

# IAS 2022 Conference Highlights

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# Disclosures

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No conflicts of interest or relationships to disclose

# Disclaimer

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# IAS 2022 Updates

- Prevention
  - HPTN 083 and 084 updates
  - PrEP Inequity
- Treatment
  - ALLIANCE: TAF v TDF for HIV/HBV co-infection
  - ADVANCE updates
  - CAB/RPV delivery

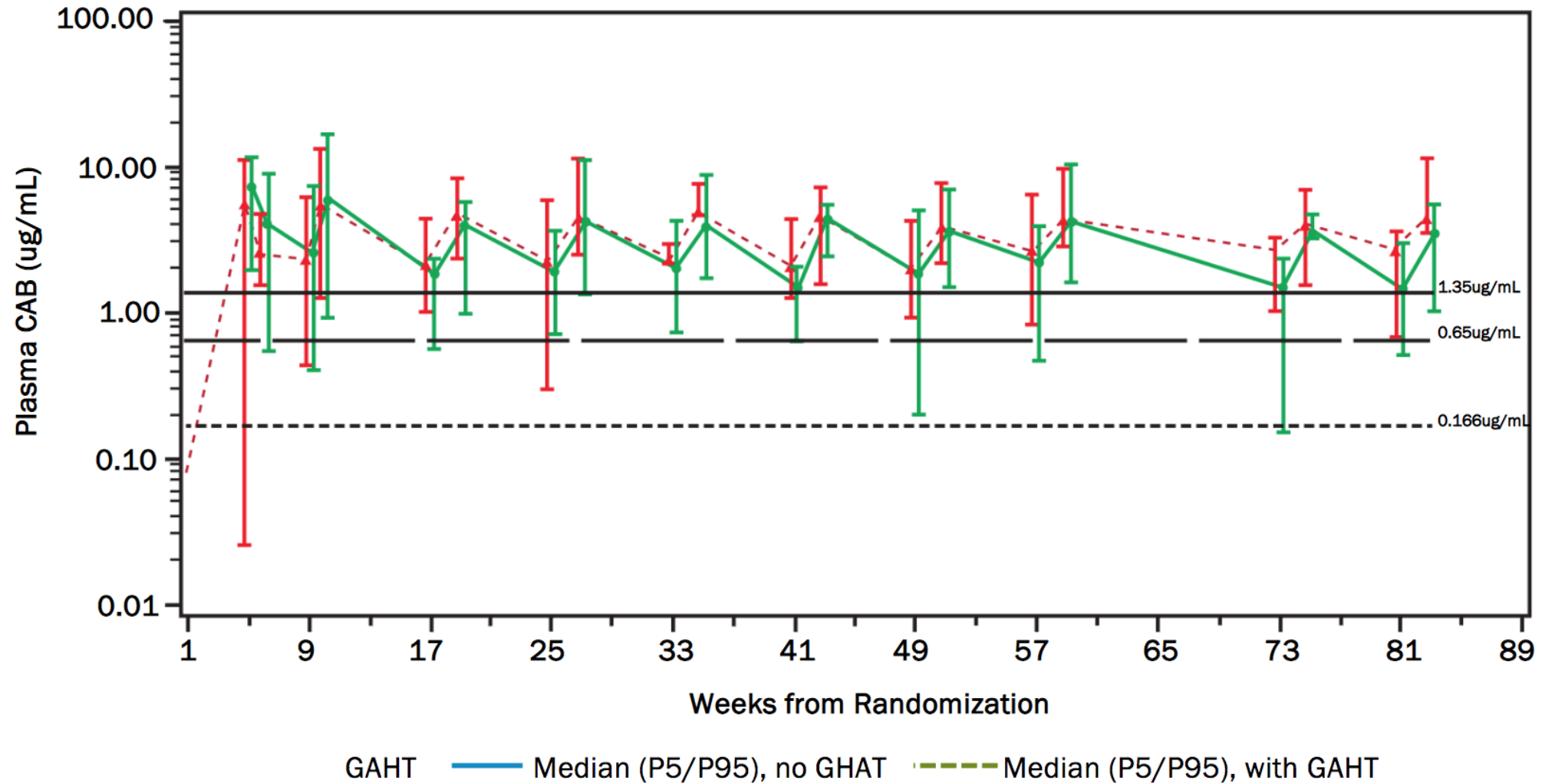
# Prevention

# Transgender Women (TGW) in HPTN 083: GAHT with CAB-LA

HPTN 083: demonstrated superiority of CAB-LA as compared to oral TDF/FTC for HIV prevention in **MSM and TGW who have sex with men**

- 12.5% (570) of participants enrolled were TGW (self identified)
- ~58% reported gender affirming hormone therapy (GAHT) use
- HIV incidence during blinded phase was 1.8% (TDF/FTC) versus 0.54% (CAB-LA), HR 0.34
  - Similar incident STI rates
- No meaningful difference in AEs

# Transgender Women (TGW) in HPTN 083: GAHT with CAB-LA



# Transgender Women (TGW) in HPTN 083: GAHT with CAB-LA

- CAB-LA safe and effective for TGW
- Consistent with overall HPTN 083 findings, TGW on CAB-LA had lower incidence of HIV as compared to TDF/FTC
- GAHT does not appear to impact CAB concentrations

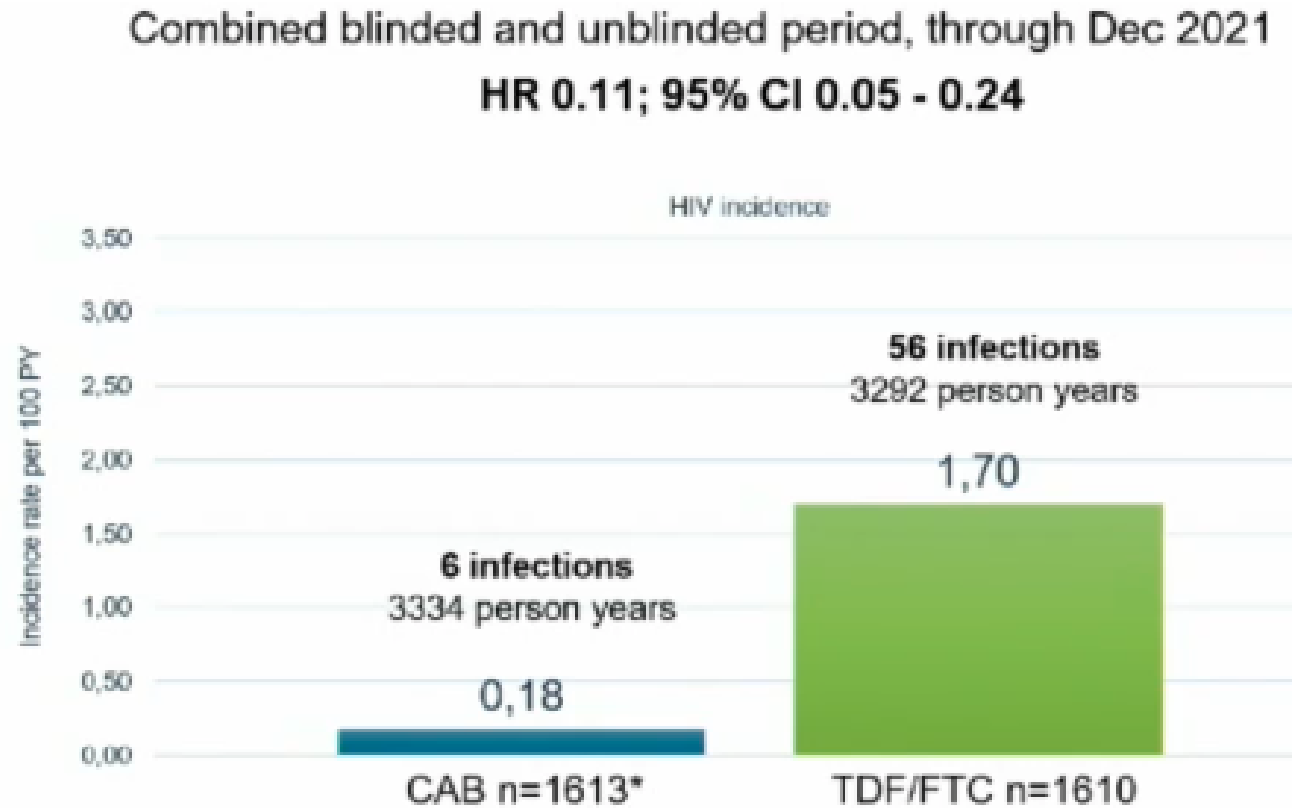
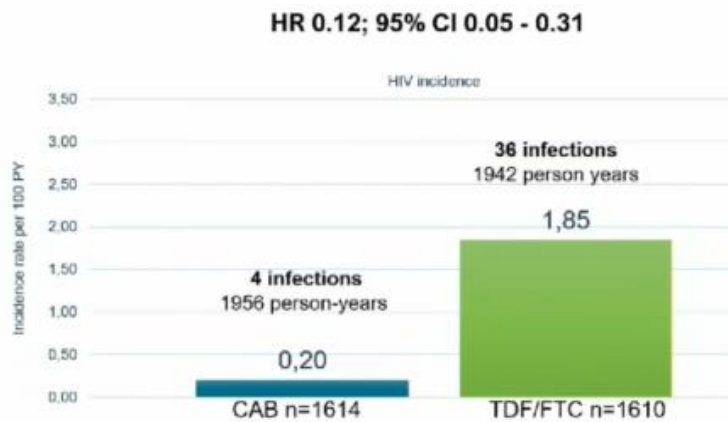


# Updated Efficacy and Safety Results from HPTN 084

HPTN 084: Previously demonstrated superiority of CAB-LA as compared to daily oral TDF/FTC for HIV prevention in **individuals assigned female at birth**

- HIV incidence: CAB 0.20 v TDF/FTC 1.85 (per 100 person years), HR 0.12
- Update 12 months post unblinding

# Updated Efficacy and Safety Results from HPTN 084



# Updated Efficacy and Safety Results from HPTN 084

## Cumulative Pregnancy Outcomes

	Total n=132	CAB n=63	TDF/FTC n=69
Ongoing	57	23	34
Known pregnancy outcomes*			
Live births	61	31	30
Pregnancy loss			
≥37 weeks	0	0	0
20-36 weeks	3	1	2
<20 weeks**	13	9	4
Congenital anomalies	0	0	0

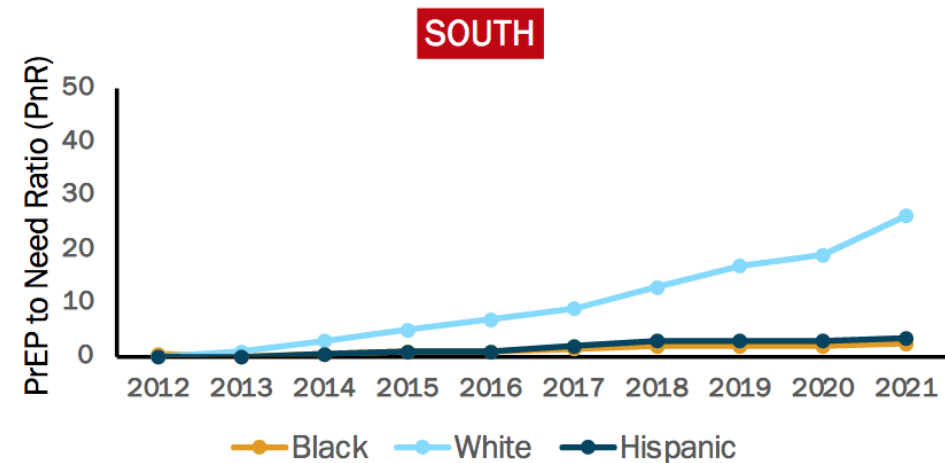
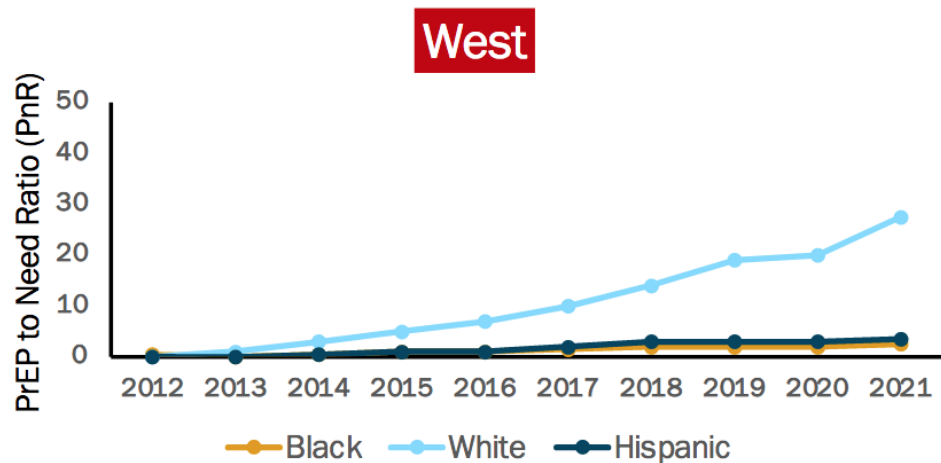
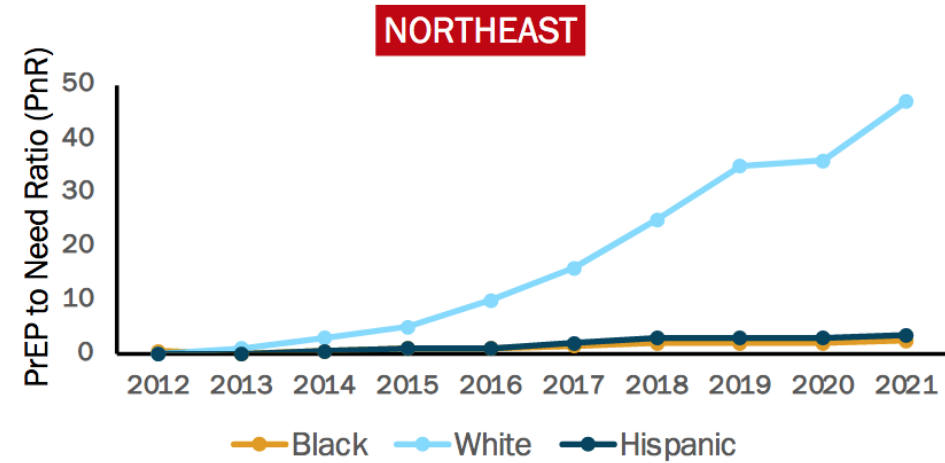
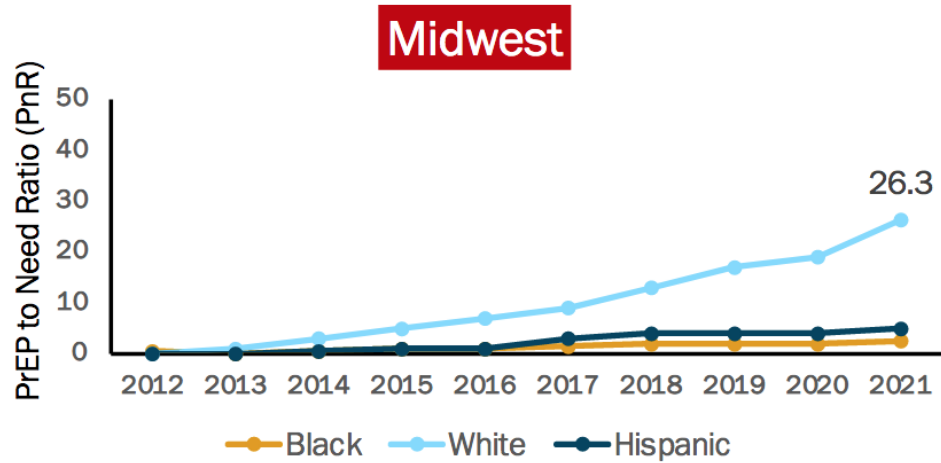
\*includes multiple births

\*\*includes ectopic pregnancy, elective and spontaneous abortion

# Updated Efficacy and Safety Results from HPTN 084

- Continued CAB superiority over oral TDF/FTC in HIV prevention in those female at birth
- Three additional CAB group infections (all with either no or poor use)
- Need more evaluation of CAB in pregnancy in open-label extension

# Trends in PrEP inequity by race and census region, United States 2012-2021

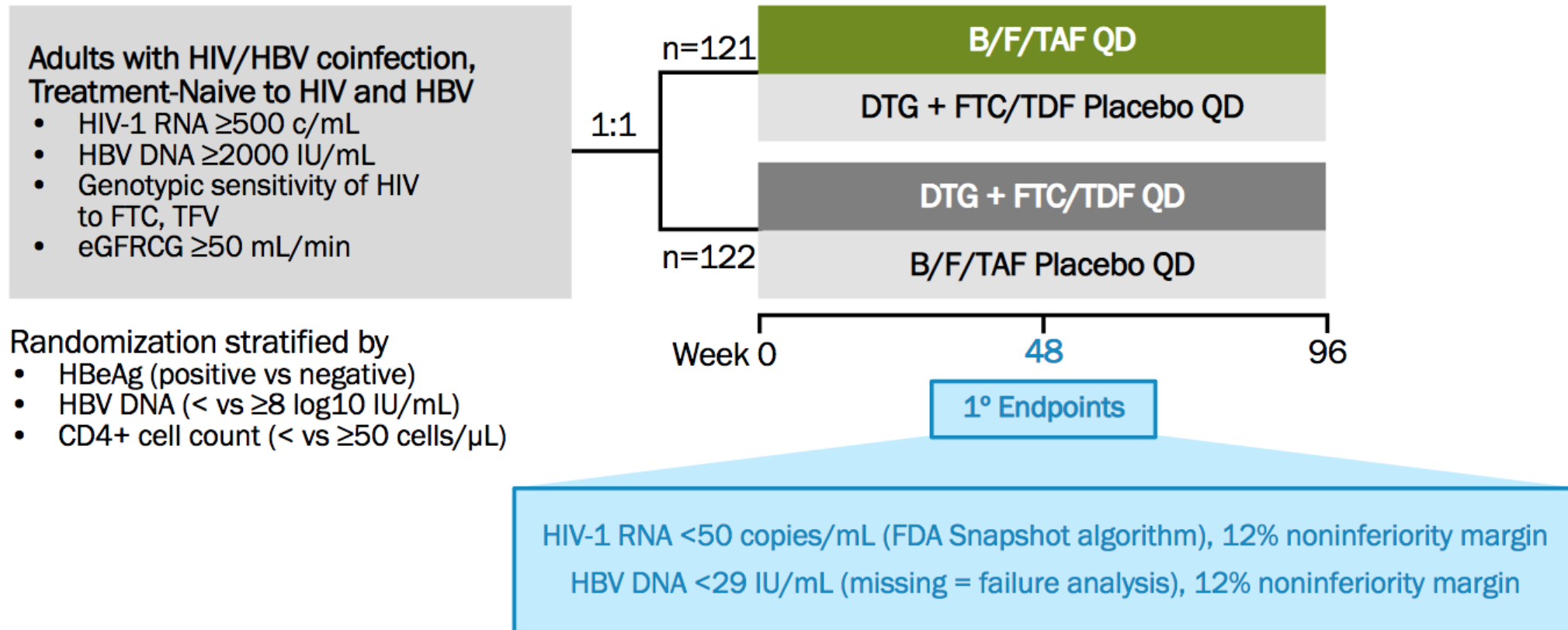


The PrEP-to-Need Ratio (PnR) is the number of PrEP users divided by the number of new diagnoses in a given year, PnR serves as a measurement of how PrEP use compares to the PrEP in a population

# Treatment

# ALLIANCE: Phase 3 RCT of BIC/TAF/FTC versus TDF/FTC + DTG as Initial Treatment in HIV/HBV Co-Infected adults (Wk 48 results)

- HIV/HBV coinfection: maintain TFV based regimen (with 3TC or FTC)
- No randomized studies of **TDF v TAF based ART** in coinfection initiating treatment

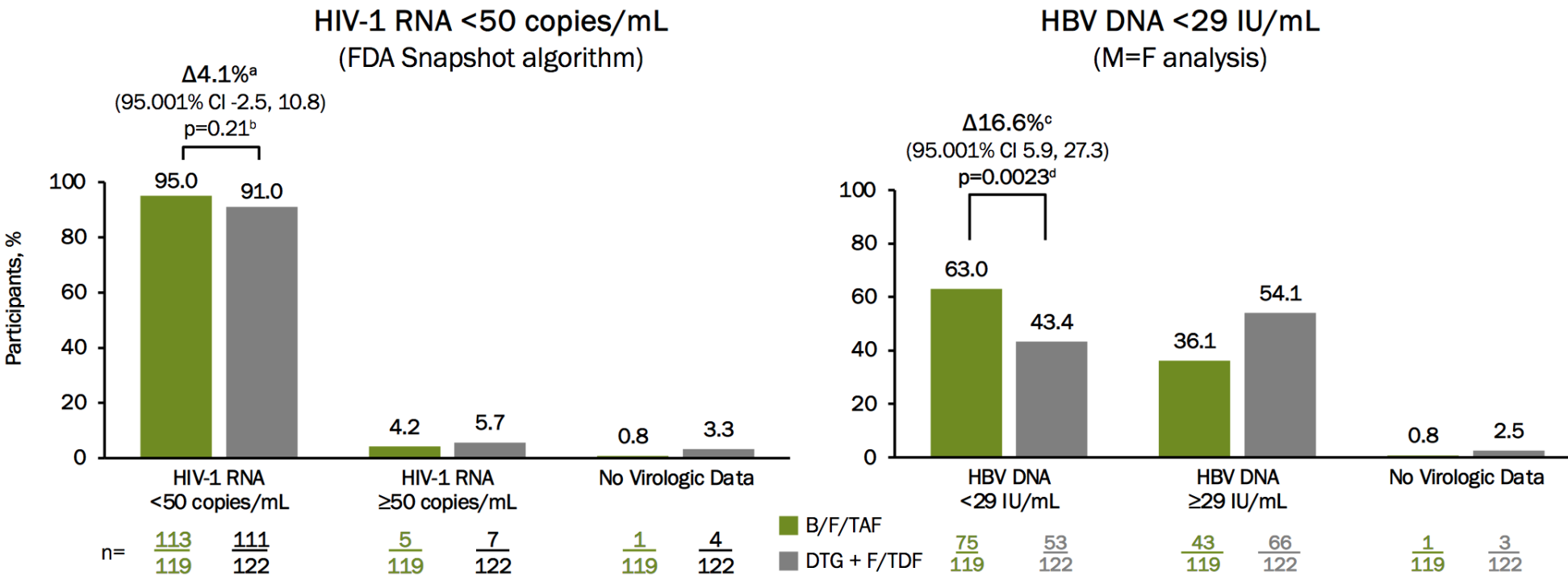


# ALLIANCE: Phase 3 RCT of BIC/TAF/FTC versus TDF/FTC + DTG as Initial Treatment in HIV/HBV Co-Infected adults (Wk 48 results)

	B/F/TAF n=121	DTG + F/TDF n=122
Median age, y (IQR)	31 (27, 39)	32 (25, 38)
Female at birth, n (%)	9 (7)	2 (2)
Race/ethnicity, n (%)		
Asian	108 (89)	106 (87)
White	10 (8)	9 (7)
Black	2 (2)	6 (5)
Other	1 (1)	1 (1)
Median body mass index, kg/m <sup>2</sup> (IQR)	22.2 (19.9, 24.7)	21.7 (19.3, 23.7)
Median HIV-1 RNA, log <sub>10</sub> copies/mL (IQR)	4.7 (4.2, 5.1)	4.7 (4.3, 5.0)
HIV-1 RNA >100,000 copies/mL, n (%)	38 (31)	34 (28)
Median CD4 cells/μL (IQR)	245 (127, 383)	236 (121, 380)
CD4 count <200 cells/μL, n (%)	46 (38)	52 (43)
Median HBV DNA, log <sub>10</sub> IU/mL (IQR)	8.0 (6.5, 8.4)	8.1 (6.6, 8.5)
HBV DNA ≥8 log <sub>10</sub> IU/mL, n (%)	60 (50)	66 (54)
HBeAg positive, n (%)	92 (76)	97 (80)
ALT >ULN, n (%)*	60 (50)	47 (39)



# ALLIANCE: Phase 3 RCT of BIC/TAF/FTC versus TDF/FTC + DTG as Initial Treatment in HIV/HBV Co-Infected adults (Wk 48 results)

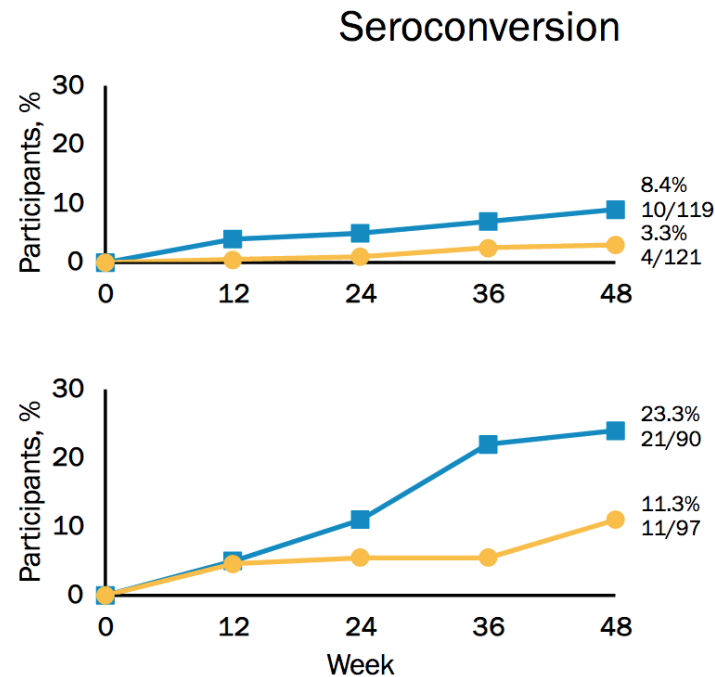
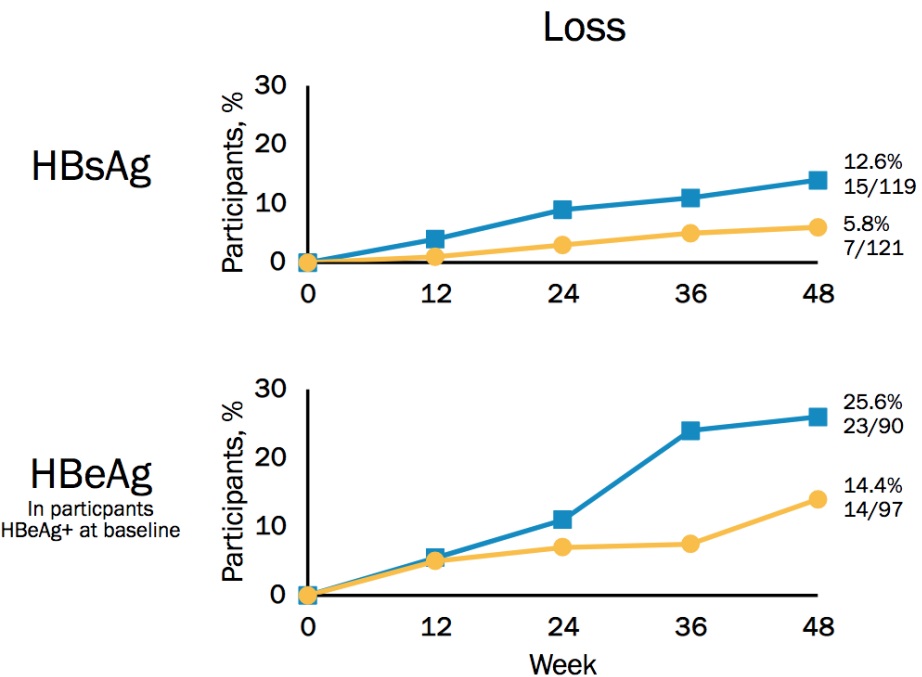


- **HIV endpoint: B/F/TAF non-inferior**
- **HBV endpoint: TAF superior**

• Mean CD4 change from baseline, cells/ $\mu$ L (95% CI): B/F/TAF +200 (175, 226), DTG + F/TDF +175 (152, 198)

# ALLIANCE: Phase 3 RCT of BIC/TAF/FTC versus TDF/FTC + DTG as Initial Treatment in HIV/HBV Co-Infected adults (Wk 48 results)

## HBs/eAg Loss and Seroconversion at Week 48 M=F Serologically Evaluable Full Analysis Set



- TAF: Non-significant higher rates of HBsAg loss and seroconversion
- TAF: Higher rates of eAg loss (not significant) and seroconversion (significant)

# ALLIANCE: Phase 3 RCT of BIC/TAF/FTC versus TDF/FTC + DTG as Initial Treatment in HIV/HBV Co-Infected adults (Wk 48 results)

- As compared to DTG + F/TDF, B/F/TAF:
  - Noninferior at achieving HIV-1 RNA suppression
  - Superior at achieving HBV DNA suppression
  - Higher rates of HBeAg seroconversion
  - With similar safety

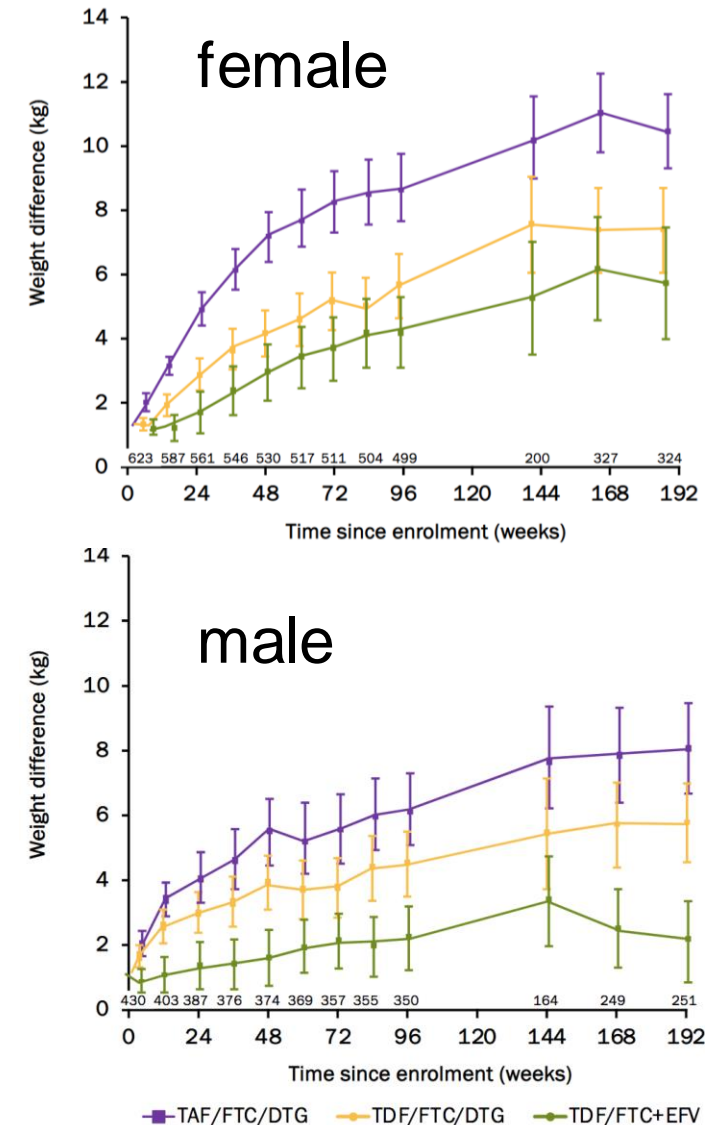
....is TAF better?

# ADVANCE: TFV/FTC + DTG v TDF/FTC/EFV, 192 week

- ADVANCE prior demonstrated non inferiority of TFV (TDF or TAF)/FTC + DTG versus TDF/FTC/EFV
  - Weight gain in DTG arms, TAF + DTG >> TDF + DTG
  - Weight gain most pronounced in women, lower CD4 counts, and higher VL

# ADVANCE: TFV/FTC + DTG v TDF/FTC/EFV, 192 week

- Body weight increases:
  - +8.9 kg (TAF/FTC + DTG)
  - +5.8 kg (TDF/FTC + DTG)
  - +3.3 kg (TDF/FTC/EFV)
- Risk of clinical obesity highest in TAF/FTC + DTG (29% by week 192), female patients, and those with higher baseline BMI
- Proportion of women developing clinical obesity by week 192:
  - 43% (TAF/FTC + DTG)
  - 27% (TDF/FTC + DTG)
  - 20% (TDF/FTC/EFV)



# ADVANCE: TFV/FTC + DTG v TDF/FTC/EFV, 192 week

## ADVANCE: Treatment emergent metabolic syndrome

Treatment Arm	TAF/FTC+DTG	TDF/FTC+DTG	TDF/FTC/EFV
All patients	50/335 (15%)	32/330 (10%)	23/337 (7%)
Women	40/199 (20%)	23/169 (12%)	29/191 (10%)
Men	10/136 (7%)	9/141 (6%)	4/145 (3%)

Risk is significantly higher for TAF/FTC+DTG ( $p < 0.05$ ) for all patients, and for women.

# ADVANCE: TFV/FTC + DTG v TDF/FTC/EFV, 192 week

- Substantial weight gain differences maintained at 192 week follow up
  - Most pronounced in TAF + DTG, women, those with higher baseline BMI
- Higher risk of metabolic syndrome and clinical obesity in TAF/FTC + DTG
- TAF v TDF: No significant differences in HIV RNA suppression or renal/bone AEs
  - Both with continued higher rates of VL suppression compared to TDF/FTC/EFV

# CAB/RPV Administration

- Thigh<sup>1</sup>, Subcutaneous and IM<sup>2</sup> delivery?
  - PK parameters and safety/tolerability of CAB/RPV IM in thigh acceptable
  - High concentration CAB/RPV safe, tolerable at various injection sites
- Delivery in PWH with and without detectable viremia
  - 51 patients initiating IM CAB/RPV → 39 with at least 2 follow up injections
    - 24 suppressed, 15 viremic
  - 100% of those suppressed maintained VS after initiating injections
  - 80% (12) viremic achieved and maintained VS
  - remaining three had 2 log decline by median of 22 days<sup>3,4</sup>



# Takeaways

- CAB-LA continues to be:
  - a superior and safe PrEP option for people assigned female at birth, including in pregnancy
  - safe and effective for TGW, including those on GAHT
  - Improving with respect to delivery methods
- Continued (and worsening) inequities in access to and use of PrEP in the US persist regionally and by race/ethnicity
- TAF >> TDF in HIV/HBV coinfection (maybe?)
- DTG (especially with TAF) continues to be associated with weight gain, risk of metabolic syndrome, and clinical obesity

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