masasa G[4], Kellogg A[2], Wamalwa D[7], Cassidy A[8], Makhema J[4], Powis K[6], John-Stewart G[2]

*[1]University Of California San Diego, La Jolla, United States, [2]University of Washington, Seattle, United States, [3]Kenyatta National Hospital, Nairobi, Kenya, [4]Botswana Harvard Health Partnership, Gaborone, Botswana, [5]University of Washington-Kenya, Nairobi, Kenya, [6]Mass General Hospital, Boston, United States, [7]University of Nairobi, Nairobi, Kenya, [8]Mayo Clinic, Rochester, United States*

**Background**: Father disengagement and intimate partner violence are associated with adverse maternal and child health (MCH) outcomes, including risk of vertical HIV transmission. Fathers remain underrepresented and underutilized in HIV and MCH research and programming. We evaluated maternal and paternal perspectives on fatherhood, relationships, and potential strategies for promoting healthy and meaningful father engagement in MCH care.

**Methods**: Between Nov 2023 – Jul 2024, we conducted 14 focus group discussions (FGDs) with caregivers living with and without HIV; eight with mothers in Gaborone, Botswana, and six in Nairobi, Kenya (three with fathers and three with mothers). Half of mothers were living with HIV, and most fathers were not living with HIV. Semi-structured interview guides featuring vignette narratives elicited caregiver perspectives on evolving societal expectations of maternal versus paternal roles, overcoming relationship challenges, and suggestions for incorporating father-centered interventions into existing HIV and MCH programs. In Kenya, another 60 mothers and fathers were invited to participate in a photovoice phase, in which participants were given cameras to visually narrate their perspectives on father engagement.

**Results**: Participants felt that women bore the sole responsibility of childcare, whereas fathers could choose to be present or not. When present, fathers viewed themselves as the main family financial providers; however, they noted that financial struggles led to diminished self-esteem, perceived value in families, and involvement. Fathers' roles have evolved substantially, and expectations now emphasize father-child bonding and strong parental relationships over financial provision alone ("Money is not the one taking care of the child"). When available, men looked to their own fathers for parenting guidance, but men with absent fathers felt they lacked knowledge of how to be a good father and needed interventions and peer support to help build these skills. Similarly, women expressed strong desires for male partners to engage with MCH programs and learn skills to reduce their stress and improve their relationships and parenting knowledge. Fathers wanted to build peaceful and happy homes to keep their families healthy ("Without peace, a home lacks health"). Instilling strong values and teaching children lessons through storytelling was important for fathers, who emphasized the importance of ensuring their children would carry on their legacies. The photovoice phase captured the greatest challenges faced by fathers, ways fathers already engage with their children, and ways fathers seek additional support and education.

**Conclusions**: Father-centered interventions are needed to improve male partner engagement, relationship stability, and MCH outcomes among families affected by HIV.

190

# Sustained Improvement in Infant Prophylaxis Coverage for HIV-Exposed Infants at a Rural Health Facility in Malawi with Continuous Quality Improvement (CQI) Interventions

Longwe S[3], Kadalinga L[3], Guzani V[3], Manyeki R[1,3], Hauya L[3], Kachinga A[4], Wetzel E[1,3], Simon K[1,2,3], Cox C[1,2,3]

*[1]Texas Children`s Global Health Network, Texas Children`s Hospital, Houston, United States of America, [2]Department of Pediatrics, Baylor College of Medicine, Houston, United States of America, [3]Baylor College of Medicine Children`s Foundation Malawi, Lilongwe, Malawi, [4]Malawi Ministry of Health, Mangochi, Malawi*

**Background**: Achieving maternal HIV viral load suppression with antiretroviral therapy (ART) and providing six weeks of neonatal prophylaxis prevents HIV transmission from mother to infant (PMTCT). Malawi ART guidelines recommend differential neonatal prophylaxis with dual (low-risk) or triple-drug (for high-risk) infant therapy based on timing of maternal HIV diagnosis and maternal viral load. Hence, we describe continuous quality improvement (CQI) interventions initiated and sustained to improve neonatal HIV prophylaxis coverage at a rural health facility in Mangochi district supported by Baylor Tingathe.

**Materials & Methods**: In January 2023, a fishbone root cause analysis of barriers to infant prophylaxis coverage was conducted and CQI best practices implemented using the Plan-Do-Study-Act improvement model. Barriers included antiretroviral (ARV) drug stock-outs, missed enrolment of HIV exposed infants at birth, and suboptimal maternal retention in care. Collaborative development and implementation of the change ideas with the facility In-charge and Early Infant Diagnosis (EID) focal person were conducted. Change ideas consisted of increased frequency of adherence health talks at ART and antenatal clinics (ANC) from monthly to weekly, reorientation of healthcare workers (HCWs) to PMTCT guideline protocols, reposting of PMTCT guideline documents at facility, flagging mastercards for pregnant women living with HIV who needed infant prophylaxis during their next clinic visit and assigning Community Healthcare Workers (CHWs) to follow up women whose infants missed prophylaxis. Monthly data review cycles were conducted from February 2023-December 2024 to review progress and address ongoing gaps.

**Results**: During the CQI intervention period (January 2023–December 2024), 91% (274/302) infants were started on prophylaxis, an improvement from 57% (84/147) coverage pre CQI initiation (January 2022 - December 2022). Of the 28 infants not started on prophylaxis, 11 were missed due to ARV stock-out, 9 were home deliveries whose mothers had not received prophylaxis at ANC, 6 mothers had interrupted treatment during pregnancy and 2 infants were ineligible for prophylaxis as mother was only newly diagnosed at clinical presentation when infants were 2 and 3 months respectively.

**Conclusions**: Maintaining CQI best practices and change-ideas improved infant prophylaxis coverage by an overall 34 %. Collaborative efforts between facility In-charge, EID focal person and facility departments engaging in monthly discussions for progress review were critical to success, as were continued supervision and mentorship for all HCWs at the facility and increased frequency of health talks from monthly to weekly sessions. The site continues to maintain optimal prophylaxis coverage above 90% by normalizing change ideas as standard of care within the facility departments.

191

# Bridging Gaps in Pediatric HIV Prevention: PMTCT Challenges among Female Sex Workers in Isiolo County, Kenya

Gakuru N, Lipesa M, Njuguna P, immaculate P

[1]Bar Hostess Empowerment Support Program (bhesp), Nairobi, Kenya

**Background**: Reducing vertical HIV transmission remains a critical challenge for key populations, particularly Female Sex Workers (FSWs) in Isiolo County, Kenya, who face compounded socio-economic, healthcare, and cultural barriers. Stigma, limited access to specialized maternal care, and inadequate provider training elevate their risk. The Bar Hostess Empowerment and Support Program (BHESP) conducted a study to identify challenges in implementing Prevention of Mother-to-Child Transmission (PMTCT) interventions among FSWs in this region. Understanding these barriers is crucial for developing effective interventions.

**Objective**: This study aimed to assess barriers to PMTCT service access and implementation for FSWs living with HIV in Isiolo County and identify opportunities to improve service delivery and health outcomes for this key population. The goal was to inform the development of more responsive and effective PMTCT programs tailored to their unique needs.

**Methodology**: A voluntary prospective cohort study utilized a mixed-methods approach between September and November 2024, involving pregnant, breastfeeding, or mothers of children under two years who were FSWs living with HIV. In-depth interviews (IDIs) explored personal experiences with PMTCT services, stigma, and disclosure fears. Focus group discussions (FGDs) gathered collective insights on challenges and solutions. Key informant interviews (KIIs) with outreach workers, providers, and local authorities informed understanding of service implementation and policy gaps. Facility-based data review assessed the availability and quality of PMTCT services accessed by sex workers.
**Results**: Forty-five participants were involved: 30 FSWs in FGDs, 5 in IDIs, 8 in KIIs, and 40 facility-based assessments were reviewed. The mean participant age was 26.5 years. Notably, 36.2% reported avoiding PMTCT due to stigma and discrimination from the community and healthcare workers. Fear of disclosure to partners or providers hindered engagement for 42%. Only 58% consistently attended antenatal and PMTCT follow-up visits, while 65% reported consistent antiretroviral therapy (ART) adherence during pregnancy and breastfeeding. Facility data indicated that only 3 of 5 facilities had FSW-tailored services, and 2 of these lacked adequately trained staff.

**Conclusion**: This study highlights significant gaps in PMTCT service uptake and delivery for FSWs in Isiolo County. Stigma, fear of disclosure, and a lack of FSW-friendly healthcare infrastructure are key barriers. These gaps directly compromise pediatric health outcomes, particularly increasing the risk of HIV infection in infants born to FSWs. Effective interventions must prioritize stigma reduction within healthcare and community settings, strengthen provider training to support FSW-specific maternal and pediatric care, and improve access to integrated, FSW-sensitive PMTCT services. Expanding peer-led outreach and strengthening health systems will be vital in safeguarding both maternal and child health. Policy advocacy and multi-sectoral collaboration are essential to ensure dignified, respectful, and effective healthcare access for FSWs and their children.

192

# Assessing the Impact of Peer Interventions on the PMTCT Cascade in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis

Femi-lawal V[1], Fadairo R[1], Alabi J[1], Mustapha M[2], Asogwa C[1], Ngwu E[1], Olajide G[1], Esanju D[1]

[1]College Of Medicine, University Of Ibadan, Ibadan, Nigeria,
[2]Faculty of Clinical Sciences, University of Ilorin, Ilorin, Nigeria

**Background**: Over 90% of new paediatric HIV infections occur in low- and middle-income countries. Peer interventions can enhance retention in the PMTCT cascade, where barriers like poor adherence to ART persist. Evidence on the effectiveness of these interventions remains fragmented, however. This systematic review and meta-analysis synthesizes data on the impact of peer support interventions on PMTCT outcomes to inform scalable strategies to reduce the HIV burden in low-income settings.

**Methods**: This study followed the PRISMA guidelines. We searched PubMed, Embase, Cochrane Library, Scopus, and Google Scholar for relevant studies (2010 - 2024) using keywords such as 'peer mentors,' 'peer counselors,' 'PMTCT,' and 'low- and middle-income countries.' Data extraction was performed by independent reviewers. Study quality was assessed using Cochrane risk of bias tools (RoB2 and ROBINS-I). We assessed study heterogeneity using the I2 statistic and Cochran's Q. Meta-analysis was conducted to calculate pooled odds ratios using the random-effects model in R 4.4.3, and subgroup analysis was conducted to identify moderators of intervention effect. The level of statistical significance was set at $p<0.05$. Qualitative findings were synthesized thematically.

**Results**: From 498 unique records, we included 17 studies across 10 countries, with 24,491 participants. Peer mentors/counselors received basic training in all reported studies, and interventions were mostly held in-person (16 studies). One study reported an online intervention.

From the meta-analysis, peer interventions led to an increase in ART adherence at one year (OR: 1.19, 95% CI: 1.05-1.35), as well as at two years (OR: 2.04, 95% CI: 1.58-2.64). There was also an increase in infant uptake of prophylactic medication (OR: 3.00, 95% CI: 1.95-4.92), PMTCT retention at six weeks postpartum (OR: 2.63, 95% CI: 1.56-4.43), and viral load testing (OR: 1.21, 95% CI: 1.21, 95% CI: 1.07-1.38). No significant effects were observed for ART uptake, early infant diagnosis, HIV status disclosure, or viral suppression ($p>0.05$). Most studies (75%) reported improvements in exclusive breastfeeding.

Qualitative synthesis highlighted key benefits, including: enhanced ART initiation, retention, testing, and service utilization; improved wellbeing support, reduced stigma, and facilitation of couple disclosure; reduced health worker workload; women empowerment; acceptability in rural settings, and accessible maternal health education. Barriers to intervention success included insufficient in-service education and training for mentors, logistical issues with accessing ART, fear of HIV-related stigma due to association with community-based mentor mothers, cultural barriers conflicting with exclusive breastfeeding, poor male involvement, lack of private meeting spaces, participant relocation, and economic challenges. Facilitators included training for peer facilitators, provision of incentives for peer mentors/facilitators, and community trust.

**Conclusions**: Peer interventions significantly improve long-term ART adherence, infant prophylaxis, and PMTCT retention, but show limited impact on viral suppression and disclosure. Effectiveness is enhanced by training, remuneration, and community trust, yet constrained by stigma and health system barriers. Future interventions should integrate stigma reduction, male engagement, and health system strengthening to enhance impact.

193

# Audit of Health Records Improved Viral Load Coverage for Pregnant and Breastfeeding Women Living with HIV at Rural Health Facilities in Malawi

Cox C[1], Kaonga A[1], Kaunda G[1], Wetzel E[1,2], Simon K[1,2,3]

*[1]Baylor College Of Medicine Children's Foundation Malawi, Lilongwe, Malawi, [2]Texas Children's Global Health Network, Texas Children's Hospital, Houston, United States, [3]Department of Pediatrics, Baylor College of Medicine, Houston, United States*

**Background**: Viral suppression is critical to elimination of mother to child transmission of HIV. Increased frequency of viral load (VL) testing has been incorporated into Malawi elimination of mother to child transmission guidelines to achieve viral load suppression among pregnant and breastfeeding women. We describe a simple audit and supervision tool to reinforce implementation of these new guidelines at 70 rural health facilities in Malawi supported by Baylor College of Medicine Children's Foundation Malawi.

**Methods**: A site level audit of pregnant and breastfeeding women to identify women who need biannual VL per national guidelines was conducted in September 2024. Facility health care workers identified women missing VL milestones and flagged charts, called or conducted home tracing if appointment was more than six weeks away, and focused on VL collection for pregnant and breastfeeding women at antenatal, ART and mother-infant pair clinics. In January 2025, 4 months after the initial audit, facility teams reviewed the initial lists and reported how many women had received catchup VL collection. Sites with outstanding gaps were identified for additional supportive supervision. Routine program data was reviewed to monitor progress.

**Results**: There were 2886 pregnant and breastfeeding women identified as overdue for viral load collection in September 2024 whose records were reviewed in January 2025. Nearly 80% (79.8%, n=2290) had VL collection completed. About 10%(n=596) remained in need of VL collection, while 3.8%,(n=109) had transferred out, 3 (0.1%) died, and 198 (6.9%) were not yet eligible due to treatment interruption, or no longer pregnant or breastfeeding so were no longer eligible for biannual VL.

**Conclusion**: With a simple tool to list and track follow-up completion for women needing VL collection, rapid catch-up and high VL coverage rates can be achieved at rural health facilities in Malawi. Through this tool, sites needing additional support due to ongoing gaps can be easily identified.

194

# Advancing Adolescent SRHR: A Holistic Approach to Integrated Care and Service Delivery for Young People in Tanzania

Lyimo D[1]

[1]Children's Dignity Forum, Dar es Salaam, Tanzania, United Republic of

**Background**: Adolescents and young people (AYP) aged 10-25 face critical sexual and reproductive health (SRH) challenges, including teenage pregnancies, unsafe abortions, sexually transmitted infections (STIs), and HIV. The You(th) Care Project, implemented by the Children's Dignity Forum (CDF) and Network of Young People Living with HIV (NYP+), in Tanzania's Tarime District, seeks to empower AYP especially girls and vulnerable adolescents to advocate for SRHR, practice self-care, and access digital self-care services. Implementing the Youth Care (YC) project effectively requires a strategic approach that addresses the unique needs of young people while ensuring sustainability and impact. Key approaches include Stakeholder Engagement and Collaboration, Capacity Building and Training and Community Sensitization and Awareness Creation.

**Methods**: A mixed-methods evaluation approach was employed, including case study design, with data collected from 100 participants across six health facilities in Tanzania. Methods comprised questionnaires, semi-structured interviews, focus group discussions, and document reviews. Quantitative data were analysed using SPSS, while qualitative data were transcribed and thematically analysed. Policies and laws related to SRHR were also reviewed to identify gaps and propose necessary reforms.

**Results**: The project achieved significant improvements in SRH outcomes for AYP, with 96% reporting knowledge of safe contraceptive use, 94% aware of HIV testing procedures, and 68% understanding family planning methods. Positive attitudinal shifts included reduced HIV stigma 93% and greater comfort discussing HIV with partners 72% . Behavioural changes included increased condom use 81% and regular HIV testing 69%. AYP demonstrated greater agency, with 79% serving as referral points and 73% actively demanding SRH commodities. Social norm changes were noted, including enhanced support from decision-makers and reduced stigma by healthcare workers. However, barriers such as limited youth-friendly infrastructure and restrictive policies persisted.

**Conclusions**: The You(th) Care Project has effectively increased SRHR knowledge, attitudes, and behaviors among AYP while promoting supportive social norms. However, challenges, including inadequate budget allocations, policy barriers, and limited health infrastructure, underscore the need for: Policy amendments to reduce barriers, such as age restrictions for SRH services. Increased funding to expand youth-friendly services. Investments in community-based education and infrastructure to sustain progress.

195

# Enhancing Pediatric HIV Viral Load Suppression Through Specialist-Led Individualized Care: A Case Study from Central Hospital Benin, Edo State, Nigeria

Jackson J[1]

[1]*Heartland Alliance Limited Guarantee (halg), Benin City, Nigeria*

**Background**: Pediatric viral load suppression is a critical indicator of effective antiretroviral therapy (ART) in children living with HIV. Central Hospital Benin, Edo State is one of the facilities with high pediatric TX CURR in Southern Nigeria. The facility has reported persistently low viral load suppression rates among pediatric clients (<15 years), ranging from 70% to 77% over the past year. This study aims to evaluate the impact of assigning a specialist pediatrician to provide individualized care for pediatric HIV clients on viral load suppression rates at Central Hospital Benin, a facility supported by the Accelerating the Control of HIV Epidemic (ACE)- Cluster 6, a USAID-funded project in Southern Nigeria within a period of six months.

**Methods**: A prospective cohort study design was employed from July to December 2024. Integrated stakeholder engagements led to the assignment of a pediatric specialist to manage pediatric clients receiving ART services in the facility. Key interventions by the specialist included adherence counselling, detailed medical history review, physical examination, and specialist management of concurrent pediatric illnesses. The primary outcome measure was the pediatric viral load suppression rate (percentage of pediatric clients achieving viral load <1000 copies/mL). Data on viral load outcomes were collected from facility electronic medical records. The statistical analysis method used was the Paired t-test to compare pre-intervention and post-intervention viral load suppression rates. Effect size calculation was carried out to determine the magnitude of improvement.

**Results**: A total of 203 pediatric clients (<15 years) receiving ART services were included in the analysis. Viral load suppression rate at onset of study averaged 73.5% (95% CI: 70%–77%). Following the intervention, the suppression rate improved significantly to 88% ($p < 0.001$). The absolute increase in suppression rate was 14.5 percentage points, with an effect size (Cohen's d) of 0.65, indicating a medium-to-large impact of the intervention.

**Conclusion**: The assignment of a specialist pediatrician for individualized case management demonstrates the potential of targeted, patient-centered interventions to address pediatric ART challenges in resource-limited settings. Further studies should explore scalability and cost-effectiveness of similar interventions in other facilities in Nigeria and Africa at large.

196

# Local Implementation of Argentina's First National Guideline to Support Breastfeeding for Women Living with HIV in Buenos Aires

Maydana M[1,2], Lovano F[1,2], Santa Cruz L[2]

*[1]Sor Maria Ludovica Children´s Hospital, La Plata, Argentina, [2]HIV Department of the Provincial Ministry of Health, La Plata, Argentina*

**Background**: In December 2023, the HIV Vertical Transmission Group of the Argentine Infectious Diseases Society (SADI) launched the first national guidelines to support informed infant feeding decisions for parents living with HIV. The updated consensus changed the breastfeeding "contraindication" for mothers with undetectable viral loads during pregnancy to a "non-recommendation" status. These guidelines aim to provide breastfeeding support and follow-up for mothers who choose to breastfeed, with the involvement of healthcare providers (HCPs) in Argentina.

**Objective**: To describe key aspects of implementing the SADI HIV consensus in public healthcare facilities in Buenos Aires to support breastfeeding among HIV-positive mothers.

**Description**: In Buenos Aires, the implementation of the SADI consensus has been endorsed by the HIV Department of the Provincial Ministry of Health. Key aspects of the implementation include: Education and Training: Free online courses for healthcare professionals, such as pediatricians and general practitioners, ensure that they are up-to-date on the latest guidelines related to HIV and breastfeeding. This is critical for providing informed support to HIV-positive mothers. Access to Support and Follow-Up: HIV-positive mothers receive ongoing support, including monitoring of their viral loads. This approach guarantees that healthcare providers are able to provide timely intervention if necessary, and ensures that mothers and babies are regularly monitored for their health and wellbeing. Information System Integration: The use of the Argentine Integrated Health Information System (SISA) ensures that all cases of HIV-positive mothers are tracked efficiently, allowing for coordinated care and follow-up. Community Involvement: The participation of community representatives, such as Latin ICW, in meetings with delegates fosters a supportive environment, ensuring that the voices and needs of HIV-positive women are heard and addressed. Interdisciplinary Guidelines (in process): The development of a provincial guideline in alignment with the national consensus allows for a standardized and cohesive approach to managing breastfeeding in HIV-positive women across the country.

**Conclusions**: Buenos Aires has established a programmatic framework for addressing breastfeeding in women living with HIV, under the guidance of the HIV Department of the Provincial Ministry of Health, following the publication of the first consensus on breastfeeding and HIV in Argentina.

197

# Improving Treatment Outcomes of Children, Adolescents and Young Persons Living with HIV Through Operation Triple Zero ARV Refill Clubs in Northern Nigeria

ODIMA C[1], Ashivor J[1], Ukueku K[1], Maikenti Y[1], Anyanti J[1], Omokhudu I[1], Adebayo O[2], Adekola A[2], Bello Raji H[2], Workneh N[3], Kimeu J[3]

*[1]Society for Family Health, Abuja, Nigeria, [2]Institute of Human Virology, Abuja, Nigeria, [3]The Global Fund, Geneva, Switzerland*

**Background**: The Operation Triple Zero (OTZ) initiative is an asset-based program that aims to nurture the potential within adolescents and young people living with HIV (AYPLHIV) aged 10 – 24 years to be part of the solution to their health challenges. OTZ engages these groups of persons, with their caregivers as active stakeholders and partners in their health by promoting a responsive service model to ensure they commit to treatment goals and caregivers' full participation in AYPLHIV treatment goals. OTZ meetings are used to promote medication adherence and to bring back to care AYPLHIV that interrupted treatment.

**Methods**: The Operation Triple Zero (OTZ) initiative is an asset-based program that aims to nurture the potential within adolescents and young people living with HIV (AYPLHIV) aged 10 – 24 years to be part of the solution to their health challenges. OTZ engages these groups of persons, with their caregivers as active stakeholders and partners in their health by promoting a responsive service model to ensure they commit to treatment goals and caregivers' full participation in AYPLHIV treatment goals. OTZ meetings are used to promote medication adherence and to bring back to care AYPLHIV that interrupted treatment.

**Results**: Treatment outcome data of 284 AYPLHI (136 males and 148 females) were reviewed, 209 of the AYPLHIV were aged 10-17 years while 75 were between 18-24years. Treatment retention analysis revealed that 264 (93%) were actively in treatment, 16 (5.6%) had interrupted treatment, and 2 (0.7%) were transferred to other treatment sites within the review period. Findings from the study showed that about 278 (96.4%) of the AYPLHIV had recent viral load results, with a 91% suppression rate. Two (1M, 1F) suspected cases of tuberculosis were identified and managed among the AYPLHIV, while 281 (99%) showed no sign of TB within the three months of review.

**Conclusions**: Treatment outcome data of 284 AYPLHI (136 males and 148 females) were reviewed, 209 of the AYPLHIV were aged 10-17 years while 75 were between 18-24years. Treatment retention analysis revealed that 264 (93%) were actively in treatment, 16 (5.6%) had interrupted treatment, and 2 (0.7%) were transferred to other treatment sites within the review period. Findings from the study showed that about 278 (96.4%) of the AYPLHIV had recent viral load results, with a 91% suppression rate. Two (1M, 1F) suspected cases of tuberculosis were identified and managed among the AYPLHIV, while 281 (99%) showed no sign of TB within the three months of review.

198

# Outcomes of Paediatric and Young Adolescents Receiving pABC/p3TC+pDTG Treatment at Largest Public ART Clinic in Lilongwe, Malawi

Tembo P[1,2], Mtemang'ombe E[1], Chiwoko J[1], Kachere L[1], Kudzala A[1], Huwa J[1,2], Thawani A[1], Rambiki E[1]

*[1]Lighthouse Trust, Lilongwe, Malawi, [2]Kamuzu University of Health Sciences, Blantyre, Malawi*

**Background**: In 2021, the Malawi national HIV program rolled out use of paediatric Dolutegravir (pDTG+ (pABC/3TC) or (AZT/3TC)) among children living with HIV (CLHIV), following recommendation by the World Health Organization (WHO). However, impact of the regimen on paediatric ART outcomes is continuously being assessed. We compared ART retention and viral load suppression rates among children before and after introduction of pDTG regimen at largest public ART clinic in Lilongwe, Malawi.

**Material and Methods**: We conducted pre-post retrospective cohort analysis among CLHIV receiving paediatric dolutegravir based regimen at Martin Preuss centre. Children in pre-pDTG group received (efavirenz, lopinavir/ritonavir (EFV-LPV/r)) based regimen between January 2018 and June 2021 whilst children in post-pDTG group received (pDTG+ (pABC/3TC) or (AZT/3TC)) regimen between July 2021 and December 2024. Descriptive analysis was conducted to describe clients' demographic and clinical characteristics. Kaplan–Meier survivor function was used to compare outcomes (retention and VL suppression rates) at 36months between unpaired treatment groups. Log-rank test and Chi-square test were conducted at 5% significance level.

**Results**: The analysis used a total of 695 ART children, with median age 2years (IQR=3), and 367 (53%) females. The age distribution at ART initiation comprised 554(80%), 132(19%) and 9(1%) with age-groups (0-4)years, (5-9)years and (10-14)years respectively. The reasons for ART initiation included 266(38%) being under 5 children, 282(40%) WHO (3&4) and 147(22%) WHO(1&2). There were 386(56%) children in post-pDTG-group who received pDTG based regimen and 309(44%) in pre-pDTG-group received (EFV or LPV/r) based regimen. Overall, 622(90%) of clinic appointments were client visits (p-value =0.001) with 362(94%) in post-pDTG group and 260(85%) in pre-pDTG group. Retention rate at 36 months was 98% (95%CI: 97.9%-98.5%) in post-pDTG group against 95% (95% CI:94.5%-96.2%) in pre-pDTG group. Log-rank test for equality of survivor functions had p-value = 0.001. The viral load (VL) suppression rate at 36months was 92% (95%CI: 91%-93%) in post-pDTG group against 91% (95% CI:90%-91%) in pre-pDTG group. Tarone-Ware test had p-value = 0.001.

**Conclusion**: The children who received pDTG based regimen had demonstrated to have good virological suppression rate provided CLHIV are adherent to clinical appointments. We recommend enrolling all children in pDTG based regimen to sustain good clinical outcomes.

199

# Designing a Community of Practice for Healthcare Workers to Adopt Integrated PrEP Delivery in Maternal and Child Health Clinics

Odhiambo B[2], List K[1], Awuor M[2], Dollah A[2], Okombo M[2], Oyugi N[2], Abuna F[2], Sharrock K[1], Sila J[2], Dettinger J[1], Owuor F[2], Sifuna E[2], Oketch G[2], Ngumbau N[2], Onentiah J[3], John-Stewart G[1], Wagner A[1], Kinuthia J[2], Rubin Means A[1]

*[1]Department of Global Health, University of Washington, Seattle, USA, [2]Kenyatta National Hospital, Nairobi, Kenya, [3]Ministry of Health, Nairobi, Kenya*

**Objective**: This study aims to test a scale-up package to expand the delivery of pre-exposure prophylaxis (PrEP) for pregnant and postpartum women in Kenya. This analysis seeks to support healthcare workers (HCWs) in integrating PrEP within maternal and child health (MCH) services by identifying preferences for designing and implementing a community of practice (CoP). CoPs have been used in low- and middle-income countries (LMICs) to disseminate best practices and provide a space for group problem-solving. We are piloting a CoP for healthcare workers to facilitate interaction and co-learning based on the findings from this analysis.

**Methods**: We conducted 12 focus group discussions (FGDs) with 94 participants, including HCWs and facility leadership from MCH clinics, and county and national-level representatives in Kisumu, Siaya, and Homa Bay counties between July and September 2024. Data were transcribed verbatim and analyzed using matrix-based rapid qualitative analysis. Two reviewers identified key themes related to the design, content, and implementation of CoPs for adopting integrated PrEP delivery in MCH clinics.

**Results**: Three main themes were identified regarding factors affecting the design and launch of a CoP for integrated PrEP delivery in MCH. First, CoPs require early and thorough stakeholder engagement to reflect member preferences. There was a strong preference for WhatsApp as a space for CoP member interaction, given its familiarity. Participants also emphasized the importance of accessing updated PrEP guidelines and practical guidance for counseling on eligibility, side effects, pill burden, and partner stigma through the CoP. Second, CoPs should provide ongoing capacity building for all levels of HCWs, not just direct service providers. Participants preferred a single CoP for all cadres rather than separate spaces by level. Third, capacity building should be integrated into existing health systems, using models like the national training of trainers and regular continuing medical education sessions.

**Conclusion**: CoPs to facilitate PrEP in MCH are likely feasible with WhatsApp and would enable providers to keep up with guideline changes and learn innovative program implementation strategies from fellow providers. Effective COPs could include varied MCH topics with tight integration within the health system.

200

# Differentiated Service Delivery and Guideline Recommendations for Pregnant and Postpartum Women with HIV: A Scoping Review

Slaughter M[1], Kipchumba B[2], Kular A[1], Muli L[3], Carlucci J[1], Humphrey J[1]

*[1]Indiana University School Of Medicine, Zionsville, United States, [2]Moi Teaching and Referral Hospital, Reproductive Health, Eldoret, Kenya, [3]Academic Model Providing Access to Healthcare, Eldoret, Kenya*

**Background**: Differentiated service delivery (DSD) is a person-centered HIV care approach endorsed by the World Health Organization (WHO) that adapts and simplifies HIV services to meet the needs and preference of people living with HIV. While DSD has been widely implemented in countries with high HIV burdens, evidence supporting DSD adoption and national guideline recommendations for pregnant and postpartum women living with HIV (WLH) in these settings have not been systematically reviewed. We examined and synthesized the medical literature and national guidelines to evaluate the scope of DSD implementation and guidance for this population.

**Methods**: We systematically screened and synthesized English-language literature from PubMed, OVID, and EMBASE through December 2024 to identify empirical studies on DSD for pregnant or postpartum WLH. Eligible studies included reports from the 30 UNAIDS Global Prevention Coalition or Global Plan priority countries, focusing on HIV service delivery adaptations such as clinical encounters (e.g., monitoring and adherence support), task shifting, and ART distribution. National guidelines from these countries were reviewed to evaluate DSD eligibility criteria and service models for pregnant and postpartum WLH. Primary outcomes included the number of eligible studies and the proportion of national guidelines incorporating DSD for this population.

**Results**: Among 1,925 reports identified through the literature search, 7 (0.4%) met the inclusion criteria and were included in the analysis, including four quantitative studies and three qualitative studies from four countries: Tanzania, Malawi, South Africa, and Kenya. Reports focused on DSD eligibility (n=1), frequency of clinical encounters (n=5), and ART distribution (n=5). Guidelines in 19/30 (63%) countries (median publication year, 2022) included pregnant or postpartum WLH in DSD eligibility, focusing mainly on multi-month ART dispensing and less frequent (3-6 monthly) clinical encounters. DSD eligibility in most guidelines aligned with WHO guidelines for individuals established on ART.

**Conclusions**: Few studies have examined DSD models for pregnant or postpartum WLH in UNAIDS priority countries, and not all guidelines include this population in DSD. More research is needed to identify optimal DSD models and ensure equitable access to DSD for this unique population.

201

# Using Continuous Quality Improvement Approach to Improve HIV Viral Suppression among Children and Adolescents Living with HIV in a National Teaching Referral Hospital in Kenya

Kamau R[1], Mutai K[1], Wahome S[1], Nyamweya D[1], Opiyo N[1], Anudo B[1]

[1]KENYATTA NATIONAL HOSPITAL, Nairobi, Kenya

**Background**: HIV viral suppression is the ultimate goal of ART programs globally with UNAIDS setting the target at 95% to be achieved by 2030. Program data in Kenya shows progress toward achieving global goals, especially in the adult population. However, HIV viral suppression among children and adolescents living with HIV (CALHIV) is sub-optimal despite their vulnerability to the adverse effects of advanced HIV disease. We initiated a continuous quality improvement (CQI) activity aimed at enhancing HIV viral load suppression and improving the quality of care for CALHIV.

**Methods**: This analysis included CALHIV on ART follow-up at the Kenyatta National Hospital in Kenya from Oct 2022 to Sept 2024. High HIV viral load was defined as VL results ≥200 copies per mL of blood. Program reports were reviewed at baseline and a fish-bone analysis was done to identify barriers and opportunities for VL suppression in CALHIV. Plan-Do-Study-Act (PDSA) model was used to institute changes in healthcare processes. The interventions tested included school holiday clinic scheduling, caregivers' training for drug adherence, family clinics for holistic support, and virtual sessions. A rigorous monitoring system was implemented for timely review of milestones and modification of interventions. Monthly analysis of outcomes and VL suppression rates were presented using proportions and 95% confidence intervals.

**Results**: A cohort of 496 CALHIV were active on ART in the period. The age distribution was 0-9 years, 87 (18%); 10-14 years, 113 (23%) and 15 to 19 years, 296 (60%). There was a notable improvement in HIV viral suppression from 86.6% (95% CI 83.5-89.1%) at baseline to 92.3% (95% CI 89.6-94.4%) at the evaluation phase. The high viremia cohort reduced by 55% in the period from 76 clients at baseline to 39 clients at the evaluation phase. Timely completion of enhanced adherence counseling (EAC) sessions improved from 20.8% (95% CI 9.2-40.5%) at baseline to 75.7% (95% CI 64.8-84.6%).

**Conclusions**: Several inherent challenges related to systems and processes hinder successful management of high viremia among CALHIV. Quality improvement approaches are very effective in addressing the hindrances, improving the quality of services, and achieving VL suppression in this vulnerable population.

202

# A Peer Support Approach to Client Management Is Not Inferior to Traditional Case Management: A Study among Young Persons Living with HIV in Nigeria

Nwanja E[1], Onwah O[1], Akpan U[1], Udo E[1], Mba A[2], Toyo O[1], Nwangeneh C[3], Okolo C[1], Ogundehin D[4], Katbi M[4], Obiora-Okafo C[4], Idemudia A[4], Aikhomokhor A[5], James E[4], Pius J[4], Oyelaran O[4], Onyedinachi O[1], Adegboye A[1], Eyo A[1]

*[1]Excellence Community Education Welfare Scheme (ECEWS), Uyo, Nigeria, Uyo, Nigeria, [2]Achieving Health Nigeria Initiative, Uyo, Nigeria, [3]FHI360, Abuja, Nigeria, [4]Office of HIV and TB, United States Agency for International Development, Abuja, Nigeria, [5]National , Abuja, Nigeria*

**Background**: Peer supporters have effectively provided psychosocial support to young persons living with HIV (YLHIV), but this has not been well documented in Southern Nigeria. In 2023, the PEPFAR/USAID-funded ECEWS ACE-5 project trained and integrated peer supporters into clinical teams to support the management of YLHIV. This study compared HIV treatment outcomes between YLHIV managed by peer supporters and those managed by traditional case managers in Southern Nigeria.

**Methods**: This retrospective cohort study analysed data from electronic medical records of YLHIV aged 15-24 years receiving antiretroviral therapy (ART) as of September 2023 at 24 health facilities in Akwa Ibom and Cross River States. These facilities implemented both traditional and peer-based case management for YLHIV. Data extracted included age (15-19 years, 20-24 years), sex, case manager type (peer supporter or traditional case manager), duration on ART, ART status, and viral load (VL) results with dates, as of September 2024. In the peer-based approach, YLHIV were randomly assigned to peer-supporters, to a maximum of 150 YLHIV per peer-supporter, with the remaining YLHIV assigned to traditional case managers. Retention was determined by "active" ART status as of September 2024), while viral suppression was categorised into undetectable (<50 copies/ml), and suppressed (51-1000 copies/ml). Chi-square was used to compare retention and viral suppression as of September 2024 between clients managed by traditional case management (YLHIV assigned to case managers who also managed adults) and those managed via the peer-based approach between September 2023 and September 2024.

**Results**: A total of 4,979 YLHIV were included: 79.0% (3,932) were female, 75.7% (3,768) were aged 20-24 years, 23.4% (1,169) were managed by peer supporters, with a median duration on ART of 4.1 years (IQR=2.8-4.9). Retention was comparable between YLHIV managed by peer supporters and those managed by traditional case managers (93.4% (1092/1169, vs 94.9% [3617/3810]; p=0.411, respectively). Undetectable viremia was 88.5% (969/1095) among those managed by peer supporters compared to 93.6% (3,408/3,640) and those managed by traditional case managers (p<0.001), while suppressed VL was 96.9% (1,061/1095) vs 98.9% (3,599/3,640) (p<0.001), respectively.

**Conclusions**: Peer-based approaches are comparable in clinical outcomes to traditional case management and offer additional psychosocial support advantages for YLHIV.

203

# The Hidden Crisis: Pediatric HIV Risks among Children of Key Populations in Marsabit, Kenya

Njoroge P[1], Kerubo A[1], Akose J[1], Abdullahi A[1], Bore H[1], Otambo P[1], Gatwiri N[1]

[1]*Bhesp, Marsabit , Kenya*

**Background**: Children of female sex workers (FSWs), men who have sex with men (MSM), and people who use injectable drugs (PWIDs) in Marsabit County face a heightened risk of HIV due to parental stigma, economic struggles, and limited healthcare access. Many MSMs maintain heterosexual relationships as a social front, restricting their engagement with HIV services. PWID mothers frequently leave their children under informal care arrangements, leading to missed HIV treatment. FSWs, often driven by climate change-induced poverty, rely on their eldest children for caregiving, delaying medical attention for younger siblings. This study examines the impact of these factors on pediatric HIV care and explores AI-driven risk prediction models to identify gaps.

**Methods**: A mixed-methods approach was used:
1. Quantitative Surveys – 250 KP individuals (100 FSWs, 80 MSM, 70 PWIDs) completed structured questionnaires on barriers to pediatric HIV care.
2. Qualitative Interviews – 15 healthcare workers were interviewed to assess challenges in treating children from KP families.
3. AI-Based Predictive Analysis – Machine learning models were used to analyze trends in pediatric HIV risk, identifying key determinants of missed care.

**Results**: 70% of MSM respondents reported avoiding HIV services for fear of disclosing their sexual orientation, reducing access to family healthcare.
60% of PWID mothers admitted prolonged child neglect, leading to missed HIV treatment appointments. 80% of FSWs relied on their eldest child for caregiving, delaying younger siblings' medical needs. AI analysis revealed that children from KP households were twice as likely to experience interruptions in HIV care compared to the general population.

**Conclusion**: Parental stigma, economic hardship, and social instability among KPs have created a silent crisis in pediatric HIV care. Urgent interventions are needed, including community-based pediatric HIV programs, AI-driven risk tracking for early intervention, and policies tailored to support children from KP families. Strengthening healthcare access through stigma-free, targeted interventions can improve pediatric HIV outcomes in Marsabit and similar underserved regions.

204

# Assessing the Impact of Community-Driven Approaches to Prevention of Mother-to-Child Transmission (PMTCT) in Resource-Limited Settings: Lessons from North-West Nigeria

Agbo A[1], Msheliza S[1], Udo S[1], Mulungi M[1], Olupitan O[2], Adebayo O[2], Bello Raji H[2], Adetiba T[2], Kimeu J[3], Reilly A[3], Ssekitooleko J[3]

*[1]The Leprosy Mission Nigeria, Federal Capital Territory, Nigeria, [2]Institute of Human Virology Nigeria, Federal Capital Territory, Nigeria, [3]The Global Fund to Fight AIDS, Tuberculosis and Malaria, Global Health Campus, Geneva, Switzerland, Geneva, Switzerland*

**Background**: Prevention of Mother-to-Child Transmission (PMTCT) of HIV remains a pressing challenge in resource-limited settings, where barriers like poor healthcare access, stigma, and low antenatal care (ANC) attendance persist. Sub-Saharan Africa accounts for over 90% of global mother-to-child transmission (MTCT) cases, with Nigeria contributing 12-15%. Despite housing an estimated 1.8 million people living with HIV (PLHIV), 20-30% of pregnant women in the region do not attend ANC visits (UNAIDS, 2023). This study evaluates the integration of community TB/HIV workers (CTHWs) and mentor mothers (MMs) into PMTCT programs in North-West Nigeria to address these gaps.

**Intervention**: Across four states (Jigawa, Sokoto, Zamfara, Kebbi), 64 CTHWs and 627 MMs conducted door-to-door HIV and TB screening, education, and linkage to care from January to October 2024. Mentor mothers—trained women Living With HIV—provided psychosocial support, adherence counselling, and stigma reduction. Monthly stipends and performance-based incentives motivated participants, who ensured HIV-positive women were linked to care and followed until the child's outcome was confirmed.

**Results**: The intervention reached over 23,290 pregnant women (January to October), with 12% testing HIV-positive, all of whom were linked to care. Community-driven approaches led to a 40% increase in ANC attendance and 95% treatment linkage for HIV-positive women. HIV testing rates among pregnant women rose by 20% (approximately 47% in 2023 UNAIDS), and MTCT rates declined by 5% (from 22-25% in 2023). Qualitative insights were gained through oral interviews and discussions with the MMs and patients which highlighted increased trust in healthcare services, enhanced health literacy, and stigma reduction, particularly in rural areas.

**Conclusion**: Community-driven PMTCT approaches have demonstrated cost-effectiveness and significant improvements in healthcare access in resource-limited settings. Leveraging CTHWs and MMs to integrate services into communities fosters early detection and sustained treatment.

205

# Tanzanite Girls Program: Empowering Adolescent Girls Living with HIV in Tanzania

Ketang'enyi E[1], Elimwaria W[1], Martine N[1], Mwita L[1]

[1]Baylor College of Medicine Children's Foundation, Tanzania, Mwanza, Tanzania

**Background**: In Tanzania, adolescent girls living with HIV (AGLWHIV) face multifaceted challenges, including adherence to long-term treatment, stigma, discrimination, and limited access to sexual and reproductive health (SRH) education. These factors contribute to low healthcare-seeking behaviors and suboptimal health outcomes. Psychosocial support programs have been instrumental in addressing these issues by providing safe spaces for adolescents to receive counseling, education, and peer support. The Tanzanite Girls Program, initiated by Baylor Tanzania, is designed to empower AGLWHIV by addressing their unique psychosocial and health-related needs. This initiative aligns with global efforts to enhance the well-being of adolescents living with HIV through structured support systems.

**Program Description**: The Tanzanite Girls Program offers interactive sessions covering a variety of topics, including life skills, self-awareness, gender-based violence, puberty, hygiene, children's rights, and the consequences of early pregnancy. The program aims to prepare HIV-infected adolescent girls to become productive community members by enhancing their decision-making abilities, self-awareness, and health-seeking behaviors.

**Key Activities**: 1. Psychosocial Support: Facilitating sessions to promote emotional well-being and resilience among AGLWHIV.
2.Sexual and Reproductive Health Education: Providing information on children's rights, violence against children, gender-based violence, and safe sex practices.
3.Adolescent-Led Discussions: Creating platforms for girls to share experiences and collaboratively address challenges.
4.Violence Reporting Orientation: Training participants on identifying and reporting cases of violence and abuse.

**Lessons Learned**: Participation in adolescent support clubs has been associated with improved self-efficacy, better adherence to treatment, and higher rates of viral suppression among adolescents living with HIV. (Gretchen A. et al 2022) The Tanzanite Girls program has observed similar outcomes, with participants demonstrating increased confidence, improved health-seeking behaviors, and stronger peer support networks.

**Conclusion**: The Tanzanite Girls Program exemplifies the positive impact of targeted psychosocial support programs for AGLWHIV. By addressing both emotional and educational needs, the program fosters a supportive environment that encourages healthy behaviors and personal growth. Continued investment in such initiatives is crucial for improving the overall well-being and future prospects of adolescent girls living with HIV in Tanzania.

206

# Empowering Adolescent Girls Through Integrated SRHR and HIV Care

Ketang'enyi E[1], Salim M[1], Martine N[1], Mwita L[1]

[1]Baylor College of Medicine Children's Foundation, Tanzania, Mwanza, Tanzania

**Background**: Adolescent girls in sub-Saharan Africa, including Tanzania, remain disproportionately affected by challenges related to sexual and reproductive health and HIV. Despite efforts to expand access, financial constraints, long distances to health facilities, and persistent myths about HIV limit service utilization. A facility survey showed that only 15% of available clinics in Mwanza offer comprehensive SRHR and HIV services, leaving many underserved. (Ndayishimiye, P. et al 2020)

**Method**: This study engaged 320 adolescent girls, 120 healthcare providers, and 15 community stakeholders in Mwanza through focus group discussions, in-depth interviews, and facility assessments. Researchers used participatory methods to identify challenges and co-develop strategies for service delivery improvement.

**Results**: The study identified significant gaps in SRHR knowledge, with only 35% of participants aware of contraceptive methods and 21% understanding the importance of regular HIV testing. Barriers such as stigma, financial costs, and transport challenges were prevalent. However, peer-led education programs showed a 60% increase in service uptake, while SMS reminders led to a 35% improvement in appointment adherence. Despite the availability of HIV testing, 5% of participants reported long waiting times and poor infrastructure as deterrents.

**Conclusion**: A multi-sectoral approach involving health, education, and community stakeholders is essential to addressing these challenges. Training healthcare providers in adolescent-centered care, integrating SRHR education into school curriculums, and addressing systemic barriers such as transportation and affordability will create a supportive environment for adolescent girls. These strategies will empower young women to access comprehensive SRHR and HIV services, reducing their vulnerability and promoting better health outcomes.

207

# Enhancing the "Know Your Child's HIV Status Plus" Testing Through Different Testing Modalities to Address HIV Testing Backlogs in Health Facilities in Lusaka Province, Zambia

Musonda B[1], Tembo S[1], Manzi V[2], Mutale B[1], Mwiinde O[3], Tenforde M[3], Tinglof K[3], Mubanga M[1], Herce M[1], Choonga S[2], Savory T[1]

*[1]Center of Infectious Disease Research in Zambia (CIDRZ), Lusaka, Zambia, [2]Lusaka Provincial Health Office, Ministry of Health, Lusaka, Zambia, [3]Centers for Disease Control and Prevention (CDC), Zambia, Lusaka, Zambia*

**Background**: Paediatric HIV case detection in Zambia remains low at 76%. The Know Your Child's HIV Status+ (KYCHS+) program was designed to improve status awareness for biological and non-biological children of women living with HIV (WLH). In May 2024, a stakeholders' meeting on paediatric HIV testing revealed that 10,330 children of WLH remained untested. To address this gap, a 'KYCHS+ backlog mop-up campaign' was launched to reduce the number of untested children by August 2024.

**Description**: The province-wide campaign involved compiling a list of WLH > 15 years on ART at each facility, eliciting information on their biological and non-biological children under the age of 19, reviewing the HIV status of every child elicited, and testing those without a valid HIV test result. Trained counsellors (with specific testing targets allocated) administered tests, and results were recorded in registers and updated in the national electronic medical record, SmartCare. The following key strategies were employed:

1. Integration of HIV testing into the Child Health Week campaigns
2. Enhanced community-based testing through weekly following up and provision of HIV self-testing (HIVST) kits for caregivers in distant locations
3. Targeted training of facility staff on accurate data recording and management

**Results**: Between May 1 to August 30, 2024, of the targeted 10,330 missing KYCS+ children, 8,877 were tested for HIV through the different modalities, achieving 86% of the campaign's overall target. Twenty-Six children tested positive for HIV, resulting in a 0.3% positivity yield. These children were initiated on antiretroviral treatment and enrolled in care.

208

# Reaching Adolescents and Young People Using HIV Self-Testing Approach, Mozambique 2024

Amane G[1], Cumbana E[1], Magaia H[1], Gaspar I[1], Couto A[2]

*[1]National Program to Control STIs HIV/AIDS, Ministry of Health, maputo, Mozambique, [2]2. Public Health Directorate, Ministry of Health , maputo, Mozambique*

**Background**: According to the 2021 PHIA survey, approximately 41.2% of individuals aged 15–24 living with HIV were unaware of their status. Mozambique continues to experience a high HIV burden, particularly among adolescents and young people aged 15–24 years. To enhance HIV testing coverage and early diagnosis, the country scaled up HIV self-testing (HIVST) through community-based distribution.

**Methods**: National programmatic data from 2024 were analyzed to assess HIVST distribution and uptake of conventional HIV testing among adolescents and young people. Descriptive statistics were used to evaluate reach and testing outcomes.

**Results**: In 2024, a total of 897,163 HIVST kits were distributed nationwide. Of these, 429,182 kits (47.8%) were provided to individuals aged 15–24 years. In the same age group, 1,733,303 individuals accessed conventional HIV testing. These figures suggest that HIVST is expanding testing coverage and serving as a gateway to conventional HTS.

**Conclusions**: Community-based HIVST implementation in Mozambique has demonstrated strong potential to reach adolescents and young people, promoting early diagnosis and linkage to care. HIVST not only increases access to testing for high-risk populations but also contributes to generating demand for conventional HTS and identifying people living with HIV. These findings support continued scale-up and integration of HIVST into national HIV strategies.

209

# Challenges of Recruiting Children and Adolescents Living with HIV with Multi-Drug Resistance into a Prospective Clinical Trial

Grasa C[9,10], Archary M[1], Frigati L[2], Violari A[3], Patel F[4], Strehlau R[5], Camacho-Gonzalez A[6], Maboa R[7], Rakhmanina N[8], Salvadori N[12], Nardone A[9], Than-In-At K[13], Koblansky A[14], Thakkar N[14], Tan L[14], Giaquinto C[9], Rojo P[9,11], Cressey T[12]

*[1]Durban International Clinical Research Site, Victoria Mxenge Hospital, Durban, South Africa, [2]FAM-CRU Stellenbosh University, Tygerberg Children's Hospital, Cape Town, South Africa, [3]Perinatal HIV Research Unit (PHRU) New Nurses Home, Chris Hani Baragwanath Academic Hospital, Johannesburg, South Africa, [4]Wits Reproductive Health and HIV Institute, Johannesburg, South Africa, [5]Rahima Moosa Mother and Child Hospital, Johannesburg, South Africa, [6]Children's Healthcare of Atlanta, Atlanta, United States of America, [7]Kalafong Hospital, Pretoria, South Africa, [8]The George Washington University, Children's National Health System, Washington DC, United States of America, [9]Penta Foundation ETS, Padova, Italy, [10]Hospital Universitario La Paz, Madrid, Spain, [11]Hospital Materno Infantil 12 de Octubre, Madrid, Spain, [12]AMS-PHPT Research Collaboration, Chiang Mai University, Chiang Mai, Thailand, [13]PHPT Foundation, Chiang Mai, Thailand, [14]ViiV Healthcare, ,*

**Background**: Fostemsavir (FTR) is a new, first-in-class drug approved for adults with multi-drug resistance (MDR) HIV. The SHIELD trial is the first study to evaluate the efficacy and safety of FTR in children and adolescents living with HIV who are failing current antiretroviral therapy (ART) and have HIV resistance to at least 1 antiretroviral (ARV) in ≥2 drug classes. We describe the challenges in recruiting participants in the ongoing SHIELD study.

**Material and Methods**: Eight clinical sites in South Africa and the United States are recruiting eligible participants aged 6 to <18 years, weighing ≥20 kg, failing ART with viremia >1000 copies/mL and having HIV resistance to at least 1 ARV in ≥2 different ARV classes, resistance to 1 ARV within their current regimen, and at least 2 fully active ARV to be paired with FTR. Resistance testing is performed centrally at screening, with additional local testing and historical data considered. Enrollment patterns were analyzed over three time periods: T1 (June 2022-May 2023), T2 (June 2023-May 2024), and T3 (June 2024-March 2025).

**Results**: Among 45 participants screened, 24 (53%) were screen failures. Of these 24 participants were screen failures, 18 (75%) had suspected lack of adherence to their current ART, which had either improved just prior to screening leading to viral load decreases >1 log10 or had a wild-type virus with insufficient drug resistance making them ineligible.

Enrollment proportions were 37% (7/19) in T1, 30% (3/10) in T2 and 69% (11/16) in T3. Several strategies were implemented to improve enrollment, including frequent discussions with site investigators engagement with national and regional 3rd-line ART committees, and extending networks for referrals to the sites. Eligibility criteria were modified to a) lower the eligibility viremia threshold to 400 copies/mL; b) inclusion of the M184V/I resistance mutation and historical resistant test results for the current ART and c) allowing participants with only 1 fully active agent with the optimized background therapy. These protocol changes expanded enrollment by three new participants.

**Conclusions**: The SHIELD trial has faced challenges in recruiting children and adolescent participants failing ART with MDR-HIV. High screening failure rates have been primarily due to suspected lack of adherence to their current ART regimen and insufficient current drug resistance. These findings highlight the difficulties of conducting clinical trials in children and adolescents with MDR-HIV, particularly in the context of adherence-related challenges that impact study eligibility. Targeted strategies, including early identification of adherence issues and close coordination with diverse clinical sites, may improve recruitment success in this specific population.

*This study is sponsored by Fondazione Penta ETS. Funder, ViiV Healthcare.

210

# Community Health Workers' Acceptability of a Directly Observed Antiretroviral Therapy (DOART) Programme for Children and Adolescents Living with HIV in Nigeria: A Mixed Method Study

Ibiloye O[1], Onyezue O, Isah A, Ademuyiwa O, Adetoye D, Anisiobi E, Omole T, Onwuatuelo I, Samuel J, Okonkwo P

[1]APIN Public Health Initiatives, Abuja, Nigeria

**Background**: World Health Organization recommends enhanced adherence counselling (EAC) for people living with HIV (PLHIV) with unsuppressed viral load. Despite EAC, the majority of children and adolescents living with HIV (CALHIV) are still not adhering to antiretroviral therapy (ART), resulting in non-suppression of viral load after EAC sessions. To overcome this challenge, we implemented home-based directly observed ART (DOART) for CALHIV with presumptive treatment failure diagnosis. In this study, we assessed the acceptability of the DOART intervention among community health workers (CHWs) in Nigeria.

**Method**: Between September and December 2024, CALHIV with high VL (>/=1000 copies/ml) were assigned to CHWs, also known as Case Managers (CM), for directly observed ART. Each CM is assigned 2-4 clients for regular home visits and follow-up to ensure ARV intake. CMs were trained to elicit barriers and to provide medication adherence counselling to CALHIV and their caregivers. Other services CM offers include TB screening, weight checks, and nutritional advice. In January 2025, A quantitative Likert scale (1-5) survey was administered to 480 CHWs and five focus group discussions were conducted to understand willingness to participate in DOART and identify barriers and facilitators. The mean of survey responses was calculated and described using descriptive statistics. Data from FGD were analysed using content analysis.

**Results**: Of the 480 CHWs that participated in the survey, 225 (46.9%) were aged 26-35 years, and the majority were female (57.5%). The mean score of affective attitude is 4.3 (agree), burden 3.3 (agree), perceived effectiveness 4.4 (strongly agree), opportunity cost 2.9 (neutral), self-efficacy 3.6 (agree), and ethicality 4.2 (agree). Questions related to intervention effectiveness had the most strongly disagreeing responses. Qualitative data identified barriers such as caregivers' refusal of home visits due to community stigma, non-disclosure of HIV status, and too frequent home visits. FGD participants recommended remote ART monitoring and the use of treatment supporters to address identified barriers.

**Conclusion**: This formative research shows that DOART was perceived acceptable and can improve medication adherence among CALHIV patients with unsuppressed VL. To improve viral load suppression, the frequency of home visits needs to be reduced, remote monitoring introduced, and CHWs trained.

211

# "Each Individual Is Unique, and Not Every Intervention Will Accommodate All the Clients, We Need to Be Flexible": Healthcare Provider Perspectives on Supporting Youth to Adhere to Antiretroviral Medication

Okinyi H[1], Nyapara F[1], Mugo C[1], Kohler P[2,6], John-Stewart G[2,3,4,5], Wamalwa D[7], Njuguna I[1,2]

*[1]Kenyatta National Hospital, NAIROBI, Kenya, [2]University of Washington, Department of Global Health, SEATTLE, United States, [3]University of Washington, Department of Epidemiology, SEATTLE, United States, [4]University of Washington, Department of Medicine, SEATTLE, United States, [5]University of Washington, Department of pediatrics, SEATTLE, United States, [6]University of Washington, Department of child, family, population health nursing, SEATTLE, United States, [7]University of Nairobi, Department of pediatrics, NAIROBI, Kenya*

**Background**: Despite effective antiretroviral therapies, non-adherence contributes to high HIV-associated mortality among youth living with HIV (YLH). Programs aimed at identifying and addressing non-adherence have variable efficacy. Exploring provider experiences of implementing different adherence strategies may improve understanding of intervention effectiveness and pave the way for novel approaches to address adherence challenges among YLH.

**Methods**: Between February and March 2025, we conducted 42 process maps describing the adherence interventions YLH received during their period of non-adherence. Records of YLH who were reported to be non-adherent to ART for over a 6-month period and who had viral load counts of > 1000 copies/ml informed mapping.

We categorized interventions into two packages: those delivered soon after a record of a high viral load (first package) and those delivered after interventions were provided and a follow-up viral load testing was done (second package). We used 29 process maps to guide discussions for six focus group discussions (FGDs) with healthcare providers delivering HIV care at six clinics in Nairobi, Kenya. Semi-structured interview guides explored healthcare providers' experiences in delivering adherence interventions, identified existing challenges, and discussed opportunities for improving adherence support strategies.

**Results**: We found that the majority of YLH (38/42) received enhanced adherence counseling (EAC) sessions and participated in specialized psychosocial support groups, 90% during the first intervention package and 100% during the second. On average, each participant attended three EAC sessions (mean [SD]: 3 [1]). Other commonly implemented interventions for persistently non-adherent YLH included multidisciplinary team (MDT) reviews (31 [74%] in the first package and 19 [58%] in the second), home visits (18 [43%] and 6 [18%]), directly observed therapy (DOT) (11 [26%] and 9 [27%]), and case management (12 [29%] and 6 [18%]) in the first and second intervention packages, respectively.

Healthcare providers generally perceived these interventions as effective in addressing common barriers to adherence among YLH. However, several challenges were identified including delayed initiation of interventions due to the inability to contact YLH or their caregivers, disengaged caregivers which led to delayed disclosure, lack of support for clinic visits, medication adherence at home, and multiple caregivers or frequent caregiver changes. Some YLH received all interventions promptly but still did not achieve viral suppression. Providers perceived that they may not have identified the real barriers to adherence in these YLH particularly for older YLH who were navigating challenging relationship problems. They expressed concern that interventions did not align with the barriers experienced by older YLH. Providers also suggested that while some youth who improved following interventions such as case manager support relapsed into non-adherence once support was withdrawn.

**Conclusions**: Individualized YLH care that fully addresses real barriers to non-adherence is critical. Understanding caregiver dynamics is essential for tailoring interventions for younger adolescents, while supportive counseling can help older adolescents navigate relationships that may impact adherence. Equipping healthcare providers to carefully determine appropriate strategies for adherence and for gradually transitioning clients off intensive support is crucial.

212

# Role of the Social Worker in Following Participants from CHER Cohort

Boyana T[1], Laughton B[1], Cotton M[1], Barnabas S[1], Fry S[1], Kruger S[1]

*[1]Tembela Boyana , Cape Town , South Africa, [2]Family Centre for Research with Ubuntu (FAMCRU), Stellenbosch University, Cape Town, South Africa*

**Introduction**: Social work is a practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work (SACSSP). Children with HIV Early Antiretroviral (CHER) trial was a landmark study that demonstrated the significant benefits of initiating antiretroviral therapy (ART) in infants under 12 weeks of age. The study was conducted at the Family Centre for Research with Ubuntu (FAMCRU) in Cape town and the Perinatal HIV Research Unit (PHRU) in Soweto. We describe the FAMCRU social worker's role in supporting participants and their caregivers during the trial and in follow-up as the participants approached adulthood.

**Methods**: The social worker introduced and facilitated a series of structured support sessions for both caregivers and children. Many mothers struggled to accept their HIV positive status and that resulted to poor adherence on infants' medication intake, social worker educated, empowered and restored their dignity to dream and to life throe counseling she had with them when a referral is made by the sub investigators (doctors that are doing clinical management). Social worker guided mothers and caregivers through the process of disclosing the children's HIV-positive status, when the children reached the age of eight. This disclosure process was conducted over four carefully planned sessions, tailored to align with each child's developmental level and capacity for understanding.

A peer-support group was established for the CHER cohort participants after disclosure, providing a safe and supportive space for shared experiences. At the age of ten, the children participated in the creation of a "Hero Book"—a therapeutic storytelling activity designed to empower them to become the authors, editors, and publishers of their own life narratives. To ensure ongoing communication and mutual support, especially during the COVID-19 pandemic, a social media group was formed. This platform helped maintain ART adherence and mitigated feelings of isolation among participants.

**Lesson Learnt**: The integration of a social worker into the pediatric research unit significantly contributed to improved medication adherence among children and facilitated greater acceptance of HIV-positive status among mothers. This acceptance enabled caregivers to respond more confidently and sensitively to their children's questions about HIV. The establishment of a support group by the social worker empowered adolescents by providing a safe, supportive environment distinct from the pressures of the broader society. Some adolescents have become comfortable sharing their HIV status on social media without fear of stigma, and many now view "HIV" as simply as three letters rather than a defining label.

**Conclusion**: Social work involvement at FAMCRU extends far beyond promoting emotional and physical well-being. Support groups are a vital resource for adolescents, fostering resilience, confidence, and a sense of belonging. Each participant is recognized not only as a peer but also as a mentor, leader, and graduate equipped with a positive outlook on living with HIV.

213

# A Systematic Review of Metabolic Syndrome (MetS) and Its Risk Factors amongst Young People Living with Perinatally-Acquired HIV

Barlow M[1], Olcott F[1,2], Arenas-Pinto A[1,2], Gilson R[1,2], Pett S[1,2]

*[1]Institute of Global Health, University College London , London, United Kingdom, [2]Mortimer Market Centre, Central and North-West London NHS Trust, London, United Kingdom*

**Introduction**: There is a high burden of metabolic syndrome (MetS), a cluster of risk factors increasing the risk of developing cardiovascular disease (CVD) and type 2 diabetes, in people living with HIV (PLWH). People living with perinatally-acquired HIV experience one to two decades more untreated/treated HIV compared to adults infected later in life, potentially altering their age-specific risk of MetS and CVD. A large evidence gap remains regarding the prevalence of metabolic risk factors and associated outcomes in young people with perinatally-acquired HIV (YPLWH). As this population enters adulthood, it is important to determine whether this cohort has a specific metabolic risk profile to guide clinical care. We conducted a systematic review on MetS prevalence and risk factors in YPLWH (aged 16–39) with perinatally-acquired HIV.

**Methods**: Searches were conducted following PRISMA methodology, on MEDLINE, Embase, Web of Sciences for peer-reviewed studies published on young people aged 16-39 living with perinatally-acquired HIV globally. Studies were excluded if participants were younger than 16 years old, or older than 39. Studies reporting the prevalence of MetS and any of the 5 National Cholesterol Education Program Adult Panel Treatment Panel III (NCEP-ATP III) and/or International Diabetes Federation (IDF) criteria were included. Other non-ATPIII/IDF components such as metabolic-associated steatotic liver disease (MASLD) and Body Mass Index (BMI) >25kg/m2 were also collated.

**Results**: 19 of 376 studies published since 2012 met inclusion criteria. 10 (57.9%) were conducted in North America, 5 (26.3%) in Africa and in total included 2,250 YPLWH. Prevalence ranges for MetS and its risk factors were wide and demonstrate geographical variance. 5 (26.3%) papers reported specifically on MetS criteria, with the total MetS prevalence ranging 3.3-13.3% across the cohort. Low high-density lipoprotein (HDL) and hypertriglyceridaemia had the highest prevalence of the five risk factors, particularly that of hypertriglyceridaemia prevalence in participants in North American studies (17.0-43.0%) and HDL levels in African studies (19.3-65.4%). 12 studies (63.2%) measured glucose abnormalities with total prevalence ranging 0.0-43.6%, highest in South-East Asia with prevalence ranging 5.6% - 42.5%. 1 study (5.3%) measured MASLD, with a prevalence of 33.0%, and 10 studies (52.6%) reported BMI measurements >25kg/m², prevalent in 11.0-59.0% of the 1136 participants. Lipid profile alteration was measured in 13.0-67.3% of the cohort in 3 studies (15.8%). The average length of antiretroviral therapy (ART) exposure was 9.4-19.7 years and up to 98% of YPLWH had previous or current exposure to protease inhibitors. A high proportion (up to 61.9%) of YPLWH had viraemia at enrolment, and a nadir CD4<200 cells/µl (%) indicative of late-stage HIV was measured in 10.1-57.0% of the cohort.

**Conclusion**: There are signals of high prevalence of MetS and its associated components in YPLWH. However, studies demonstrate significant heterogeneity in the reporting of outcomes, the data is limited and further research is needed. Limitations include lack of data on current/previous ART, lifestyle factors and comparison with the general population or similar aged people living with horizontally-acquired HIV.

214

# Prescribing Practices for Dolutegravir in West Africa for Children Under 10 Years of Age Living with HIV: The DAISY Cohort

Hedible G, Amorissani-Folquet M[2], Bagnan L[3], Dame J[4], David A[5], Azani J[6], Sodinyessi E[1], Leroy V[1], Desmonde S[1], For the DAISY Study Group

*[1]Center for Epidemiology and Research in Population Health (CERPOP), UMR 1295, Inserm, Toulouse University, TOULOUSE, France, [2]Centre Hospitalier et Universitaire de Cocody, Abidjan, Cote d'ivoire, [3]Centre National Hospitalier et Universitaire - Hubert Koutoukou Maga, Cotonou, Bénin, [4]Department of Child Health, Korle Bu Teaching Hospital, Accra, Ghana, [5]Nigerian Institute of Medical Research , Lagos, Nigeria, [6]Programme PACCI, Abidjan, Cote d'Ivoire*

**Background**: Since 2021, the WHO recommends initiating or switching to Dolutegravir (DTG)-based antiretroviral therapy (ART) in all children from 4 weeks of age, depending on their weight and regardless of virological status. Unlike adults, children—particularly infants and lower weight bands—require tailored options such as dispersible tablets or granules to ensure accurate dosing, palatability, and adherence. While DTG has been available for over four years, real-world data in younger children remains sparse outside of controlled trials. We aim to describe the baseline characteristics at DTG initiation, focusing on formulation access, in West African children living with HIV aged 0-10 years.

**Methods**: This study, nested in the IeDEA pediatric program in West Africa, was carried out in the context of the DAISY (Dolutegravir-based Antiretroviral therapy Impact and Safety in Young Children in West Africa) cohort, ongoing in six research centres offering care and treatment to children living with HIV in four countries (Cote d'Ivoire, Ghana, Benin, Nigeria). It is an observational cohort study enrolling children who transitioned to or initiated DTG less than 12 months ago, at age less than 10 years, and not co-infected with tuberculosis. Participants are to be followed up quarterly for 24-months after the DTG initiation with parent's/caregiver's consent. This analysis was based on participants' data at the time of DTG initiation and includes sociodemographic data, HIV clinical history data, and clinical and biological data on the day of DTG initiation.

**Results**: By March 2025, 36 children had been included in the DAISY cohort, three of them have missing data at DTG initiation; 33 were selected in this analysis: 13 in Nigeria, 13 in Ghana, 5 in Cote d'Ivoire and 2 in Benin. Overall, 51%(N=17) were under 5 years of age, including 30% (n=10) under 2; 49%(N=16) initiated DTG as their first ART. Among those without DTG-based regimen (N=17), 12(70%) had initiated ART after the 2021 WHO recommendation, but rather with EFV-based regimen. The 10 mg DTG film-coated tablet formulation was the most prescribed formulation (20/33 children) for all weights-groups. Only half of children weighing over 20kg (N=3/6) received the 50 mg formulation, while the 5 mg dispersible tablet formulation was prescribed only to 3 of the 10 children under the age of 2 years. At DTG initiation, the viral load of 57% of children (N=17/30) was tested and of those who transitioned to DTG, contrary to the WHO recommendations, 37.5% (6/16) had an unnecessary viral load test.

**Conclusion**: Our findings highlight gaps in the implementation of the pediatric DTG guidelines, including suboptimal formulation prescription practices and the underutilization of child-friendly formulations—most notably, the very low use of dispersible 5 mg tablets in the youngest age groups. Reasons for this remain to be described, however, these gaps underscore not only clinical practice challenges but also difficulties in planning and procurement. A better understanding of these observations could help the WHO and national HIV program managers in the implementation and monitoring of further recommendations.

215

# Achieving 100% Viral Suppression in Children and Adolescent Living with HIV (CALHIV): A Case Study of Usao Health Centre, Homabay County, Kenya

Adhu C[1,2], Ochieng R[1], Mawere I[1,2], Alaska I[1,2]

*[1]Lvct Vukisha 95, Homabay , Kenya, [2]Homabay County department of Health , Homabay , Kenya*

**Background**: Viral load suppression (VLS) is essential to reducing morbidity and mortality yet viral load suppression rate remains lower among CALHIV compared to adults VLS rate and the global target of 95%. With this suboptimal VLS rate among CALHIV in Kenya, there is higher risk of treatment failure and low quality of life among this age group. The goal of the study was to determine best, most effective and least costly ways of ensuring improved viral suppression in CALHIV at Usao Health Centre.

**Methods**: A cross sectional study with analytical purposes, running from April 2022. Inclusive of all CALHIV (0-19 years) with at least one viral load results enrolled into care at Usao Health Centre and their caregivers. Viral load results were obtained from the NASCOP website and KenyaEMR. Viral load suppression rate was calculated and comparison done with the baseline VLS rate on a monthly basis. Activities conducted were strengthening of CALHIV service delivery accessibility, coverage and quality through caregivers involvement trainings I.e disclosure process, understanding importance of good adherence and continuity of care since ART success heavily depends on caregivers. Other activities included grouping and clustering of adolescent as per their area of residence or studying institution know as "PAL(Peer And Leader)". The groups are led by peer adolescent and they help the adolescent to learn and share their experiences, best practices and challenges. The peers are capacity build in matters HIV care and treatment to help reach out to fellow adolescents who are not achieving viral suppression or having different challenges, this helps solves the issue of work load and staff shortage and also makes the adolescents to easily corelate with the peers and open up. Finally improving case management with multi sectoral linkages and referrals through OVC interphase (in Education, nutrition, psychosocial support and SRH)

**Results**: Factors associated with low viral load suppression rate were; partial involvement of caregivers in management of CALHIV, low coverage of service delivery and non involvement of adolescents in their management plan towards achieving VLS. Baseline VLS as at April 2022 showed that there were 29 paediatrics(0-14 years) on care, 28 had valid VL with 26 being virally suppressed (<200 copies) and 16 adolescents (15-19 years) on care, 16 with valid VL with 15 being virally suppressed (<200copies) averaging to a VLS rate of 93.5%. By December 2023, there were 24 pediatrics (0-14 years) on care, 24 having valid VL results with all 24 virally suppressed (<200copies) and 24 adolescents (15-19 years) on care, 24 with valid VL and all 24 suppressed (<200copies) achieving a VLS rate of 100%

**Conclusion/Recommendation**: CALHIV are more likely to achieve VLS when they and their caregivers are given information and involved in their treatment plan and they work together with health care workers towards achieving treatment goal. Multi sectoral support and involvement should also be provided to caregivers and CALHIV since ART success heavily depends on them.

216

# Factors Associated with Advanced HIV Disease among Pregnant Women Living with HIV in Kinshasa, the Democratic Republic of Congo

Boey E[1], Zotova N[1], Davenport J[1], Tabala M[2], Lumande F[2], Babakazo P[2], Kwiek J[3], Yotebieng M[1]

*[1]Division of General Internal Medicine, Department of Medicine, Albert Einstein College of Medicine, Bronx, United States, [2]School of Public Health, The University of Kinshasa, Kinshasa, Democratic Republic of Congo, [3]Department of Microbiology; The Ohio State University, Columbus, United States*

**Background**: Since 2015, all pregnant women presenting for antenatal care in the Democratic Republic of Congo (DRC) who test positive for HIV are initiated on antiretroviral treatment (ART). In addition to low rates of viral suppression, many of these women are lost to care before or immediately after delivery, putting them at risk for advanced HIV disease (AHD) by the time of their next pregnancy. However, because CD4 counts are no longer available as part of routine care, data on the burden of AHD among pregnant women living with HIV in this era of universal ART is limited. We aimed to estimate the prevalence of AHD and factors associated with it among pregnant women living with HIV in Kinshasa, DRC.

**Methods**: Between September 2021 and April 2025, pregnant women living with HIV and receiving antenatal care in one of the 17 busiest maternal and child health clinics in Kinshasa were enrolled in the study. A questionnaire was administered to collect key socio-demographic and clinical characteristics. Blood samples were also collected for CD4 count testing. AHD was defined as a CD4 count <200 cells/mm³. Primary analysis was performed using median and interquartile range (IQR). Logistic regression was used to estimate the crude and adjusted odds ratios (ORs and aORs) and 95% confidence intervals (CI) assessing the strength of associations of AHD and sociodemographic and clinical covariates. Factors associated with AHD ($p<0.2$) in bivariate analyses were included in a multivariable model.

**Results**: Out of 441 enrolled pregnant women living with HIV, valid CD4 counts were available for 375 (85%) women. The median age was 32 (IQR: 27-36) years, and 44.53% (n=167) tested HIV positive during their current pregnancy. Groups with and without CD4 counts did not differ by any baseline characteristics. Median CD4 count was 425 (IQR: 276.5-601.5) cells/µl and 13.87% (n=52) of pregnant women living with HIV had AHD. In bivariate analyses, AHD was statistically associated with receiving an HIV diagnosis during their current pregnancy versus a prior pregnancy (OR 2.03, 95% CI: 1.12-3.73), disclosure of their HIV status versus nondisclosure to anyone (OR 0.56, 95% CI: 0.3-1.03), experiencing any depressive symptoms (OR 2.23, 95% CI: 1.04-4.53), and reported physical violence (OR 2.9, 95% CI: 1.14-6.82). In the multivariate model, the estimated odds ratios for depressive symptoms (aOR 1.78, 95% CI: 0.8-3.74) did not change substantially while that of time since diagnosis (aOR 1.64, 95% CI: 0.18-1.76), disclosure of HIV status to anyone (aOR 0.72, 95% CI: 0.37-1.38), and physical violence (aOR 2.22, 95% CI: 0.84-5.41) all decreased substantially.

**Conclusion**: Consistent with previous studies, approximately 14% of pregnant women living with HIV in our study had AHD. AHD was associated with recent HIV diagnosis and experiences of physical violence and depressive symptoms, highlighting the social vulnerabilities and the need to address both medical and psychosocial needs of pregnant women living with HIV.

217

# Surge 2.0 Intervention to Enhance Pediatric HIV Cascades in Nairobi and Kajiado Counties, Kenya

Arodi S[1], Munene A[1], Ruttoh G[1], Marima R[1], Mecha J[1], Otieno C[1]

[1]University Of Nairobi, Nairobi, Kenya

**Background**: Despite progress in HIV treatment, pediatric coverage continues to lag behind adult populations. The University of Nairobi's USAID Fahari ya Jamii project implemented Surge 2.0, a targeted, data-driven intervention to enhance pediatric HIV care. Drawing from successful surge approaches in Africa, this study assessed the intervention's impact on HIV outcomes, compared results between counties, and identified key success factors to inform future program improvements.

**Methods**: This quasi-experimental study employed a pre-and post-intervention design to assess the impact of Surge 2.0 on pediatric HIV care. The intervention was implemented across 50 high-volume health facilities (29 in Nairobi, 21 in Kajiado) over six weeks, with an extension period. Facilities were activated in January 2022, with daily monitoring by sub-county mentors, hub leads, and technical teams. Key intervention strategies included targeted case management, joint caregiver-child clinic appointments, and optimized antiretroviral therapy (ART) for children with suspected treatment failure. Facility-based mentorship was strengthened through 25 mentors, each assigned to two facilities, conducting daily follow-ups. On-site electronic medical records (EMR) refresher training and a checklist on the Kobo Collect app facilitated real-time data capture.

Data for analysis were sourced from an internal case-based surveillance system and the Kenya Health Information System (KHIS). Descriptive statistics were used to summarize key outcomes across demographic variables, including gender, age, and county. A paired t-test was conducted to determine the statistical significance of pre- and post-intervention differences, with a significance threshold set at $p < 0.05$.

**Results**: The positivity rate for HIV increased from 1.56% pre-intervention to 2.85% post-intervention. The highest positivity rate was observed in the 1-4 age group (3.34%). Index testing yielded the highest case identification (3.36%), followed by other testing modalities (3.23%) and provider-initiated testing and counselling (PITC) (1.76%). Kajiado County recorded a higher positivity rate (4.78%) compared to Nairobi. ART initiation rates improved significantly, with 61.3% of children starting treatment on the same day as diagnosis. ART coverage exceeded 100%, particularly in the 1-4 age group. Viral suppression rates improved in both counties, with a statistically significant increase in Kajiado ($p=0.0302$).

**Discussion**: While viral suppression in Nairobi did not show significant change, overall improvements in case identification, ART initiation, and viral suppression in Kajiado underscore the impact of a multi-strategy approach to pediatric HIV care. The findings highlight the value of targeted, data-driven interventions in improving HIV outcomes for children.

**Conclusion**: The Surge 2.0 intervention successfully enhanced pediatric HIV care, demonstrating increased case identification, ART initiation, and viral suppression. The results reinforce the importance of community-based and multi-modal strategies in strengthening pediatric HIV services. Future recommendations include scaling the intervention and refining strategies to sustain improvements in viral load suppression and care delivery across diverse settings.

218

# Enhancing Viral Load Suppression and Disclosure Rates through Multidisciplinary Case Conferences in Eastern Province, Zambia: A Retrospective Study

Mutambo W[1], Kevile F[1], Mainza S[1], Phiri D[1], Mutambo W[1], Ng'ambi M[1]

[1]*Eastern Provincial Health Office - Ministry Of Health, Chipata, Zambia*

**Background**: Despite antiretroviral therapy (ART) advancements, viral load suppression and HIV disclosure rates remained suboptimal, particularly among paediatric and adolescent populations. Multidisciplinary case conferences (MDCCs) offer a collaborative approach to addressing these challenges. Through the Sungani Bana Initiative, Multi-disciplinary case conferences are offered to all children with a High Viral load and/or identified as having Poor adherence to ART. The initiative is aimed at ensuring continuity in Care and improved health amongst children and adolescents living with HIV (CALHIV) through case management driven support toward better treatment outcomes. This retrospective study evaluated the effectiveness of Multi-Disciplinary Case Conferences in improving viral load suppression and disclosure rates among HIV-positive individuals aged between 1-19 years in Eastern province that were enrolled in Sungani Bana Initiative.

**Methods**: Case conferences, led by Case managers at the health facility in collaboration with Caseworkers, Guardians and key stakeholders in the child life were conducted over a duration of time, usually 3-4 months for those with High Viral load and up to 6 months for Disclosure and Adherence challenges. A total of 98 children were enrolled in the Case conferencing package under the initiative. Training for 112 Healthcare workers in Age-Appropriate Disclosure and Adherence facilitation methodologies from across the Sungani Bana Implementation sites was also conducted in addition to Bi annual trainings of Case managers and Caseworkers in Case management was conducted.

**Results**: 1. Viral Load Suppression: Increased from 89% pre-implementation to 96% at 12 months, 97% at 24 months and 98% at 36 months post implementation.
2. Disclosure Rates: Improved from 40% to 85% at 36months. With 100% Disclosure rates for those graduating out of the initiative by age.
3. Correlates of Success: Stronger family support, improved adherence demonstrated by fewer missed appointments, and enhanced healthcare provider communication.

**Conclusion**: MDCCs significantly improve viral load suppression and disclosure rates among CALHIV. This multidisciplinary approach enhances patient outcomes, fosters supportive environments, and informs evidence-based interventions. This study recommends the integration of MDCCs into HIV care protocols, enhanced healthcare provider training on communication and family-centred care and strengthening community support systems for CALHIV.

219

# Improving HIV Case Identification among Children and Adolescents in Supported Health Facilities Across Six Districts in Eastern Uganda: A Cross-Sectional Study from HTS Community of Practice (CoP), March 2025

Okiror N[1,2], Ssekiswa L[1,2], Kyajuwa Jjuuko R[1], Esogu D[1,2], Barusya R[1,2], Katawera A[1,2], Mugume A[1,2], Nahirya Ntegge P[1], Birungi D[1], Kiragga D[1]

*[1]Baylor Foundation Uganda, Kampala, Uganda, [2]Local Partner Health Services Eastern Activity, Mbale, Uganda*

**Background**: HIV case identification and linkage to care and treatment is critical for attainment of UNAIDS target for epidemic control by 2030. HIV case identification in Uganda remains suboptimal at 80.9% falling well short the goal of 95% (UPHIA, 2020). The Ministry of Health (MOH) in Uganda recommends targeted testing through the optimization of high yielding modalities of index client testing, Assisted partner notification (APN) and Social Network strategy as optimal methods for HIV case identification. Although these are high yielding modalities (15%), in the Eastern region the yield was less than 5% especially among children and Adolescents. We set out to improve case identification through optimizing high yielding modalities in 18 facilities across six districts.

**Description**: Baylor Foundation Uganda implemented a multicomponent intervention to increase HIV case identification in children and adolescent population across 18 health centers. These included; Deployment of dedicated testers, weekly facility mentorships, bi-weekly learning/performance meetings, Monthly monitoring of commodities. The interventions were implemented from October 2023 to October 2024. To measure the effect of the intervention, we compared the achievement against targets for the Pead and Adolescent case finding targets.

**Results**: Between October 2023 to 15/September 2024, the 18 facilities achieved 124% (93/75) of the positives for 15 years below compared to 80% (68/75). Specifically, the Index client testing/APN achieved a yield of 6.2 while SNS achieved 8.7 % compared to 1.7 % and 2.0 % respectively achieved during October/22-September 2023. Achievement could have been higher if not for routine staff transfer that created knowledge vacuum in the facilities.

**Lessons Learnt**: Improved collaboration and knowledge sharing through a community of practice (CoP) among the front-line workers improved both yield and quality of services.

**Next steps**: It is imperative to scale up the interventions to more sites so as to contribute to efforts aimed at contributing to achieving epidemic control by 2030. Continuous Capacity building in the sites is crucial.

220

# Viral Load Testing Outcomes of HIV-Positive Children on Antiretroviral Treatment by Caregiver HIV Status Under a Family-Centered Care Model in Western Kenya, June 2024

Nyabiage L[1], Gachau S[1], Vurigwa E[2], Masinde A[3], Mwimali P[3], Otieno L[4], Wasilwa A[5], Nyanaro G[4], Ochieng K[2], Ombagi J[5], Aoko A[1]

*[1]Division of Global HIV & TB, US Centers' for Disease Control and Prevention (CDC), , Kenya, [2]Kenya Conference of Catholic Bishops- Acceleration, Transition, Sustain (KCCB – ACTS) , , Kenya, [3]LVCT Health, , Kenya, [4]Center for Health Solutions, , Kenya, [5]Center for international Health, Education and Biosecurity, , Kenya*

**Background**: Differentiated service delivery (DSD) has simplified services to cater for the needs of children living with HIV (CLHIV) and their caregivers. In Kenya, where outcomes of treatment for CLHIV are still sub-optimal, a family-centered model of care has been adopted where children are monitored alongside their primary caregivers. We evaluated viral load (VL) testing outcomes to assess the effectiveness of this DSD model.

**Methods**: We did a retrospective cross-sectional analysis of data aggregated from electronic medical records and manual registers for CLHIV aged <10 years from five high HIV burden counties in Western Kenya (Siaya, Kisumu, Homabay, Migori, and Kisii). The dataset included children active on antiretroviral therapy as of June 30, 2024, linked to primary caregivers, with VL testing outcomes tracked concurrently. Variables of interest were VL test done within the last six months and HIV status of caregiver. We conducted descriptive data analysis and estimated unadjusted odds ratio (OR) and their corresponding 95% confidence intervals (CI) to determine associations between child viral suppression (VL<200copies/ml) and caregiver HIV status.

**Results**: A total of 6014 children were linked to caregivers and 4879 had valid VL, of whom 75.8% had HIV-positive caregivers, 18.2% had HIV-negative caregivers, and 6.0% had caregivers with unknown HIV status. Overall, 94.5% (n=3697) of HIV-positive caregivers had valid VL of whom 93.0% were virally suppressed (VS), and 81.1% of children had valid VL of whom 88.0% VS. The proportion of VS children was highest among those with HIV-positive caregivers (89.3%, n=3697), followed by those with unknown caregiver status (86.3%, n=295), and those with HIV-negative caregivers (83.0%, n=887). The odds of viral suppression were significantly higher for children of HIV-positive caregivers compared to those with HIV-negative caregivers (OR=1.72, 95% CI: 1.40–2.11). HIV-positive caregivers of CLHIV who were virally suppressed had significantly higher odds of achieving viral suppression compared to HIV-positive caregivers of unsuppressed children [OR= 4.16, 95%CI: 3.08–5.64].

**Conclusion**: While most children were virally suppressed, those with HIV-positive caregivers had higher odds of viral suppression. Virally suppressed caregivers were more likely to have virally suppressed children. Focused support might be necessary for unsuppressed children-caregiver pairs, especially CLHIV of unsuppressed caregivers.

221

# Addressing HIV and Sexually Transmitted Infections (STIs) in Adolescents: The Role of Traditional Health Practitioners in South Africa

Netsianda T[1]

[1]Khamba Le Kamba Project, Mogale City, South Africa

**Background**: South Africa has one of the highest HIV and sexually transmitted infection (STI) rates globally, with adolescents being disproportionately affected. Limited access to sexual and reproductive health (SRH) services, stigma, and cultural taboos hinder prevention and treatment efforts. Many adolescents turn to Traditional Health Practitioners (THPs) for care, yet their role in national HIV and STI strategies remains underutilized. This study explores how THPs engage in adolescent SRH, identifying gaps, challenges, and opportunities for collaboration with biomedical healthcare services.

**Methodology**: A qualitative approach was used, focusing on the West Rand district. Data collection included:

- Interviews with 30 THPs to assess their knowledge and practices regarding HIV and STIs.
- Focus groups with 30 adolescents to understand their healthcare-seeking behaviours and perceptions of THPs.
- Key informant interviews with healthcare professionals to evaluate current collaboration efforts.
- Field observations to document THP treatment practices and community engagement.

Findings were analysed thematically to determine key patterns and intervention areas.

**Results**: THPs serve as trusted healthcare providers, offering counseling, traditional remedies, and cultural explanations for illness. However, several challenges were identified:

- Knowledge gaps: While some THPs understand HIV/STI transmission and prevention, misinformation persists, such as beliefs in spiritual causes and non-biomedical cures.
- Stigma and accessibility issues: Adolescents fear judgment from both THPs and biomedical professionals, limiting their willingness to seek care.
- Lack of collaboration: There is minimal engagement between THPs and formal health institutions, leading to missed opportunities for referrals.
- Preference for traditional medicine: Many adolescents choose THPs due to cultural familiarity, affordability, and perceived effectiveness.

**Lessons Learned**: 1. Cultural alignment is key: Adolescents seek care that respects their cultural beliefs, highlighting the need for integrated SRH approaches.
2. Training THPs improves outcomes: Equipping THPs with accurate HIV/STI knowledge enhances their ability to provide informed care.
3. Partnerships strengthen health systems: Structured collaboration between THPs and biomedical practitioners improves referral and treatment adherence.
4. Youth-centered strategies matter: Adolescents require confidential, non-judgmental, and accessible SRH services.

**Recommendations**: • THP Capacity Building: Develop standardized training programs on HIV/STI prevention and management.
- Policy Reform: Establish formal partnerships between THPs and public health facilities.
- Community Education: Conduct culturally relevant awareness campaigns to reduce stigma and misinformation.
- Youth-Friendly Approaches: Create safe spaces where adolescents can access both traditional and biomedical healthcare.

**Scalability**: This model can be expanded nationwide by:

- Piloting THP training programs in multiple regions.
- Establishing national guidelines for THP involvement in SRH.
- Using digital platforms to enhance ongoing THP education and adolescent-friendly services.

By integrating THPs into adolescent HIV and STI interventions, South Africa can create a culturally responsive, inclusive healthcare system that reduces infection rates and improves overall SRH outcomes.

222

# Enhanced Viral Load Coverage for Optimal EMTCT Outcomes

Mubiru S[1], MAYAMBALA D[1]

[1]AIDS INFORMATION CENTER- UGANDA, Kampala, Uganda

**Background**: Effective Prevention of Mother-To-Child Transmission (PMTCT) of HIV is vital for achieving the global UNAIDS 95-95-95 targets by 2030, particularly the third 95, which aims for 95% of people on antiretroviral therapy (ART) to have a suppressed viral load. The Ministry of Health (MOH) recommends viral load (VL) testing every three months to monitor ART response. At Aids Information Center (AIC)- Kampala center of excellence, we implemented a comprehensive strategy to ensure timely VL monitoring for pregnant and breastfeeding mothers living with HIV. The purpose of this study was to evaluate the impact of timely VL coverage in PMTCT.

**Methodology**: To fast-track VL coverage, we employed a multifaceted approach. Central to this were weekly appointment follow-ups and viral load line lists of mothers due for VL testing, ensuring regular monitoring and timely interventions. Complementing appointments, a PMTCT audit tool identified and addressed necessary services, focusing on VL monitoring. Engagement of peer mothers provided continuous follow-ups and education, fostering support and adherence. A retrospective cohort study analyzed the impact of these strategies on mothers who were active in PMTCT during Jan-March 2024.

**Results**: 115 PLHIV women active in PMTCT and all underwent timely VL testing, achieving comprehensive coverage of 100%. Remarkably, only three mothers had unsuppressed VL, yielding a suppression rate of 97%, surpassing the 95% threshold for both coverage and suppression. Such outcomes underscored strategy efficacy.

**Conclusion**: Our comprehensive approach significantly improved viral load monitoring frequency and consistency, ensuring mothers achieved viral suppression. Weekly follow-ups, audit tool use, line list reviews, and peer support were critical. These results affirm our commitment to UNAIDS targets and contribute to eliminating mother-to-child transmission. This model is replicable, offering insights for enhancing PMTCT programs.

223

# Evaluating the Level of Knowledge of HIV Prevention Methods and Associated Sociodemographic Factors among Adolescents Before and After Participating in Health Education in Nimule Town of South Sudan

Bojo S[1]

[1]Strathmore University, Nairobi, South Sudan

**Introduction**: Adolescents in conflict-affected settings face limited access to health information and other prevention resources, making them more vulnerable to HIV and other sexually transmitted infections. This assessed adolescents' level of knowledge of at least three HIV prevention methods and sociodemographic characteristics associated with this knowledge before and after participating in health education in the town of Nimule, South Sudan.

**Materials and Methods**: We collected and analysed baseline and end-line data from 557 adolescents aged 10–17 recruited from HIV-affected households in Nimule town. The surveys were conducted between December 2020 and December 2022. Carers provided assent for all participating adolescents aged 10-14, while adolescents aged 15-17 were considered empowered minors by the South Sudan Ministry of Health and provided informed consent. Adolescents were then recruited into 40 peer-led health clubs and completed a three-month comprehensive sexuality education curriculum developed by the Ministry of Health. These participants were then followed up for 24 months, and an endline survey was conducted to collect comparable data. Binary logistic regression was used to assess the knowledge of at least three HIV prevention methods in line with the UNAIDS conceptualisation of knowledge and associated sociodemographic factors. Associations were reported as adjusted odds ratios.

**Results**: Of the 768 enrolled, 557 adolescents were surveyed at both baseline and endline, with 301 (54.0%) females and 276 (46.0%) males. The median age was 14 years (IQR: 11-16) at baseline and 15 years (IQR: 12-17) at the endline survey. The proportion of adolescents who knew at least three methods of HIV prevention increased from 465 (83.5%) at baseline to 556 (99.8%) at the endline survey. Unemployed adolescents had a 99% reduced chance of knowing at least three HIV prevention methods (aOR 0.01, 95% CI: 0.002-0.025, $p < 0.001$), whereas adolescents who self-rated their health as excellent had a 46% lower chance (aOR 0.56, 95% CI: 0.27-1.14, $p < 0.05$).

**Conclusions**: The increase in knowledge of methods of HIV prevention at the endline highlights the important role of peer-led health education programs in closing gaps in the HIV prevention cascade among young adolescents in conflict-affected settings.

224

# Using Commcare Digital Health Application in Community-Based Healthcare Interventions for HIV-Exposed Children in Eswatini

Themba M[1]

[1]Young Heroes, Hhohho, Eswatini

**Background**: The population of HIV-exposed uninfected (HEI) children expands rapidly. However, mother-to-child transmission of HIV remains a global health challenge despite being largely preventable. One main challenge being poor tracking and support for mothers to honour clinical appointments thus exposing the child to HIV vulnerabilities. Mobile technology has been increasingly adopted by humanitarian programs worldwide, for better programmatic design and improved monitoring and evaluation of programs. Phila Unotse project implemented by Young Heroes Organization supports the government of Eswatini to prevent new HIV infections and reducing the HIV vulnerability among young children where as part of the targeted population groups are HIV Exposed Infants tracked through Commcare mobile application.

**Study Aim**: To ascertain the effectiveness of using Commcare mobile application in managing HIV exposed infants.

**Method**: Secondary data analysis of routine data collected from January 2024 to September 2024 within ongoing implementation of Phila Unotse project was explored. Trained Community Health workers called Home Visitors (HVs) identify HIV exposed children, provide consent to identified caregivers for enrollment into the project and provide health support to ensure that children stay HIV negative until end of exposure. An electronic appointment tracker (Commcare mobile application) for HEIs is maintained. Monthly, HVs review the online tracker to identify HEIs due for testing and provide follow-up and support to caregivers. HEIs who missed clinic appointments are visited and issued with referrals within 3 days and document on the online tracker.

**Results**: 399 HEIs were tracked over the 9 months period. In the first quarter of the year, HEI tracking was 100% with 99% HEIs testing HIV negative and 1 testing HIV positive and 0% missed appointment. The second quarter maintained 100% tracking, 99% HEI testing HIV negative and only 1 tested positive and was linked on treatment. In the last quarter, the project maintained 100% tracking rate with 0% missed appointments and all HEIs were on track with interval HIV testing.

**Conclusions**: Commcare mobile application offers emerging solutions to support HIV prevention and keep HIV exposed children safe and healthy. Active tracking and support for Caregivers of HEIs ensured that they honor their s

225

# Missed Opportunities for Preventing Mother-to-Child Transmission: Geographic and Programmatic Gaps in ANC HIV Testing and Retesting in Nigeria (2023)

Aliyu Magaji R[1], Andrew A[1], Ajisegiri T[2]

[1]National Agency For The Control Of Aids, Fct Abuja, Nigeria, [2]Federal Ministry of Health, ABUJA, Nigeria

**Background**: Nigeria remains a global hotspot for pediatric HIV, accounting for over 10% of the global burden. Despite national PMTCT scale-up efforts, gaps in antenatal HIV testing and maternal retesting continue to undermine progress. Understanding system-wide inefficiencies is critical to achieving elimination of vertical transmission.

**Methods**: This analysis utilized data from Nigeria's 2023 HIV Health Sector Report, with a focus on antenatal HIV testing, maternal retesting uptake, syphilis screening, ARV prophylaxis for HIV-exposed infants, and state-level PMTCT coverage. The analysis explored both service availability and utilization across programmatic and geographic dimensions.

**Results**: Only 43% of the estimated 7.8 million pregnancies in 2023 were registered at ANC, and 14% of those who attended were not tested for HIV. Among those tested, 0.3% were newly identified as living with HIV, while 75% of all HIV-positive pregnant women were previously known cases. Maternal retesting coverage was just 0.8%, with a 2.9% seroconversion rate—highlighting undetected infections during pregnancy. PMTCT coverage varied drastically, from 87% in Nasarawa to 11% in Edo, revealing significant subnational inequities. Additionally, only 49% of pregnant women were tested for syphilis, reflecting missed opportunities for integrated care.

**Conclusions**: The data reveals systemic weaknesses in the PMTCT cascade, particularly in reaching women outside formal health facilities. The high seroconversion rate and wide state-level disparities signal the need for urgent, targeted interventions. Strengthening ANC attendance through community outreach, ensuring consistent supply of HIV/syphilis test kits, and institutionalizing maternal retesting protocols are critical next steps. Achieving vertical transmission elimination will depend on closing these programmatic and geographic gaps.

226

# Community Fellows: A Sustainable Alternative to Case Management Expansion to Assist Vulnerable Adolescents Living with HIV in Karnataka and Tamil Nadu, India

Tangney A[1,2], De Broucker G[1], Babu Raj M[1], Seenappa B[1], Reddy S[1], Rosa M[1], Gowda M[1], Reddy L[1], **Sannigrahi S**[1,2], Filian K[1,2], Ganapathi L[2,3], Shet A[1,2]

*[1]Johns Hopkins Bloomberg School Of Public Health, Baltimore, United States, [2]RISHI Foundation, Bengaluru, India, [3]Division of Pediatric Global Health, Massachusetts General Hospital, Harvard Medical School, Boston, United States*

**Background**: India has one of the largest number of adolescents (2.6 million) living with HIV in the world with sub-optimal viral suppression. ALHIVs experience compounded challenges due to the interplay of biological, psychosocial, and socioeconomic factors. Poor access to healthcare services, coupled with stigma and discrimination, hinders medication adherence and healthcare-seeking behaviors. The "I'mPossible Fellowship" program seeks to address these gaps by empowering ALHIVs through peer mentorship. As such, it acts on demand rather than provision of healthcare services in a more achievable and sustainable manner than conventional case management extension.

**Description**: The "I'mPossible Fellowship" is based in Bangaluru, Karnataka. It pairs young adults living with HIV ("fellows") with ALHIV in institutions or in the community ("peers"). This approach positions adolescents as beneficiaries and agents of change, enabling them to overcome structural and social barriers to care. As a "demand-side" intervention, the role and activities of the fellow evolves as they adapt to the ALHIVs' environment and needs. A qualitative study was conducted to better understand how the fellow's role responds to pressure from the ALHIVs and the healthcare system. Focus groups and a thematic analysis were conducted, followed by a Delphi method review by local experts.

**Lessons Learnt**: While they cannot formally diagnose or prescribe, fellows guide peers toward appropriate healthcare services by recognizing symptoms and suggesting facility visits. Peers reported trusting fellows' advice due to their shared lived experiences. Additionally, fellows' proactive engagement ensures peers adhere to ART regimens by reminding them of medication schedules and encouraging timely healthcare visits. This bridging role fills a critical gap in India's formal healthcare system, where healthcare workers are often overburdened and unable to provide personalized attention. Peers reported increased confidence and reduced stigma due to the Fellowship's emphasis on building supportive communities. Institutional leaders highlighted the program's role in fostering leadership skills among fellows, while healthcare workers noted improved ART adherence among peers.

**Conclusions/Next Steps**: Unlike conventional healthcare initiatives, the program leverages the lived experiences of its participants to create a peer-driven network of support, thereby addressing the medical and psychosocial needs of vulnerable adolescents. It has significant potential for sustainability and community acceptance.

227

# Identification and Prioritization of Barriers and Ranking of Strategies for Depression Screening in Adolescent HIV Clinics in Kenya

Mugo C[1], Adhiambo J[2]

*[1]Kenyatta National Hospital, NAIROBI, Kenya, [2]University of Nairobi, Nairobi, Kenya*

**Introduction**: Holistic care for adolescents and youth living with HIV (AYH) should include screening and care for mental illnesses. However, gaps in implementation of mental health screening exist. We piloted novel methods developed by the University of Washington IMPACT Center (rapid evidence review and barrier prioritization) to identify barriers and strategies to improve depression screening for AYH in Kenya.

**Methods**: Two researchers in Kenya conducted a rapid review of published literature (PubMed and Web of Science) on barriers of screening and strategies to enhance screening in HIV care clinics for AYH in developing countries. A 2-day stakeholders' workshop with 11 participants drawn from Nairobi City County health department and HIV care facilities validated the barriers from literature and identified additional barriers. The barriers were prioritized across 6 domains (Likert scores: 0-3), with weighting (0-1) as follows: importance (1), frequency (0.5), duration (0.25), addressability (0.75), timing (0.5) and equity (0). Weighted means were multiplied for final scores. Ranking of strategies to address priority barriers was on impact and feasibility, each on a Likert score of 0-3, with means multiplied for a final score.

**Results**: Priority barriers identified were [1] Gaps in provider knowledge on depression screening (mean score: 5.7), [2] Gaps in provider knowledge of mental illnesses (5.2), [3] Stigma of mental illness among youth (4.3), [4] Heavy provider workload (3.7), [5] Complicated referral process (3), and [6] Poor client attitude towards mental health (3). The top ranked strategy to address provider knowledge gaps were: [1] On-job training of providers specifically on depression screening during continuous medical education sessions at facilities (mean score: 6.5), and [2] Formation of multidisciplinary teams where providers review cases of mental illness with a specialist to improve knowledge on mental illnesses (6.9). Using youth support groups was preferred to demystify mental illness among youth and improve their attitudes towards mental health (6.3). Designated clinic days, and development of county-specific referral protocols were other top-ranked strategies.

**Conclusion**: The stakeholder-led barrier prioritization process informed by a rapid evidence review was acceptable and effective in identifying priority barriers, and the optimal strategies to improve mental health screening implementation outcomes. Provider-facing strategies were ranked highly and seen as low hanging fruits in the optimization of mental health screening and subsequent care for AYH.

228

# High Burden of Mental Health Disorders among Adolescents and Young People Living with HIV (AYPLHIV) in Nigeria: A Cross-Sectional Study

Akanmu M[1], Otubu N[1], Adewole O[1], Nwobi O[1], Nwakolobi V[1], Ahmad N[1], James A[1], Mustapha A[1], Drakes J[2], Carmone A[2], Amole C[2], Fasawe O[1], Ojo T[3], Duru E[3], Ndubisi R[3], Ogunleye G[3], Ehimen E[4]

*[1]Clinton Health Access Initiative, Nigeria, Abuja, Nigeria, [2]Clinton Health Access Initiative, Boston, Massachusetts, United States, [3]National Mental Health Programme, Abuja, Nigeria, [4]National HIV/AIDS & STIs Programme, Abuja, Nigeria*

**Background**: Nigeria faces a significant mental health (MH) burden, with adolescents and young people living with HIV (AYPLHIV) experiencing disproportionately higher rates than their peers without HIV (34.9% vs. 23.1%). Poor MH complicates access and adherence to HIV care, worsening outcomes. With 50% of mental illness beginning by age 14 and 75% by 24, the 171.5k AYPLHIV in Nigeria, including key populations (KPs) in that age group, are particularly vulnerable. In 2024, Nigeria, with CHAI's support, became one of the first countries to adapt and implement the WHO Mental Health Gap Action Programme-3.0 (mhGAP) to address MH service gaps with non-specialists. However, limited data on MH burden hinders resource allocation and scale-up. This cross-sectional study estimates point-prevalence of common MH disorders among AYPLHIV in Nigeria.

**Materials & Methods**: MH screenings for adolescents aged 12-24 were integrated into routine services at ART clinics and One-Stop-Shops (OSS) for KPs across 22 facilities in six high-burden HIV states, representing each of Nigeria's geopolitical zones. Screenings using the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder (GAD-7) for depression and anxiety, were conducted by 93 trained HIV cadres. Data was recorded in CommCare. Positive screening scores were used as proxies for point-prevalence and severity classification among AYLPHIV and sub-populations, allowing comparison.

**Results**: From June to December 2024, 1,423 AYPLHIV were screened after MH talks. This initial data shows 38% screened positive for depression, 19% for anxiety, and 16% for both. Cases were mostly mild: 30% mild 5% moderate, 2% moderately severe, and 1% severe for depression, and 14% mild, 4% moderate, and 1% severe for anxiety. Anxiety was significantly higher in females (23%) than males (17%) [z=2.847, p=0.0044]; depression showed no gender differences. Depression prevalence increased with age: 12-14 (24%), 15-19 (27%) and 20-24 (46%). KPs had higher depression [z=9.014, p=<0.0002] and anxiety [z=3.240, p=0.0012] rates compared to others.

**Conclusions**: These findings confirm the high burden of depression and anxiety among AYPLHIV in Nigeria, with a higher prevalence of anxiety in females, and depression in older AYPLHIV, and KPs, providing insight into the need for MH and HIV services integration for AYPLHIV in Nigeria

229

# Implementation of Jua Mtoto Wako Strategy (JMWS) at Kitale County Hospital to Improve Re-Suppression Status amongst Children and Adolescents Living with Human Immunodeficiency Virus (CALHIV)

Maero B[1]

[1]Ampath, Eldoret, Kenya

**Background**: The Kenya 2023 estimates indicate that 133,455 adolescents are living with HIV in the country, with 18,004 new infections and 2,797 deaths annually among adolescents aged 10-19 years. The country has an estimated viral load suppression rate of 72.4% and 72.3%) among children and adolescent respectively below the expected 95% UNAIDS target. This highlights the need for targeted interventions to improve on the indicator. The facility team aimed to assess the effectiveness of JMWS in regards to re-suppression among CALHIV.

**Methods**: The USAID AMPATH UZIMA project introduced the JMWS as an enhanced approach to address client-specific barriers to HVL among CALHIV to effectively improve and maintain the viral load suppression rate at Kitale County Hospital, among other 69 supported health facilities in Trans Nzoia County. This was driven by case management (both facility and orphaned and vulnerable project team) and electronic documentation containing different indicators that was updated when a new HVL case was identified and allocated a case manager who oversaw all offered interventions: adherence barrier identification and client driven action plan, home visit, daily witnessed ingestion, enhanced adherence counselling, multi-disciplinary team meeting and repeat viral load.

**Results**: From January 2021 to April 15, 2025, 200 CALHIV have been identified to have HVL with 100% enrollment in JMWS. 80% have achieved viral load suppression so far, 12% are active in JMWS, 1% deceased, 5% lost to follow-up, and 3% transferred out (and confirmed active). Barriers to adherence include; caregiver challenges 46%, disclosure 7%(all aspects), treatment fatigue 19.5%, peer influence 3.5%, stigma 13%, non-adherence 9.5% and school at 1.5%.

**Conclusion**: Continued implementation of JMWS is an effective approach in addressing suboptimal adherence and HVL among CALHIV and support Kenya in achievement of the 95-95-95 goals.

230

# Road to Elimination of Vertical Transmission: Optimizing Maternal Retesting to Identify Seroconversion among Women in Southern Nigeria

Ibitoye O[1], Dorayi A[1], Majekodunmi O[2]

*[1]Pathfinder International, Lagos, Nigeria, [2]Heartland Alliance, Abuja, Nigeria*

**Background**: Maternal retesting for HIV can identify incident maternal HIV diagnosis and prevent vertical transmission. Despite recommendations by the WHO and national guidelines forthe management of HIV in Nigeria, implementation is still sub-optimal, at less than 50% PMTCT coverage, with data obtained from the National Agency for the Control of AIDS (NACA fact sheet, 2016). This study describes the interventions done to strengthen health systems to improve the uptake of maternal retesting among pregnant women over three years in three Southern Nigerian states (Lagos, Edo and Bayelsa).

**Description**: Health system building framework was used to improve the uptake of maternal retesting: Human resources and service delivery through orientation of designated personnel called PMTCT Nurses on the need for retesting; Information through integration of maternal retesting counselling at third trimester, and delivery to antenatal visit health talks; technology through creation of a custom indicator to monitor progress. Implementation of the framework started across all supported sites in October 2023. Analysis of maternal retesting data among pregnant women in one hundred and seven comprehensive ART sites was abstracted from DHIS using Excel from April 2022 to September 2024. A chi-square test was used to assess the significance of the observed trend for those tested and the positives identified.

**Lessons Learned**: A total of 8,333 women were screened within the three years, with a positive screening test of 0.1%. The positives were all linked to antiretroviral therapy. Only 4% of Clients eligible for maternal retesting had testing done. Results showed a statistically significant increasing trend in the number of positives identified over the three years ($p<0.01$), seroconverted from 1 in 2022 to 2 in 2023 and 4 in 2024, while there was an increase in clients retested within the period from 1120 in 2022 pre-intervention, and this increased to 3400 in 2023, 3813 in 2024 after the intervention.

**Conclusions/Next Steps**: There was an increase in positives identified among women who seroconverted after the initial negative test, with an increasing number of women retested within the same period despite a low coverage of maternal retesting. Maternal retesting needs to be improved while optimizing sustainable approaches across all facilities.

231

# Improving Pre-Exposure Prophylaxis (PrEP) Uptake among Adolescent Girls and Young Women at Risk of Acquiring HIV in North Kadem Ward, Nyatike Subcounty, Migori County, Kenya: A Quality Improvement Approach

Ariya E[1], Ouma F[1], Mugo C[2], Kamau T[3]

*[1]Ministry Of Health ,Migori County, Macalder, Kenya, [2]Kenyatta National Hospital, Nairobi, Kenya, [3]Kenya Adolscents HIV Implementation Science Alliance(KAHISA), Nairobi, Kenya*

**Background**: Adolescent girls and young women (AGYW) aged 15-24 are at an elevated risk of HIV infection, with high rates of new infections and low uptake of Pre-Exposure Prophylaxis (PrEP). PrEP coverage in North Kadem Ward was particularly low at 9%, while the ward accounted for 29% of new HIV infections among adolescents in the sub-county. This quality improvement (QI) initiative aimed to identify and address key barriers to PrEP uptake in North Kadem ward.

**Methods**: The project, conducted from July to December 2022, employed a structured root cause analysis approach, including 3 focused group discussions with 30 AGYW, interviews with 10 health facility in-charges, to understand facility-level barriers, including staff shortages, stock outs, and any operational gaps affecting PrEP service delivery also 5 peer mentors/ champions who work closely with AGYW were interviewed to prioritize barriers to PrEP uptake to provide a bridge between community-level and facility-level perspectives, their insights illuminated behavioral and motivational barriers, as well as support systems that influence PrEP acceptance .Data from the Kenya Health Information system 2 (KHIS2) and primary registers in 10 facilities in the ward were analyzed to define the problem. Stakeholder's sensitization with health facility in-charges, AGYW representatives, and community health workers, ranked potential solutions by feasibility, expected impact, and sustainability. Potential solutions targeted socio-cultural misconceptions, limited HIV test kit availability, low community acceptance, and data reporting gaps. Prioritization was guided by a Pareto analysis, focusing on high-impact interventions.

**Results**: Targeted interventions were: 1) redistribution of HIV test kits, 2) training and mobilization of PrEP champions for peer education, and 3) realignment of PrEP data reporting protocols. PrEP uptake in North Kadem Ward increased from 9% to 34% among AGYW over the six-month period. This increase was primarily attributed to enhanced peer-to-peer mobilization through PrEP champions, who provided relatable education and support, helping to reduce stigma and misconceptions about PrEP. Regular data audits and monthly supervisory support provided ongoing monitoring and technical assistance to sustain progress and address any emerging barriers in real-time. Facility staff reported increased confidence in PrEP counseling due to targeted training sessions, which further supported PrEP continuation among AGYW.

**Conclusion/Recommendation**: Addressing community-driven misconceptions, supply chain gaps, and data management challenges effectively increased PrEP uptake among AGYW. Scaling this approach across Nyatike Sub-County, with a focus on training PrEP champions and strengthening resource allocation, is recommended to further reduce new HIV infection among young people.

232

# Teen-Acted Dramas as a Social Marketing Tool for HIV Awareness and Stigma Reduction

Ekundayo I[1], Musa F[1], Omelu U[1], Bush A[1], Katchy A[1]

[1]University Of Ilorin, College Of Health Sciences, Ilorin, Nigeria

**Background**: HIV/AIDS is a public health concern in sub-Saharan Africa, with stigma and misinformation slowing control efforts. Adult-acted web drama series have been effective in debunking myths and encouraging regular HIV testing. However, by leveraging the universal appeal of children as messengers, child-acted dramas can serve as a more effective tool to increase awareness, reduce stigma, and drive participation in HIV control programs.

**Description**: We developed culturally relevant scripts in collaboration with public health consultants and local storytellers, incorporating key HIV concepts (prevention, testing, PrEP, ART adherence, and supporting PLHIV) in simple terms. Seven child actors aged 7-9 were recruited, guided in practicing their lines, and taught basic HIV-related terms.
In September 2024, these children performed a drama during a Sunday service at a mega church in Ilorin, Kwara State, Nigeria, attended by 609 people. Pre- and post-performance surveys assessed changes in HIV knowledge, stigma-related attitudes, and engagement during and after the drama.
Informational materials were distributed, and the audience was connected to local HIV testing services. Service referrals and utilization were tracked over three months to evaluate the initiative's reach and impact.

**Lessons Learned**: Attendees correctly identifying key HIV prevention strategies (e.g., consistent use of PrEP and ART adherence) increased from 58% pre-intervention to 92% post-intervention. Agreement with stigmatizing statements (e.g., "People living with HIV should be avoided") also decreased from 67% to 9%. During the drama, 52% of attendees engaged by asking questions. Post-drama interactions saw 68% of attendees engaging with distributed materials or consulting church health personnel. 52 individuals were referred to local HIV services, with 12 following up to access testing, counseling, or treatment within three months post-intervention.

**Conclusion**: Child-acted dramas have proven to be an effective, scalable and culturally sensitive social marketing tool for promoting HIV awareness, reducing stigma, and encouraging participation in HIV control programs. Post-intervention feedback indicated a positive shift toward accepting HIV testing. However, enhanced follow-up strategies for participants referred to local HIV services could further improve testing uptake and ensure sustained engagement with care.

233

# Lessons from the "Munonye" Campaign: An Intensified Case Finding Approach to Improving HIV Testing and Care among Children of Female Sex Workers in Kampala, Uganda

Namale G[1], Wanyama J, Sendaula E, Kazooba P, Nakate S, Achayo H, Kaleebi J

[1]*Reach Out Mbuya Community Health Initiative, Kampala, Uganda*

**Background**: Children of female sex workers (FSWs) face increased HIV risks due to high-risk environments, yet HIV testing and care uptake remain low. Stigma and discrimination limit access to services. Uganda's Ministry of Health launched the "Munonye" (find the missing child) campaign to identify undiagnosed HIV-positive children and link them to care. We evaluated the implementation of an Intensified Case Finding (ICF) approach to improve HIV testing and care for children of FSWs in Kampala, Uganda.

**Methods**: From August to September 2024, an ICF intervention targeting children of FSWs was implemented. Routine HIV testing services (HTS), linkage to care, and tailored counselling to address stigma were provided during family outreaches at FSW-led drop-in centres (DICs). Data were collected on the number of children tested, diagnosed, and linked to care.

**Results**: Over 8 weeks, 369 children were screened, 340 (92%) were eligible, and 329 (97%) received HTS. Three children were newly diagnosed (positivity yield 0.9%), all linked to care (100%). Despite the low positivity rate, achieving universal linkage to care ensured early treatment and reduced transmission risks. Testing uptake rose significantly, from 172 in Quarter 3 to 329 during the campaign. The intervention also strengthened healthcare provider relationships with FSWs, reduced stigma, and created a supportive environment for care access.

**Conclusions**: Stigma-sensitive strategies are effective for reaching high-risk populations. Caregiver support and follow-ups improved participation and outcomes. Though positivity yield was low, the campaign's universal linkage to care reinforced Uganda's goal to "find the missing child". The "Munonye" campaign demonstrates the effectiveness of the ICF approach in improving HIV testing and care for high-risk children. Scaling this model nationally can support progress toward the UNAIDS 95-95-95 targets.