

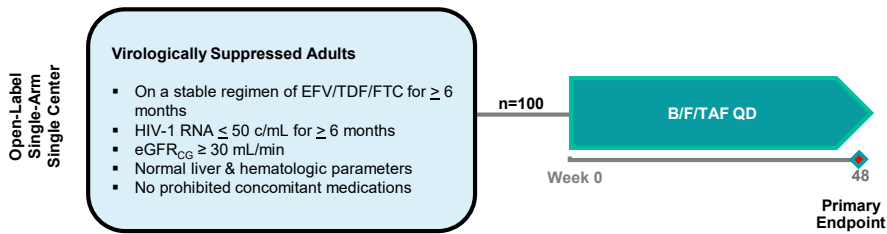
Introduction

- Weight gain has been reported when switching virologically suppressed PLWH to BIC or DTG and/or TDF to non-TDF regimens, but data is conflicting¹⁻⁷
- Differences in weight gain among regimens may reflect drug-related weight suppression as opposed to gain, particularly after switch, dependent on the pre-switch components
 - CYP2B6 slow metabolizers of EFV experience more side effects and less weight gain than intermediate or rapid metabolizers, and gain more weight when switching from EFV⁸⁻⁹
 - Rapid metabolizers, who tolerate EFV better, gain as much weight as DTG-treated patients¹⁰
 - There is growing evidence that weight differences between F/TDF and F/TAF are due to TDF-associated weight suppression rather than TAF-induced weight gain
 - Weight increases are consistently lower in TDF-based treatment regimens compared to TAF-based and two-drug non-tenofovir containing regimens; and lower than placebo or cabotegravir in the setting of prevention¹¹⁻¹⁶
 - Switching from TDF results in weight gain regardless of the post-switch regimen, but weight loss has not been seen when switching from TAF-based regimens^{6-7, 17-18}
- To date, no studies have evaluated the association between weight change and patient-reported outcomes (PROs) before and after switching from a stable ART regimen

Objective

- In this analysis, we aim to determine if there are any associations with PROs and weight change at week 48 after switching from EFV/FTC/TDF to BIC/FTC/TAF

Methods



eGFR_{CG}, estimated glomerular filtration rate by Cockcroft-Gault equation

- Participants completed the HIV Symptom Index (HIV-SI) and Pittsburgh Sleep Quality Index (PSQI) on Day 1, Week 4, Week 12 and Week 48
- Weight was collected at every study visit (screening, Day 1, Weeks 4, 8, 12, 24, 36, and 48)
- Weight change was defined as: gain (≥ 3% increase), loss (≥ 3% decrease), neutral (< 3% change)
- Using mixed-effect generalized linear models we looked at the relationship between weight change and Patient Reported Outcomes (PROs) on the HIV-SI and PSQI over time
- HIV-SI PROs were coded as: "Did not have this symptom" = 0; "Symptom did not bother me" = 1; "Symptom bothers me a little" = 2; "Symptom bothers me" = 3; "Symptom bothers me a lot" = 4 for descriptive purposes
- HIV-SI PROs were also coded as: "Did not have this symptom" = 0; "Symptom bothers me" = 1
- RASCH partial credit model was also used to look at relationship between HIV symptoms and weight

Results

Figure 1. Participant Disposition

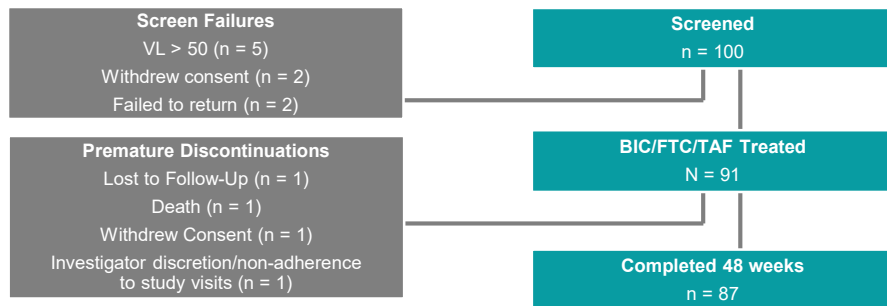
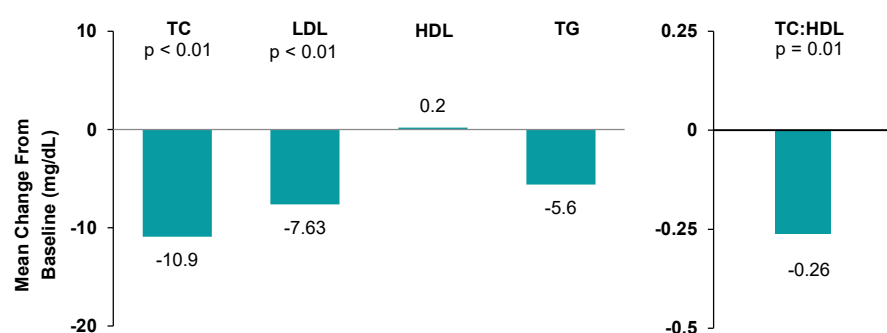


Table 1. Baseline Participant Demographics

	BIC/FTC/TAF (n = 91)*
Age, median (range), yrs	55 (28-75)
Male, %	98%
Race	
White	94%
Black	5%
Asian	1%
LatinX	19%
Body weight, kg	87 (13.5)
Total Cholesterol, mg/dL	183 (38)
LDL, mg/dL	107 (24)
HDL, mg/dL	47 (15)
Triglycerides, mg/dL	169 (115)

*Data presented as mean (SD) unless otherwise noted

Figure 4. Change in Fasting Lipid Profile Over 48 Weeks



Results (Cont'd)

Figure 2. Mean weight change over 48 weeks

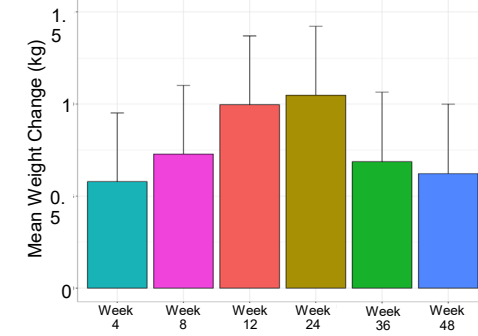
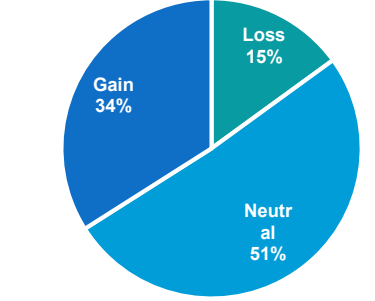


Figure 3. Categorical weight changes over 48 weeks



- The mean weight change 48 weeks after switch was 0.62 kg (95% CI -0.53 to 1.77), p = 0.530
 - 4 (4.6%) participants lost 10% or more weight
 - 3 (3.4%) participants gained 10% or more weight

Figure 5. Change in HIV-SI and PSQI over 48 weeks

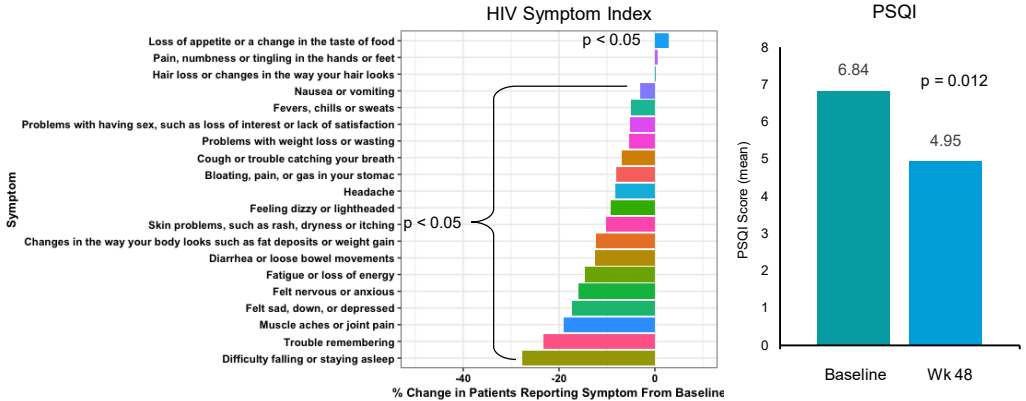


Figure 6. Mean weight according to symptom at baseline and week 48

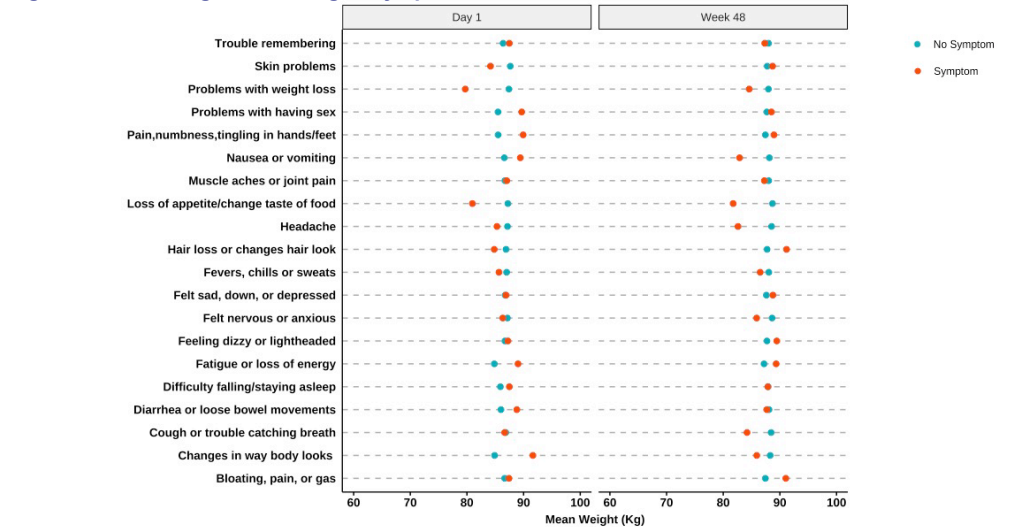
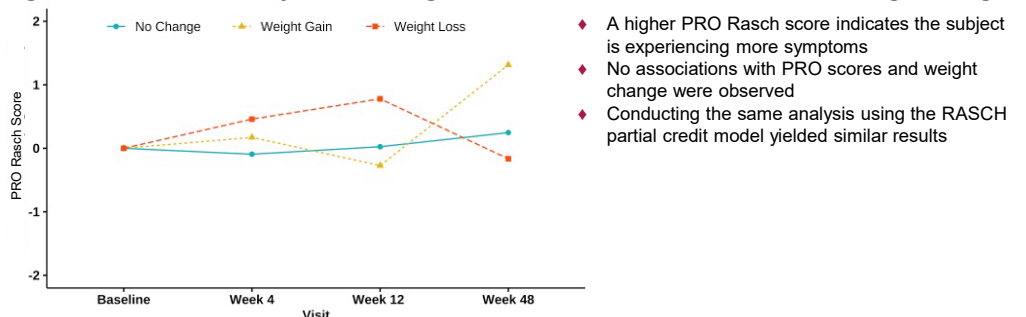


Figure 7. PRO RASCH Analysis Examining Association of PRO Measurements and Weight Changes



- A higher PRO Rasch score indicates the subject is experiencing more symptoms
- No associations with PRO scores and weight change were observed
- Conducting the same analysis using the RASCH partial credit model yielded similar results

Conclusions

- No change in weight was observed after switching virologically suppressed PLWH from EFV to BIC and switching from TDF to TAF
- Participants switched from EFV/FTC/TDF to BIC/FTC/TAF reported significant improvements in 17 out of 20 HIV-related symptoms on the HIV-SI and PSQI
- There were no associations with weight change and overall changes in HIV-related symptoms or sleep quality, suggesting that overall symptomatic improvement or worsening did not contribute to either weight gain or loss
- Further analysis will be conducted to determine if changes in individual symptoms influence weight change

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