WHAT INFLUENCES SWITCHING TO DTG/3TC VS B/F/TAF IN CLINICAL PRACTICE?

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BACKGROUND

- Both B/F/TAF and DTG/3TC are recommended in treatment guidelines for both initial and switch therapy in people with HIV (PWH).
- Understanding clinical and socio-demographic drivers of switching to DTG/3TC or B/F/TAF is critical when comparing outcomes from real-world studies, as individual baseline characteristics could impact efficacy.

Table 1 Baseline characteristics

	N (%); #p-value <.001, *0.001< p-value <.05		BIC/FTC/TAF n=5884	DTG/3TC n=1112
Adherence related characteristics	**Age**	18-25	371 (6) *	41 (4)
		26-50	3423 (58) #	555 (50)
		>50	2090 (36)	516 (46) #
	Gender	Male	4241 (72) *	761 (68)
		Female	889 (15)	204 (18) *
		Transgender	55 (1)	5 (0)
		Unknown	699 (12)	142 (13)
	Race	White	2547 (43)	486 (44)
		Black	2311 (39) *	394 (35)
		Other	460 (8)	124 (11) *
		Unknown	566 (10)	108 (10)
	Payer	Commercial	2638 (45)	633 (57) #
		Medicare	610 (10)	129 (12)
		Medicaid	846 (14) *	129 (12)
		Ryan White	639 (11)	112 (10)
		Other plan, patient assistance, or self-pay	795 (14) #	68 (6)
		Unknown	356 (6) *	41 (4)
HIV related characteristics	**Suppressed at baseline (<200 copies/ml)**		5391 (92)	1048 (94) *
	Baseline CD4	at least 200 cells/mm^3	3894 (66)	929 (84) #
		<200 cells/mm^3	521 (9) #	43 (4)
		baseline CD4 not available	1469 (25) #	140 (13)
Toxicity related characteristics	**Baseline BMI**	Underweight <18.5 kg/m^2	204 (4)	31 (3)
		Normal 18.5-24.9 kg/m^2	1775 (34) *	285 (29)
		Overweight 25-30 kg/m^2	1835 (35)	365 (37)
		Obese >30 kg/m^2	1375 (26)	314 (32) *
	eGFR (mL/min/1.73m^2)	<60	356 (6)	152 (15) #
		60-89	1934 (35)	457 (44) #
		90+	3225 (58) #	436 (42)
	Baseline alcohol abuse		359 (6) *	39 (4)
	Diabetes		275 (5)	72 (6) *
	Hepatitis B virus		146 (2) *	10 (1)
	Hyperlipidemia		948 (16)	308 (28) #
	Hypertension		1455 (25)	377 (34) #
	Osteoporosis		111 (2)	42 (4) #
	Renal disease		179 (3)	113 (10) #
	Smoking at baseline		888 (15) *	131 (12)
	Substance abuse at baseline		585 (10) #	53 (5)
	Prior INSTI use		661 (59) *	2103 (36)

In a large cohort of PWH, there were multiple significant differences between those switching to B/F/TAF vs DTG/3TC. Such differences must be accounted for when evaluating the efficacy of these regimens in observational studies.

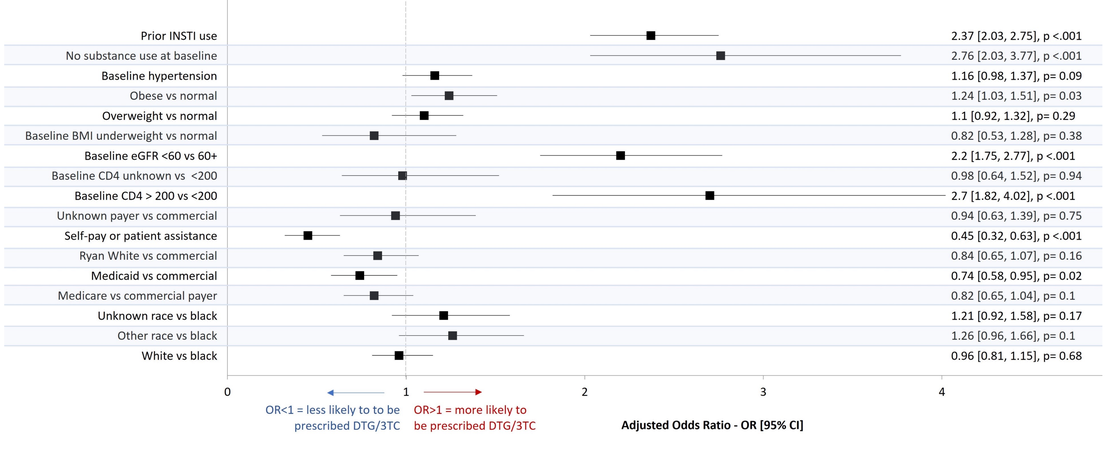
METHODS

- Retrospective study with Trio Health HIV Network EMR data.
- Eligibility: ≥18 yrs., switched to B/F/TAF or DTG/3TC after DTG/3TC approval (4/2019-6/2022).
- Baseline characteristics were compared (chi-square, t-test).
- Logistic regression predicted probability of prescribing DTG/3TC given baseline characteristics (propensity scores, PS).
- Logistic regression identified primary predictors of prescribing DTG/3TC.

RESULTS

- 6996 PWH switched to either DTG/3TC (16%) or B/F/TAF (84%). PWH prescribed DTG/3TC vs B/F/TAF differed in key characteristics: HIV related (baseline viral suppression, CD4), adherence related (age, payer), and toxicity related (baseline eGFR, body mass index (BMI), hyperlipidemia, hypertension, osteoporosis, renal disease, alcohol or substance use, prior INSTI use [Table 1].
- 34% of DTG/3TC group switched from DTG-containing regimens (vs 13% B/F/TAF group), 29% switched from ABC (vs 6%), 25% from EVG (vs 33%), 13% from BIC (vs 0%), 3% from RAL (vs 5%), all p<.05.
- Multivariable logistic regression identified primary predictors for prescribing DTG/3TC over B/F/TAF: prior INSTI (odds ratio [OR]=2.4), CD4>200 cells/mm^3 (OR=2.7), eGFR <60 mL/min/1.73m^2 (OR=2.2), no substance use (OR=2.8), payer (commercial vs Medicaid OR=1.4), baseline BMI (obese vs normal BMI OR=1.2) [Figure 1].

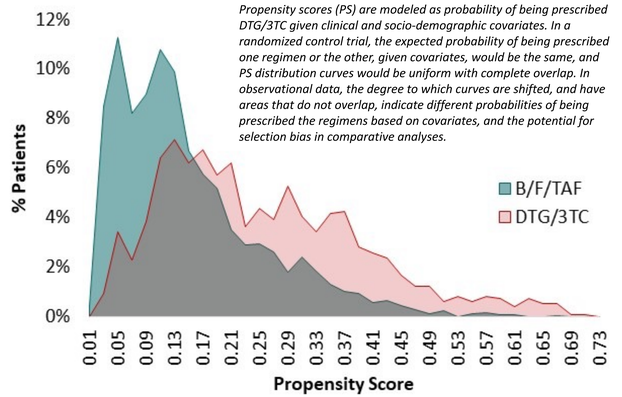
Figure 1 Characteristics associated with prescribing DTG/3TC vs B/F/TAF



This study was conducted by Trio Health and supported by Gilead Sciences.

- The PS distribution [Figure 2] for DTG/3TC was shifted right compared to B/F/TAF. The distributions had distinct tails for DTG/3TC (right) and B/F/TAF (left), where the probability of the alternate regimen was lower based on baseline characteristics.

Figure 2 Distribution of propensity scores



CONCLUSIONS

- While most PWH were prescribed B/F/TAF, there were multiple significant differences in patient characteristics between PWH switching to DTG/3TC or B/F/TAF.
- B/F/TAF prescription was associated with factors that reflect more advanced HIV clinical parameters and potential poor adherence (e.g., CD4<200, substance use). By contrast, prescribing DTG/3TC was associated pre-existing renal dysfunction and obesity.
- Differences in prior INSTI use favoring switch to DTG/3TC largely represent switches off other DTG-containing regimens.
- Differences in payer distribution by regimen could be indicative of differences in socio-economic status that warrant further exploration.
- These results suggest that although they are both guideline-recommended regimens, clinicians do not perceive them as equally appropriate for all patients.
- Accounting for channeling bias in observational studies evaluating outcomes is essential for interpreting differences in efficacy between regimens.