

# Key Messages

# **AIDS 2024**

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IAS Governing Council

# Content

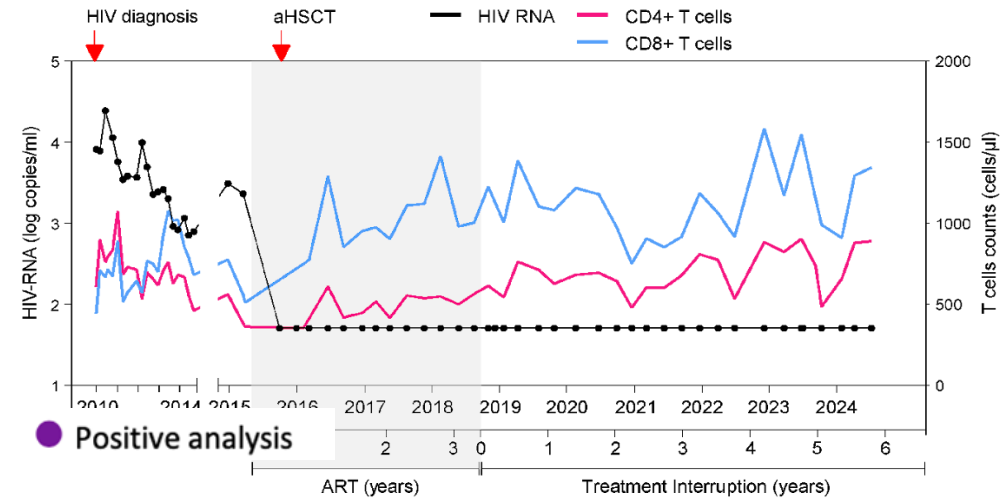
- Remission and cure
- HIV and STI prevention
- Advanced HIV
- Antiretroviral therapy
- GAPS for HIV elimination
- Social determinants, stigma and discrimination.
- Criminalization



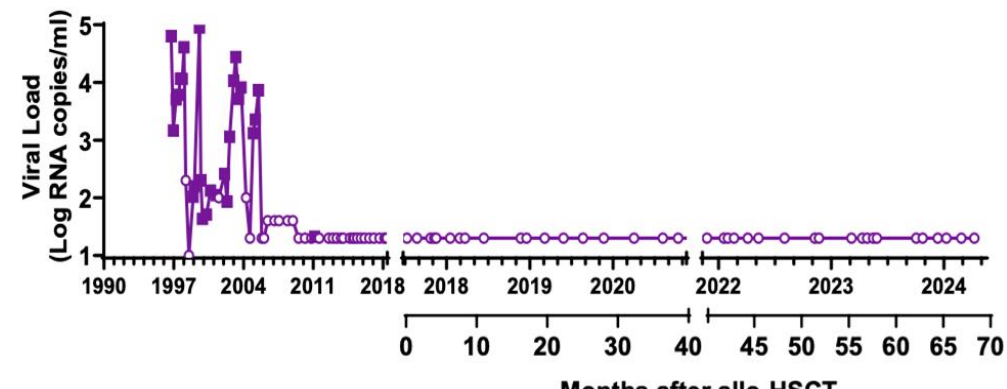
# Remission, cure and vaccines

- **“Next Berlin Patient”** (7<sup>th</sup> cured person after a stem-cell transplant) was presented at the conference.
- Out of the other 6 cured cases, 5 received a stem cell CCR5 $\Delta$ 32/ $\Delta$ 32.
- **This is the 1<sup>st</sup> case with a heterozygous CCR5<sup>WT</sup>/ $\Delta$ 32**
- The **Geneva patient** is the only one person with a WT CCR5. Multiple episodes of GvH and ruxolitinib has been suggested as potential factors for this case

“Next Berlin patient”: Viral load and T-cell counts since 2010



“Geneva patient”: HIV RNA





# Remission, cure and vaccines

## Early treatment in children results in natural control

- 50% will rebound before 2 years

## Neutralizing antibodies (bnAbs) can suppress viremia

- Pre-existing resistance limits efficacy

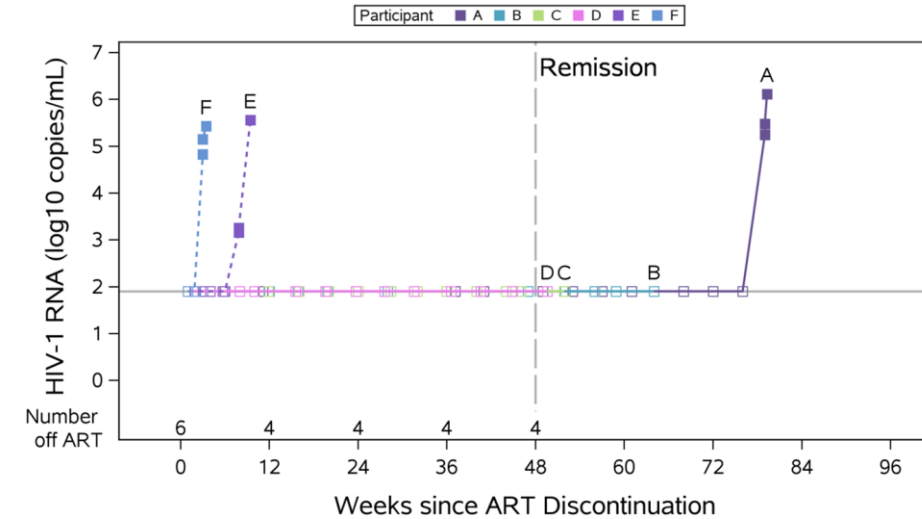
## Adenovirus Associated Vector + episomal DNA to produce nNAbs

- Could develop auto-antibodies

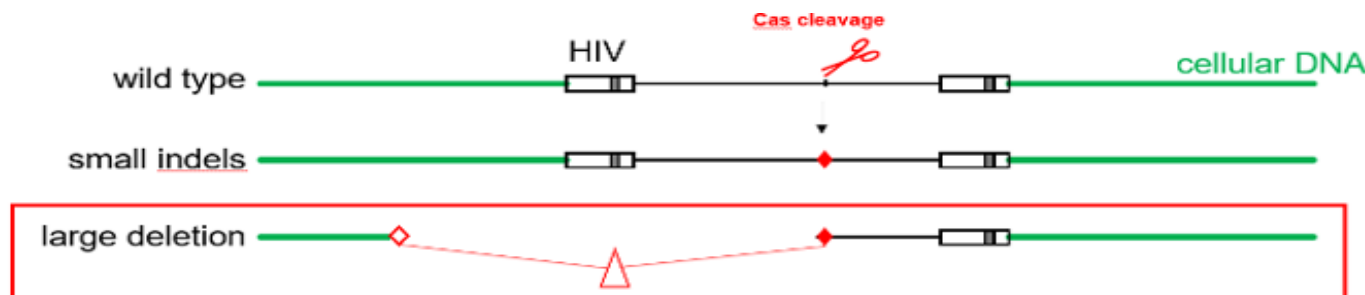
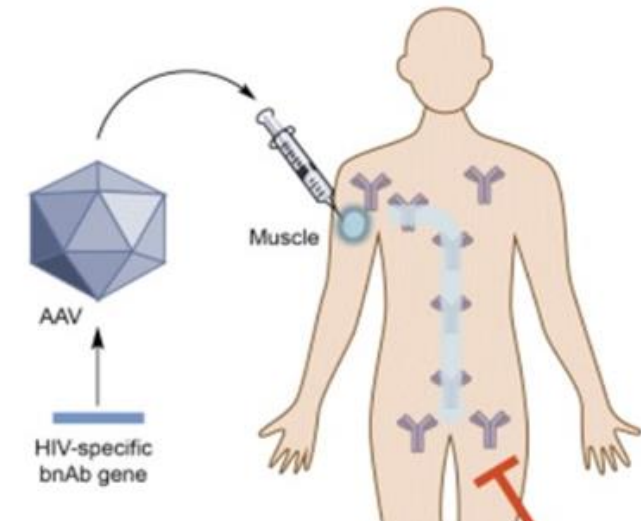
## CRISPR/Cas9 technology can be used to excise HIV proviral DNA from reservoir cells.

- Safety concerns

Time to rebound in children treated at birth



Delivery of bnAbs using AAV





# HIV and STI prevention

Long Acting

**PrEP with lenacapavir every 6 months  
100% effective in women**

- Purpose 1 compared vs TAF/FTC & TDF/FTC
- Important challenges for adhere to oral PrEP
- Background incidence in women 2.4%

**Lenacapavir 96% effective in MSM and TG  
people**

- Purpose 2 presented in Lima

**VL should not be used as testing for  
cabotegravir based PrEP**

- This FDA recommended strategy resulted in more false positives than standard testing



Linda-Gail Bekker. © Gonzalo Bell / IAS

# IAS

## STIs

- **More data on DoxyPEP supporting its use** (200mg within 72hs last exposure)
- **New data on DoxyPrEP** (100mg/day)
  - A study in Canada among MSM showed reduction of incidence among 52 ptes at 48weeks of follow up.
  - Another single-arm study among 40 cisgender female sexual workers in Japan showed 67% decline in the incidence (before and after analysis)

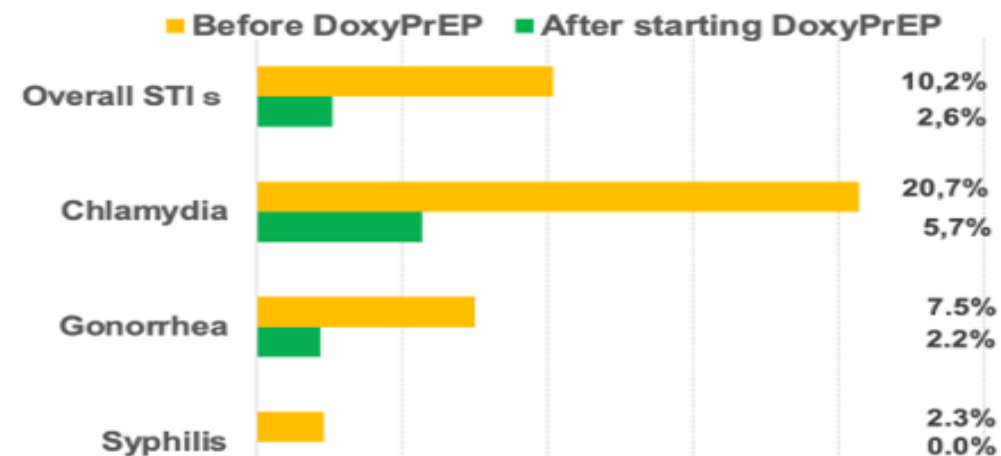
Abe, OAE0406LB; Grennan LB11

STI incidence at 48 weeks

	Total STIs per arm		Incidence rate (95% CI), per 100 PY		Rate ratio* (95% CI)	p
	DoxyPrEP	Placebo	DoxyPrEP	Placebo		
Syphilis	1	5	3.95 (0.96, 16.28)	19.26 (10.23, 36.28)	0.21 (0.04, 0.97)	<b>0.04</b>
Chlamydia	1	13	3.97 (0.69, 22.77)	50.09 (30.86, 81.30)	0.08 (0.01, 0.49)	<b>0.01</b>
Gonorrhea	4	13	15.88 (6.61, 38.15)	50.09 (30.81, 81.44)	0.32 (0.12, 0.86)	<b>0.02</b>
<b>TOTAL</b>	<b>6</b>	<b>31</b>	<b>23.71 (9.93, 56.66)</b>	<b>119.44 (81.42, 175.20)</b>	<b>0.20 (0.08, 0.51)</b>	<b>&lt;0.001</b>

Abbreviations: CI, confidence interval; doxyPrEP, doxycycline pre-exposure prophylaxis; PY, person-years; STI, sexually transmitted infection. \*Rate ratio <1 suggests lower incidence rate in doxycycline arm.

STI positivity rate (incidence / number of tests)



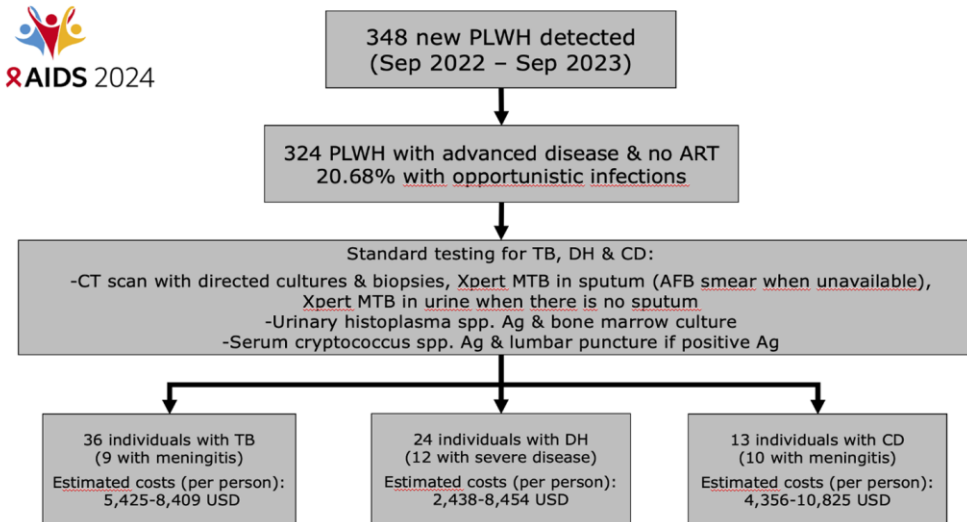
# Advanced HIV

The retrospective analysis of 324 people with advanced HIV attending 4 centers over a 12-month period.

- ▶ Had all clients been tested for opportunistic infections at entry to care, further testing and empiric treatment would not have been necessary.
- ▶ Potential savings were due spared hospitalization days and diagnostic assays that would not have been needed had OIs been diagnosed at the beginning of care.



Flow diagram



Avoided costs

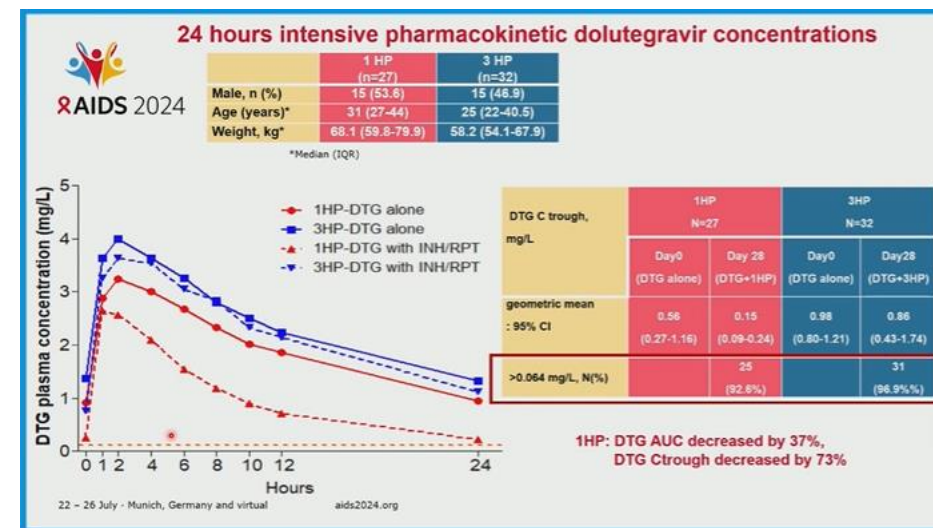
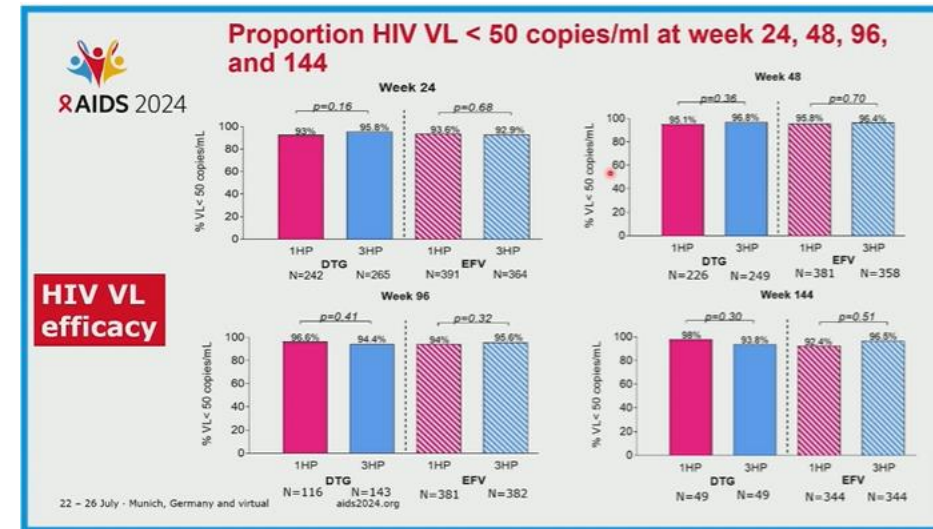
Study averted	Avoided cost	Cost per user
<b>Xpert MTB (urine)</b>	<b>12,933</b>	<b>39.91</b>
<b>Xpert MTB (sputum)</b>	<b>2,630</b>	<b>8.11</b>
<b><u>Cryptococcus serum antigen</u></b>	<b>13,626</b>	<b>42.05</b>
<b><u>Lumbar puncture</u></b>	<b>0</b>	<b>0</b>
<b><u>Histoplasma urinary Ag ELISA</u></b>	<b>14,879</b>	<b>45.92</b>
<b><u>Bone marrow cultures</u></b>	<b>6,350</b>	<b>19.59</b>
<b><u>Empiric amphotericin B</u></b>	<b>13,641</b>	<b>42.10</b>
<b><u>Hospitalization days</u></b>	<b>23,048</b>	<b>71.13</b>
<b>TOTAL</b>	<b>78,357</b>	<b>241.84</b>

## DTG highly effective with Rifapentine-Isoniazid 1 or 3 months

- 1500 participants
- EFV vs DTG
- HP 1 vs 3 months

## Results

- 0,6% discontinued due to AE
- Suppression rates >93%
- PK over IC90
- Good PK data for 3-HP, but for 1-HP AUC reduced 37%  
reduced 37%



# Antiretroviral therapy

## Transition in children highly effective

- N=1230, viral suppression 88-91%, 2% adverse effects, failure 96 weeks 4%.

## Impact of expansión of DTG programs

- 99.4% of users in Uganda (1,250,188)
- 95.9% virological suppression (>DTG)

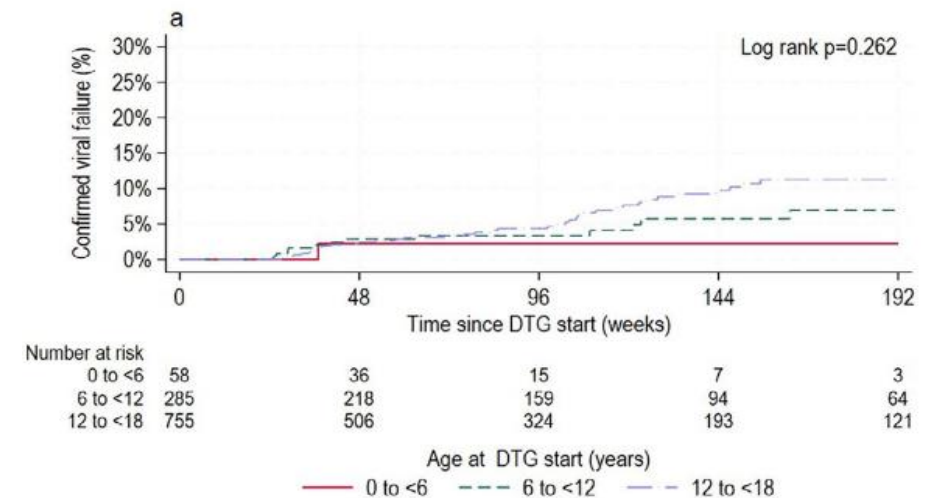
## DTG was not associated with HTN

- HTN associated to weight and age (Africos)

## We should stop using ZDV/3TC in 2nd line

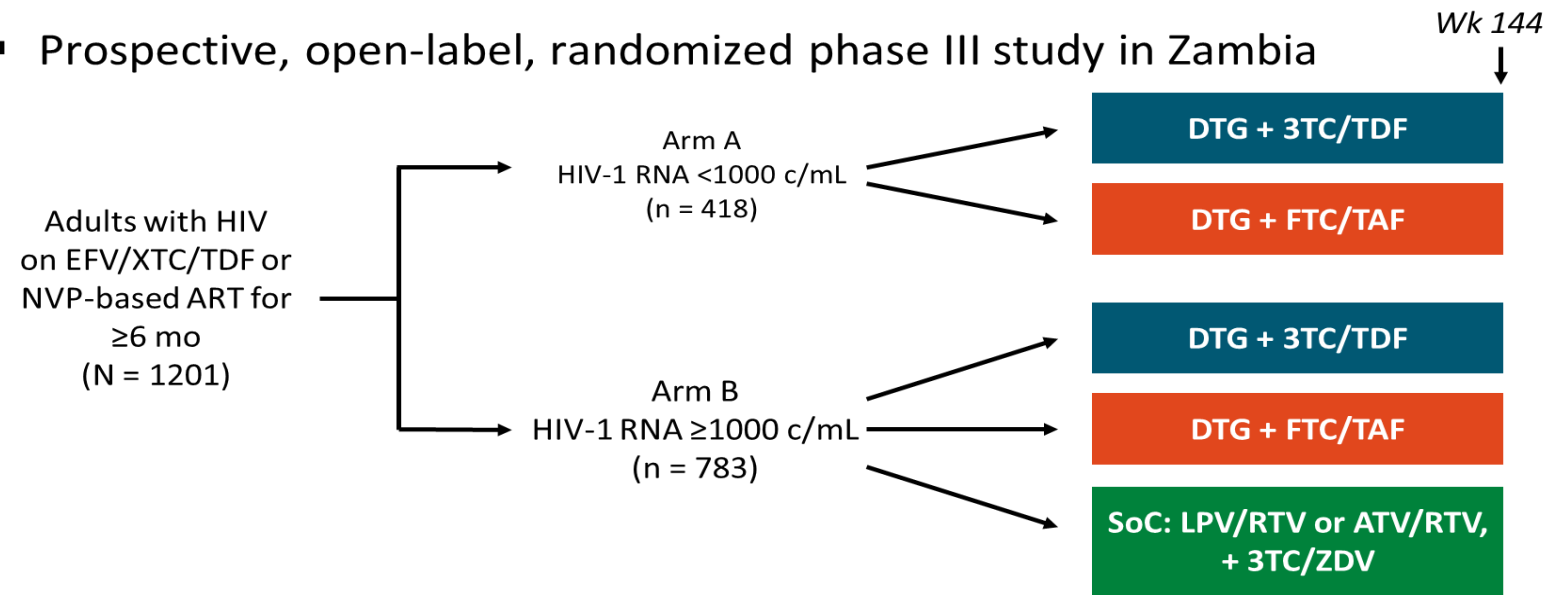
- Confirming data from NADIA study
- Data from 96 weeks D2EFT show that TLD or DTG+800/100 are effective
- VISEND 144 weeks similar results

Efficacy of pDTG in children



# VIEND: Study Design

- Prospective, open-label, randomized phase III study in Zambia



- Primary endpoint: HIV-1 RNA <1000 copies/mL by FDA snapshot (ITT population)

As in the NADIA and DAWNING studies TDF-XTC showed a significant activity (higher than AZT/3TC) among individuals failing TDF-XTC.

VIEND also shows that DTG is a better option than a Protease Inhibitor for second line.

These results supports

- Phase out of ZDV/3TC
- Phase out of LPV/r and ATV/r
- If PI is needed, use DRV/r

Results	HIV-1 RNA <1000 c/mL		HIV-1 RNA ≥1000 c/mL		
	DTG + 3TC/TDF (n = 209)	DTG + FTC/TAF (n = 209)	DTG + 3TC/TDF (n = 208)	DTG + FTC/TAF (n = 211)	LPV/RTV or ATV/RTV, + 3TC/ZDV (n = 364)
VL <1000 copies/mL (ITT), n/N (%)	183/209 (88)	181/209 (87)	172/208 (83)	167/211 (79)	243/364 (67)
Confirmed VL rebound ≥1000 copies/mL, n	2	2	3	7	31
≥1 major resistance mutation present	0	0	0	0	7

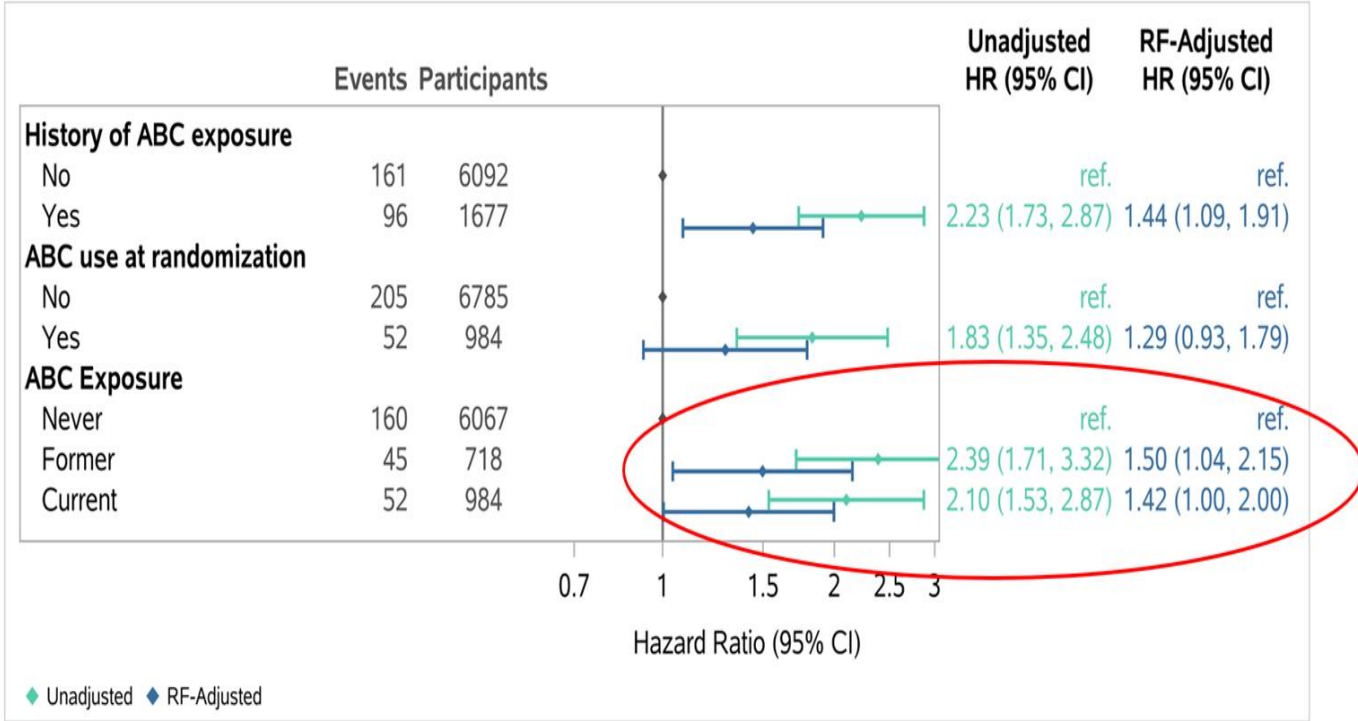
# REPRIEVE subanalysis: ABC linked to CVD risk

REPRIEVE ITT Population:  
Asymptomatic people living with HIV receiving ART for ≥180 days; aged 40-75 yr; CD4+ cell count >100 cells/mm<sup>3</sup>; low to moderate ASCVD risk\* (N = 7769)

ABC Exposure (n = 1702)

No ABC Exposure (n = 6067)

- Current analysis evaluated prior and current exposure to select antiretroviral agents at study entry and first MACE (including MI, TIA/stroke, revascularization, peripheral artery disease, and CV death)
- Median REPRIEVE follow-up: 5.6 yr



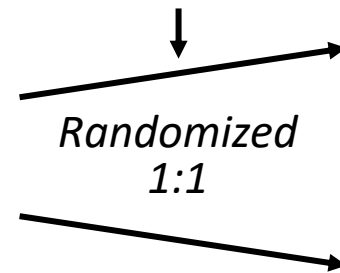
- ▶ Previous ABC use 22%, 13% at study entry
- ▶ Prior use of abacavir had a 50% incidence of MACE, compared to those without risk.
- ▶ Cardiovascular events were not associated with exposure to other selected antiretrovirals

# PASO-DOBLE: DTG/3TC lower weight gain than BIC-TAF-FTC

- Multicenter, randomized, open-label phase IV trial in Spain

Adults with HIV-1 RNA <50 c/mL for ≥24 wk; current ART with ≥1 pill/day including either COBI booster, EFV, or TDF; no earlier VF or ART resistance; no previous use of DTG or BIC; no chronic HBV  
(N = 553)

*Stratified by TAF  
use at baseline,  
sex at birth*



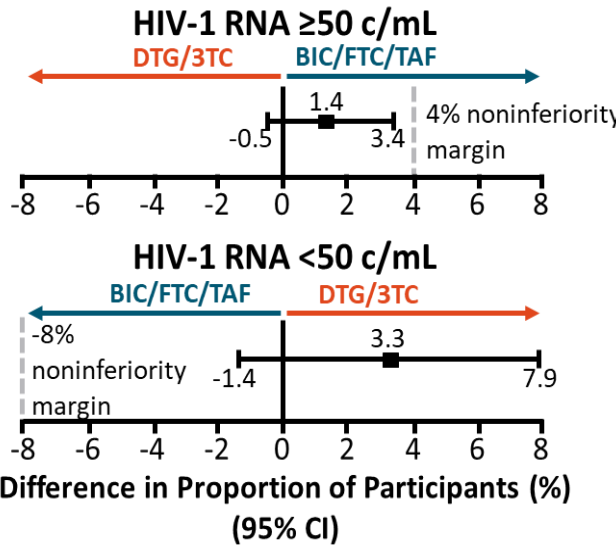
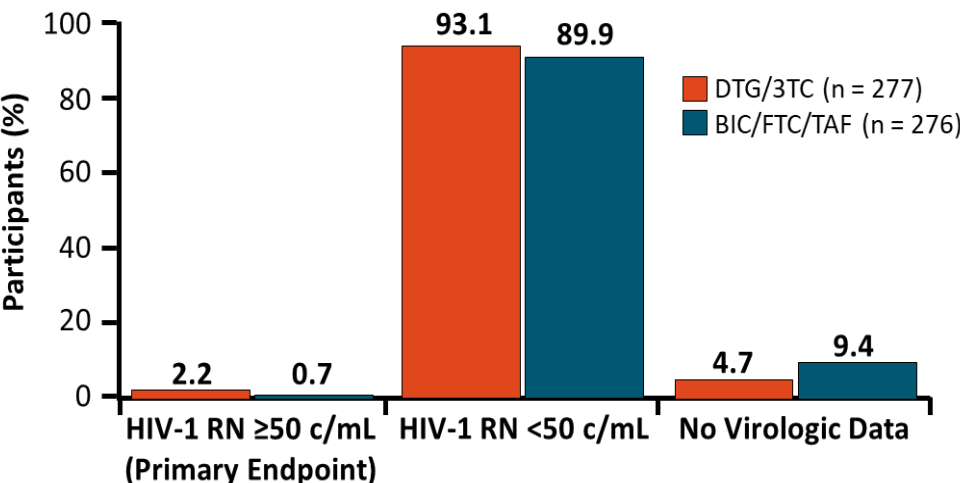
**DTG/3TC**  
(n = 277)

**BIC/FTC/TAF**  
(n = 276)

- Primary endpoint: plasma HIV-1 RNA ≥50 c/mL at Wk 48 by FDA Snapshot with noninferiority margin of 4%
- Key secondary endpoints: efficacy, safety, tolerability, weight change

# Virologic Efficacy and Weight Increase by regimen

Snapshot Outcomes at Wk 48 (ITT-E Population)



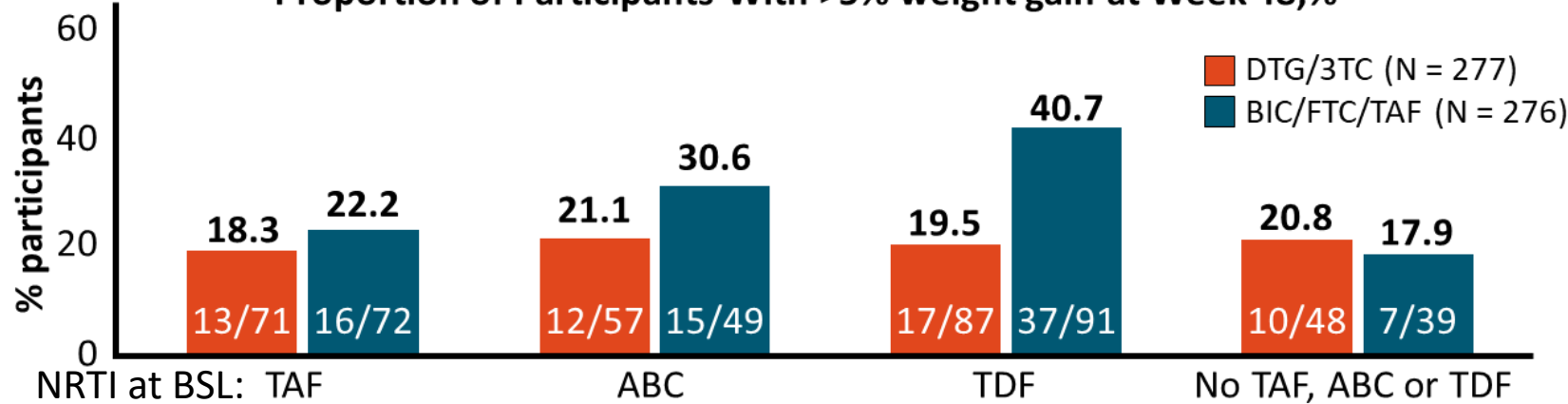
Switch to Biktarvy has more weight increase than switching to 3TC-DTG

Increase associated to change from ABC or TDF to TAF

Dual therapy can be effective in some situations

Note: No data to support any switching from DTG when weight appears. Monitor is needed in those patients showing increases of weight when starting TARV

Proportion of Participants With >5% weight gain at Week 48,%

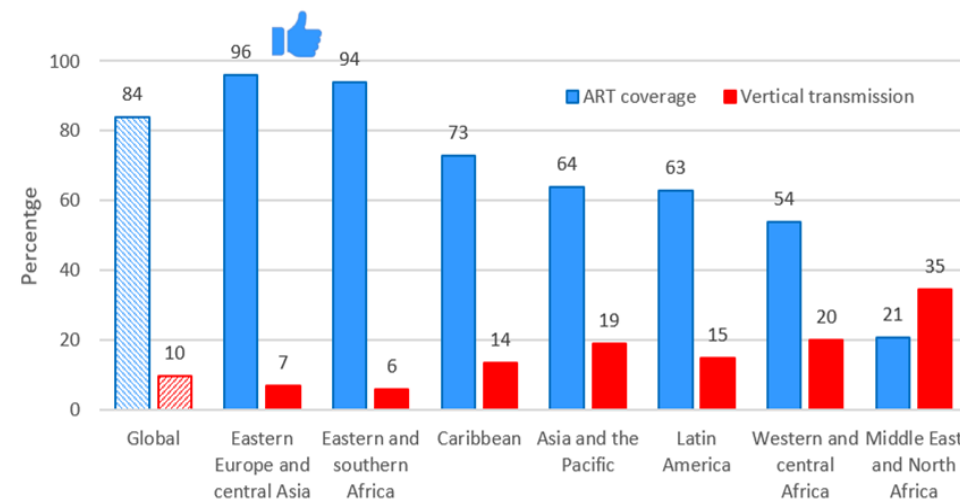


# Gaps to eliminate HIV

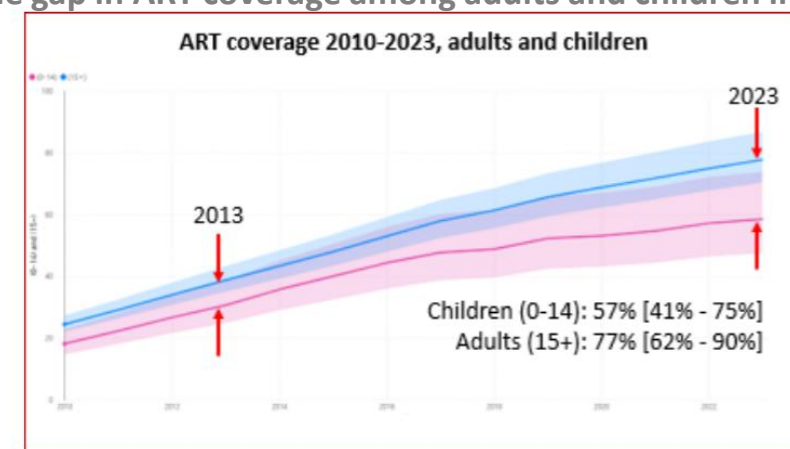
## PMTCT and pediatric care

- ▶ ART coverage in pregnancy has plateaued over the past decade: 81% in 2014 and 84% in 2023.
- ▶ The 1.4 million children living with HIV have poorer outcomes across the care cascade compared to adults:
  - Knowledge of HIV status: 66% in children compared to 87% in adults
  - Receiving ART: 57% of children compared to 77% of adults
- ▶ Psychosocial and peer support and community involvement are crucial

ART coverage in pregnancy and vertical transmission in 2023



The gap in ART coverage among adults and children increase



# IAS

## Access to lenacapavir

- ▶ Potential game changer if it is accessible and affordable
- ▶ Current cost for MR treatment 40,000 USD/pt/year
- ▶ Estimated cost of large-scale generic production (including 30% profit) 40-100 USD/pt/year
- ▶ Gilead has proposed a license agreement that includes all Caribbean countries, but only 3 countries in Latin America



Winnie Byanyima, UNAIDS. © Steve Forrest / IAS

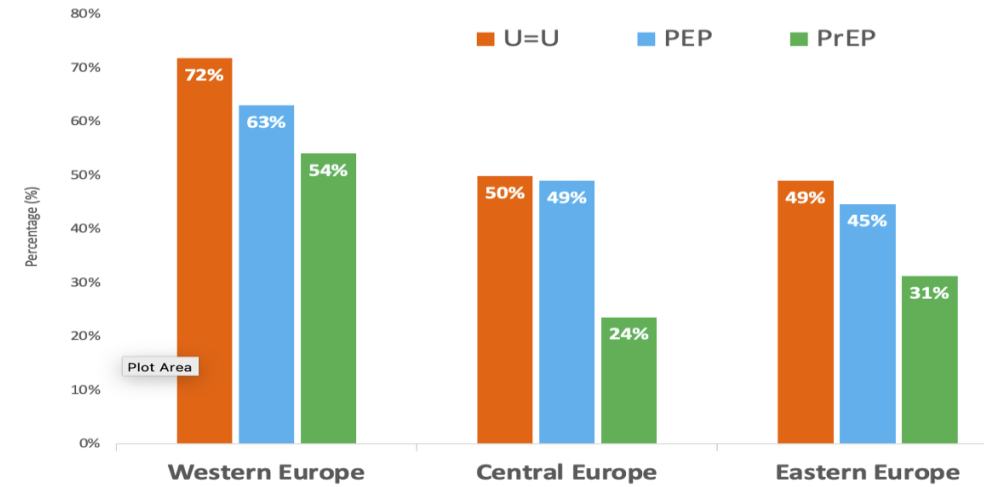
HCW survey including 18,430 healthcare workers in 54 countries across Europe and central Asia.

- ▶ 74% of respondents were female and included doctors (44%), nurses (22%) and others, working in hospitals (58%), primary care (17%) and other settings.
- ▶ Significant gaps in knowledge associated to excessive protective measures and discrimination.

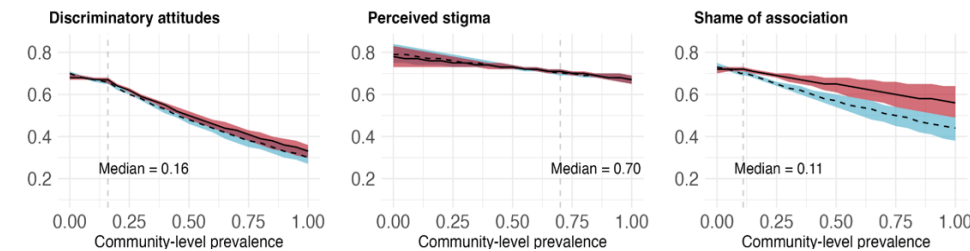
Data from 76 users survey from 33 African countries including 842,169 respondents (16,000 PWH)

- ▶ Stigma was associated with reduced engagement on ART uptake and viral suppression.

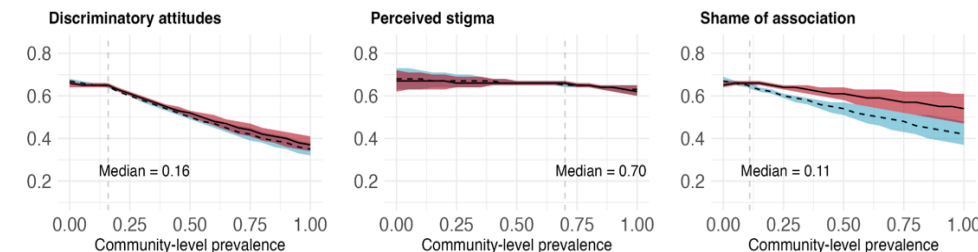
Correct knowledge by geographical region



Probability of ART uptake and the prevalence of stigma



Probability of viral suppression and the prevalence of stigma



# Criminalization

## Uganda

- ▶ The Anti-Homosexuality Act (2023) drastically impacted the uptake of services
- ▶ Telemedicine and safer places were key to maintain PrEP

## Ghana

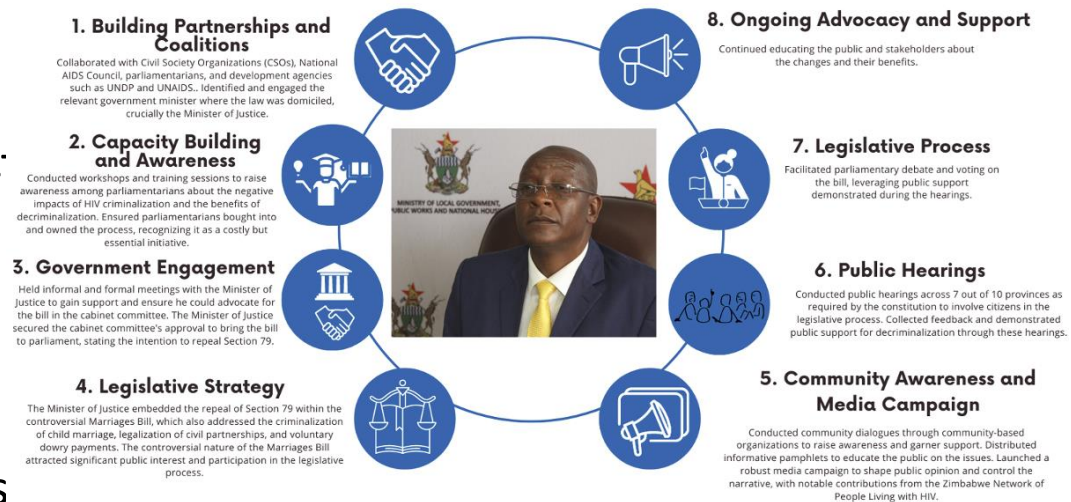
- ▶ In Feb 2024, Ghana’s parliament passed one of Africa’s harshest anti-LGBTQ+ laws, pending to be signed by the president.
- ▶ **Three years prison** for anyone convicted of identifying as LGBTQ+ and **five years** for forming or funding LGBTQ+ groups.

## Zimbabwe

- ▶ In 2022 the country repealed a law that criminalized HIV transmission.
- ▶ The law, intended to protect women, had strong negative effects on HIV prevention, testing and PMTCT

“It'll affect not only me, but everyone who is LGBT because even when the bill is not passed, look at what they're even doing to us. We just have to live a low-profile than how we were and how we move about...Now to pass the bill on, people are going to be very aggressive...They'll rise against us and worry us.”—26 years, gay, female

### Roadmap towards decriminalizing HIV transmission in Zimbabwe



# Caribbean participation at AIDS 2024

## OAB3805

**Switching from a second-line ritonavir-boosted protease inhibitor-based regimen to bicitgravir/emtricitabine/tenofovir alafenamide: results of a randomized clinical trial**

S. Pierre<sup>1</sup>, J. B. Marc<sup>1</sup>, F. Homeus<sup>1</sup>, G. R. Bernadin<sup>1</sup>, L. Trevisi<sup>2</sup>, E. Jean<sup>1</sup>, E. Dumont<sup>1</sup>, S. Sundaresan<sup>3</sup>, V. Rivera<sup>1</sup>, D. Israelski<sup>4</sup>, S. E. Collins<sup>4</sup>, J. W. Pape<sup>5</sup>, B. Liautaud<sup>1</sup>, P. Severe<sup>1</sup>, P. E. Sax<sup>6</sup>, S. Koenig<sup>6</sup>

## OAD0705

**Transforming risky behaviours among people who use drugs: a blend of community sexual and reproductive health and harm reduction interventions in Dominican Republic**

A. Martin<sup>1</sup>, A. Arciniegas<sup>2</sup>, M. E. Carbuccia<sup>1</sup>, L. Balham<sup>2,3</sup>, J. C. Jones<sup>2,3</sup>, R. Zeriouh<sup>2</sup>

<sup>1</sup>Centro de Orientación e Investigación Integral (COIN), Santo Domingo, the Dominican Republic, <sup>2</sup>AIDES, Paris, France, <sup>3</sup>Coalition Plus, Community-based Research Laboratory, Pantin, France

## OAC3302

**30 years of advancement and challenges in early HIV diagnosis in Jamaica**

D. Perry<sup>1</sup>, R. Khan-Francis<sup>2</sup>, S. Beckford Jarrett<sup>3</sup>, J. Lawrence<sup>2</sup>, A. Robb-Allen<sup>2</sup>, W. McFarland<sup>3</sup>, N. Skyers<sup>2</sup>

<sup>1</sup>South East Regional Health Authority, Kingston, Jamaica, <sup>2</sup>Ministry of Health and Wellness, Jamaica, Kingston, Jamaica, <sup>3</sup>University of California San Francisco, San Francisco, United States

# In Conclusion

- ▶ At AIDS 2024, the hope for a cure continues with small steps.
- ▶ However, the revolution in HIV prevention will be Lenacapavir if it is affordable
- ▶ PrEP programs unveiled STI epidemics, but DoxyPEP and DoxyPrEP could help.
- ▶ The AHD package is cost-effective and may even be cost-saving in some countries.
- ▶ TPT with 3HP is safe and does not require an increase in the DTG dose.
- ▶ The ART optimization should continue, eliminating RAL 400mg, LPV/r, and ATV/r in adults, while introducing DRV 400/50mg and TAF-FTC-DTG.
- ▶ Soon will be time to stop the use of ZDV/3TC (NADIA & VISEND).
- ▶ Dual therapy with 3TC/DTG might result in lower weight gain than BIC/FTC/TAF.
- ▶ The cardiovascular risk associated with ABC/3TC highlights the need to optimize cardiovascular prevention.
- ▶ We must continue advocating for increased access to drugs, reducing stigma and discrimination, and eliminating criminalization.



»Science has given us the tools to end AIDS, but only political will and collective action can make this promise a reality.«

**Beatriz Grinsztejn**  
**IAS President**

# Thank you

## **IAS – the International AIDS Society**

Julia Vanian, Gus Cairns, Amelia Jones, Roger Pebody, Beth Tunnicliffe

Hortencia Peralta, Shanti Singh, Sandra Jones

**Full slide set available at [www.iasusa.org](http://www.iasusa.org)**