

B/F/TAF in HIV-Infected Adults With Substance Use Disorders: BASE Study, Week 48 Results



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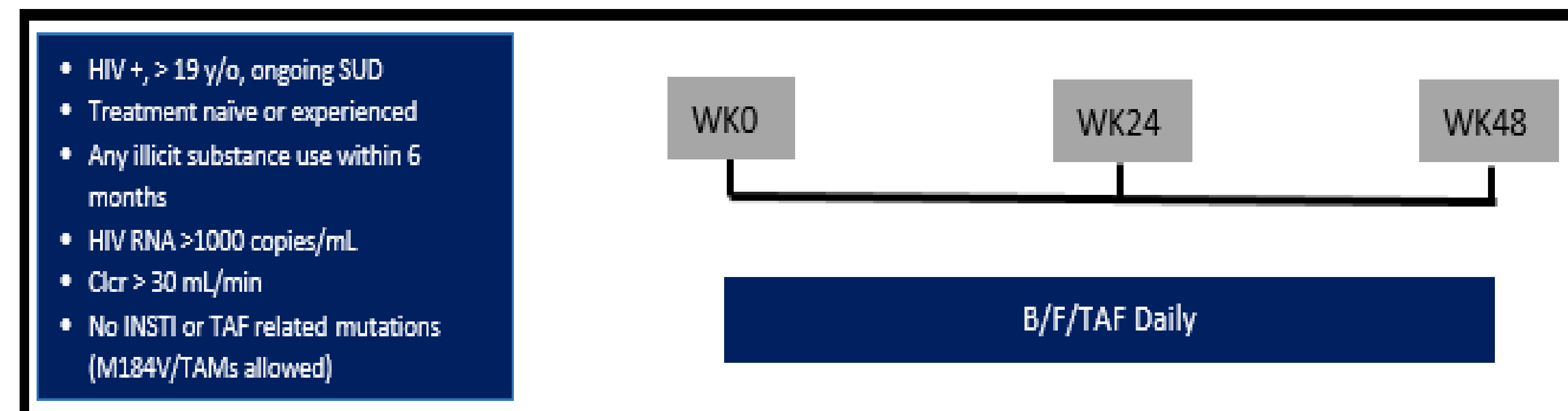
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Background/Introduction

- Nearly half of people with HIV in the US struggle with a substance use disorder (PWH/SUD)
- Antiretroviral therapy (ART) non-adherence is common amongst PWH and SUDs
- ART selection for PWH struggling with non-adherence often includes an anchor agent with a high barrier to resistance, such as a boosted protease inhibitor (bPI) or a 2nd generation integrase strand transfer inhibitor (INI)
- There are concerns for drug-drug interactions with bPI-based regimens and illicit substances
- Bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF), includes a 2nd generation INI with a high barrier to drug resistance and is a single tablet ART regimen with a favorable adverse effect profile
- B/F/TAF has not been formally studied amongst PWH/SUD
- We report effectiveness and safety through week 48 of B/F/TAF daily among PWH/SUD from the Phase 4 BASE Study (NCT03998176)

Methods

Phase 4, prospective, single center, open-label, cohort study



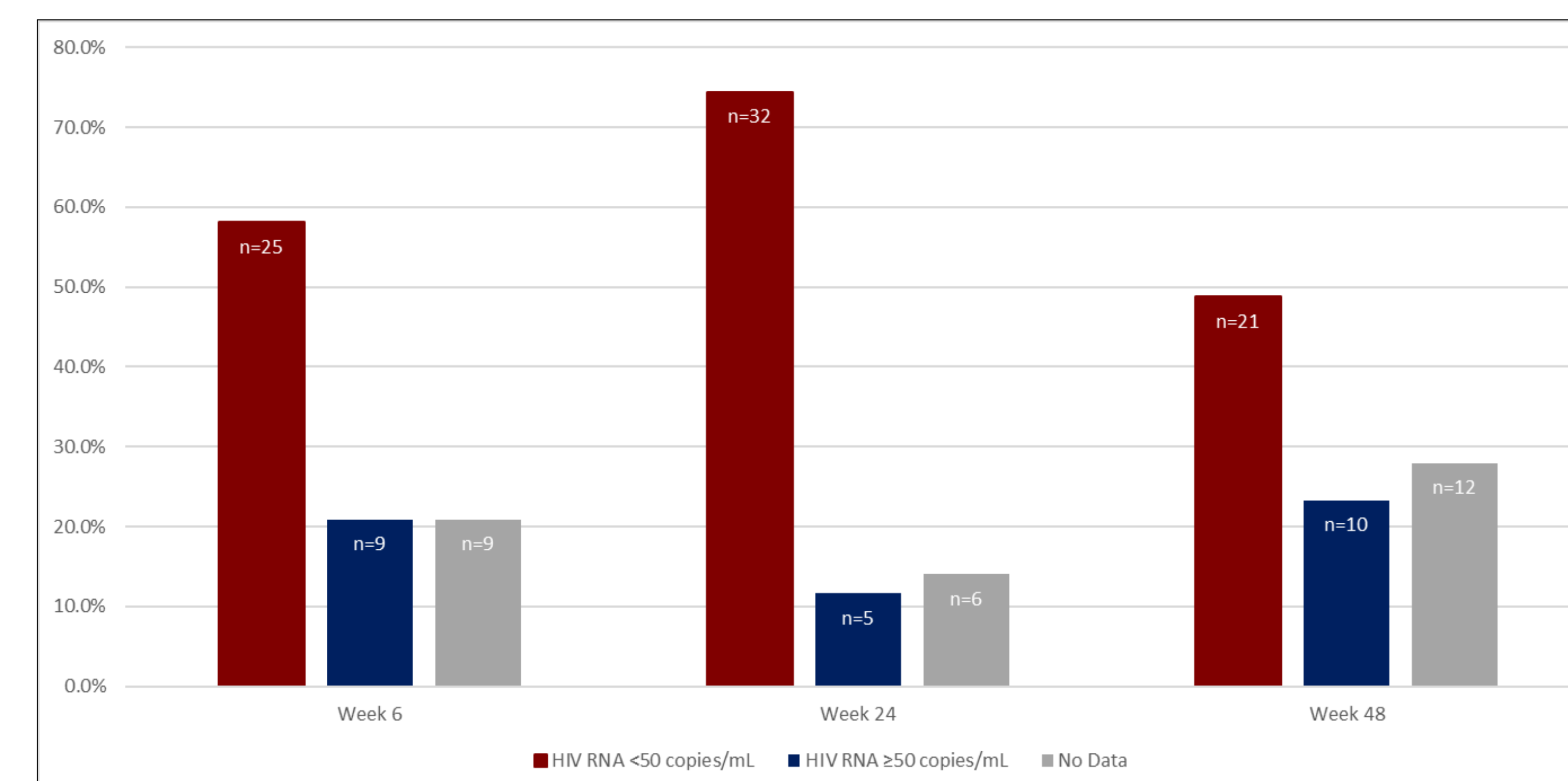
- Primary Endpoint** - Proportion with HIV RNA <50 copies/mL at Week 48 (FDA Snapshot, ITT-E [intent-to-treat exposed])
- Secondary Endpoint** – Proportion of participants with Grade ≥3 Serious Adverse Events (SAE)
- Other Endpoints Assessed:**
 - Confirmed virologic failure (CVF; two consecutive HIV RNA ≥400 copies/mL after week 24)
 - Adherence (dried blood spot [DBS] levels of emtricitabine-triphosphate [FTC-TP] and tenofovir-diphosphate [TFV-DP])
 - Substance use (NIDA ASSIST)
 - Quality of life (SF-12)
- Analysis:**
 - Descriptive statistics were used to summarize data
 - Wilcoxon rank sum test was used to compare continuous data
 - Linear mixed models were used to compare substance use/quality between study time points
 - All analyses were performed using SAS, Version 9.4

Results

Table 1: Baseline Characteristics

Characteristic	B/F/TAF		
	Total Population (N=43)	ART-Naïve (n=12)	ART-Experienced (n=31)
Age, years; median (range)	38.0 (21.0-62.0)	32.0 (27.0-62.0)	40.0 (21.0-61.0)
Gender			
Cisgender men	34 (79.1)	10 (83.3)	24 (77.4)
Cisgender women	9 (20.9)	2 (16.7)	7 (22.6)
Race			
Caucasian	35 (81.4)	11 (91.7)	24 (77.4)
Black	6 (14.0)	1 (8.3)	5 (16.1)
Asian/Pacific Islander	0 (0.0)	0 (0.0)	0 (0.0)
Native American	2 (4.6)	0 (0.0)	2 (6.5)
Other	0 (0.0)	0 (0.0)	0 (0.0)
Ethnicity			
Hispanic	7 (16.3)	4 (33.3)	3 (9.7)
Not Hispanic	36 (83.7)	8 (66.7)	28 (90.3)
Housing Status			
Stable	23 (53.5)	7 (58.4)	16 (51.6)
Unstable (Marginal/Homeless)	20 (46.5)	5 (41.6)	15 (48.4)
Insurance Coverage			
Commercial	5 (11.6)	2 (16.7)	3 (9.7)
Medicaid	9 (20.9)	1 (8.3)	8 (25.8)
Medicare	5 (11.6)	1 (8.3)	4 (12.9)
Uninsured/ADAP	24 (55.9)	8 (66.7)	16 (51.6)
Substance Use			
Cocaine	9 (20.9)	1 (8.3)	8 (25.8)
Opiates/Heroin	7 (16.3)	0 (0.0)	7 (22.6)
Stimulants/Methamphetamine	41 (95.3)	12 (100.0)	29 (93.6)
Hallucinogens	0 (0.0)	0 (0.0)	0 (0.0)
Sedatives	4 (9.3)	0 (0.0)	4 (12.9)
HIV RNA, copies/mL; median (range)	55800 (1212-2280000)	82400 (19400-835000)	43700 (1212-2280000)
CD4, cells/mm ³ ; median (range)	460 (40-1653)	453 (44-841)	489 (40-1653)
Genotypic Drug Resistance			
Any	19 (44.2)	1 (8.3)	18 (58.0)
NNRTI-based	12 (28.0)	1 (8.3)	11 (35.5)
PI-based	1 (2.3)	0 (0.0)	1 (3.2)
Any TAMs	1 (2.3)	0 (0.0)	1 (3.2)
M184V/I	5 (11.6)	0 (0.0)	5 (16.1)
Previous ART Regimen			
INSTI + 2 NRTI			22 (71.0)
PI + 2 NRTI			9 (29.0)
NNRTI + 2 NRTI			0 (0.0)
Other			0 (0.0)

Figure 1: Virologic Outcomes Through Week 48



Results (continued)

Safety Through Week 48:

- 16 participants (37%) reported 27 total Grade ≥3 SAEs
- 5 participants (12%) reported suicidal ideation on 7 occasions; all were attributed to methamphetamine use
- No SAE was attributed to B/F/TAF or lead to discontinuation

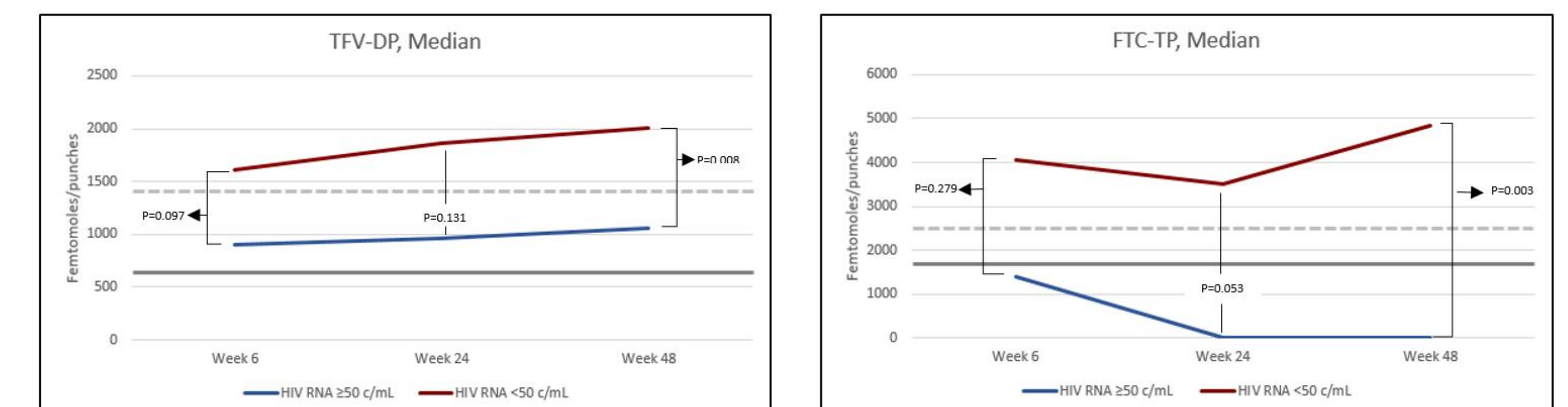
Figure 2: Confirmed Virologic Failure Through Week 48

Participant	Week 24, HIV-1 RNA (c/mL)	Repeat Week 24, HIV-1 RNA (c/mL)	Week 24 Disposition	Week 48, HIV-1 RNA (c/mL)	Repeat Week 48, HIV-1 RNA (c/mL)	Week 48 Disposition
12	<20	-	Suppressed	69500	ND	CVF; Lost to follow-up
20	1410	ND	CVF; Lost to follow-up*	77	ND	CVF; Lost to follow-up
31	<20	-	Suppressed	117	202	CVF; Lost to follow-up
32	452000	ND	CVF; Lost to follow-up	ND	ND	Lost to follow-up
34	4760	143000	CVF; No emergent resistance	94	<20	Re-suppressed
39	18000	2050	CVF; No emergent resistance	9620	ND	CVF; Lost to follow-up
43	48	-	Suppressed	692	3410	CVF; Emergent M184V

*B/F/TAF continued at investigator discretion.

Definitions: ND – no data; CVF – confirmed virologic failure

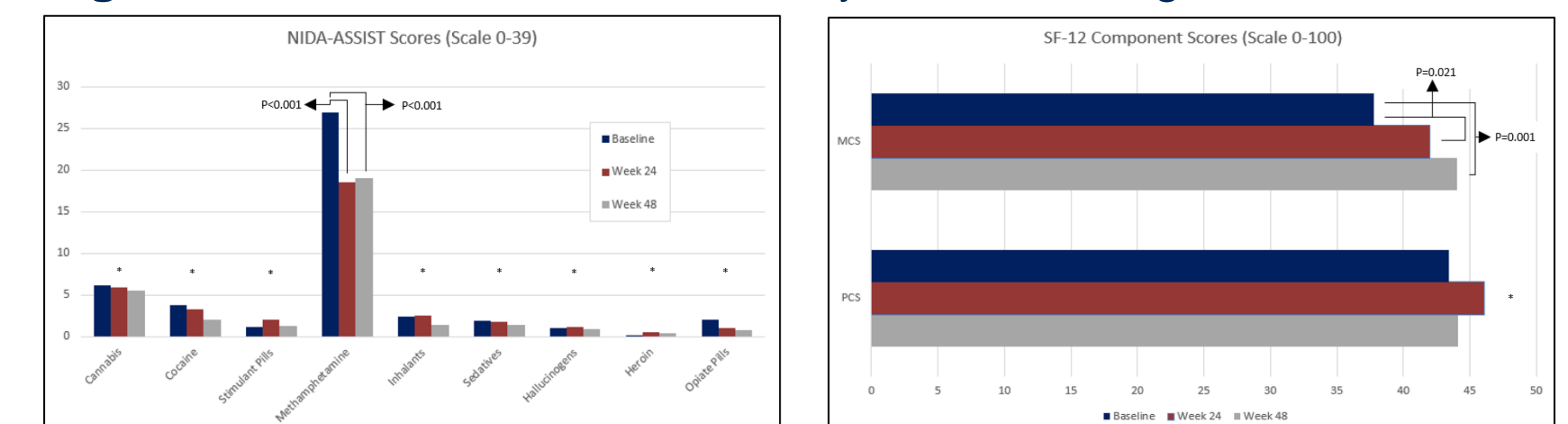
Figure 3: DBS Concentrations by Virologic Status Through 48



Thresholds for 2-3 doses/week (Solid Line) and 4-5 doses/week (Dashed Line) are noted for both FTC-TP and TFV-DP based on TAF-DBS data (Yager J, et al. JAIDS, 2020).

Notes: Wilcoxon rank sum p-value's

Figure 4: Substance Use and Quality of Life Through 48



*Denotes comparison between study time points was not statistically significant. Linear mixed models p-values; pairwise comparisons were adjusted using Tukey's method. Definitions: MCS – mental component score; PCS – physical component score

Conclusions

- B/F/TAF was well tolerated among a high-risk population of PWH and ongoing SUD resulting in a 49% viral suppression rate at W48
- RT emergent resistance (M184V) occurred in one participant (2.3%)
- Significant differences were observed among viremic participants based on FTC-TP DBS concentration at weeks 24 and 48, and TFV-DP DBS concentrations at week 48
- Methamphetamine use generally declined from baseline to weeks 24 and 48