# Characteristics of Heavily Treatment Experienced (HTE) People with HIV (PWH) in US Clinical Practice

**P092**

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## BACKGROUND

- Identification of HTE PWH in clinical settings is challenging due to disparate definitions.
- This retrospective study characterized PWH in clinical practice meeting various HTE criteria, focusing on demographic and clinical characteristics including virologic control at baseline of HTE-qualifying antiretroviral (ART) regimen.

## METHODS

- In Trio Health HIV Network EMR and dispensing data we identified HTE PWH ≥18 years dispensed ART after January 2015 with baseline viral load (within 12-months prior to first HTE-qualifying regimen) using 2 definitions.
- Definition 1: resistance ≥2 classes **OR** drug used in HTE setting (maraviroc [MVC], etravirine [ETR], ibalizumab [IBA], enfuvirtide [ENF], fostemsavir [FTR], dolutegravir [DTG] BID or darunavir [DRV] BID) **OR** failed 2 consecutive regimens and viremic starting 3rd **OR** viremic starting 4th regimen.
- Definition 2: Above limited to viremic at HTE baseline. Univariate comparisons of virally suppressed (VS) PWH from definition #1 versus PWH from definition #2 were conducted via chi-square for categorical and t-test for continuous variables.

## RESULTS

- Of 29844 patients, 865 (3%) satisfied definition 1 and 435 (1.5%) satisfied definition 2 [Figure]. Of HTE Definition 1, 53% were age >50, 73% male, 46% black, 35% commercially insured.
- Only 24% had historic genotypic tests; of those with available results, 8% were resistant to ≥2 classes.
- Clinically, 20% presented with baseline CD4 <200 cells/mm$^3$, 50% with normal eGFR, 70% with normal ALT; 26% were viremic on all regimens [Table].
- Approximately half of definition 1 PWH were virally suppressed at baseline HTE-qualifying regimen (n=430).
- Viremic patients (definition 2) were more likely to have historic genotypic tests, to be female, black, age 26-50, on Medicaid, underweight, with baseline CD4 <200 cells/mm$^3$, normal eGFR and ALT.
- Viremic patients received more known regimens overall, but fewer once qualified as HTE, and had shorter time on first HTE-qualifying regimen with more failures.
- Viremic PWH were less likely to receive FTR, ETR, MVC, DRV BID, more likely to be taking BIC- and DTG-containing regimens.

## CONCLUSIONS

- HTE PWH represent a small but important population. HTE PWH viremic at baseline differ from virally suppressed PWH by baseline characteristics and treatment patterns and are more likely to fail in HTE setting.
- Genotype testing is underutilized among HTE PWH.

**Figure. HTE Definition**

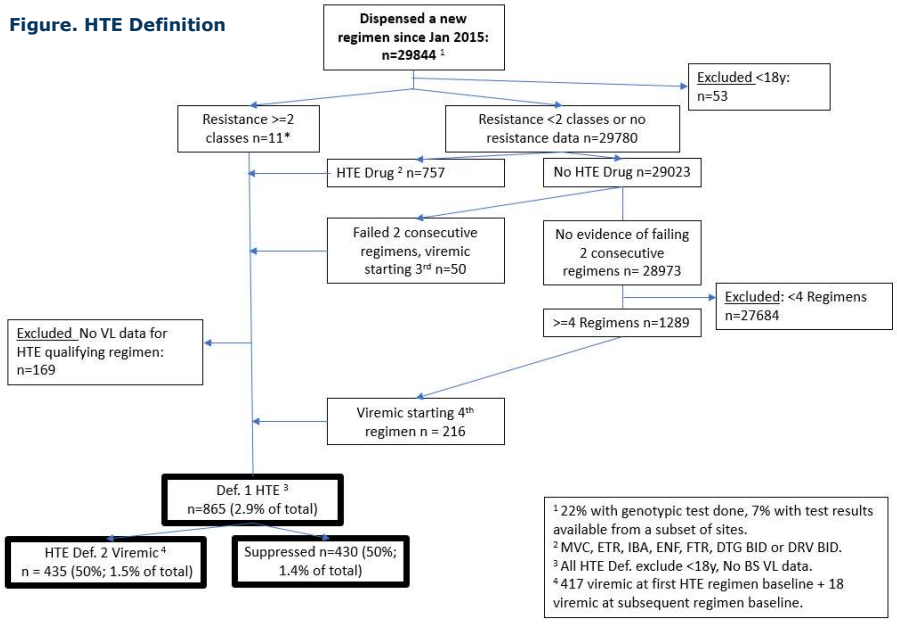


**Table. HTE Characteristics by Definition**

| N (%) unless specified. Note: variable categories are limited to those with significant differences (p<.05), p-values are for viremic vs suppressed at baseline of HTE-qualifying regimen | | HTE Definition 1 Total n=865 | HTE Definition 2 Viremic at HTE baseline n=435 | Suppressed at HTE baseline n=430 |
|---|---|---|---|---|
| Age | 18-25 | 27 (3) | 15 (3) | 12 (3) |
| | 26-50 | 383 (44) | 226 (52)# | 157 (37) |
| | >50 | 455 (53) | 194 (45) | 261 (61)# |
| Gender | Male | 634 (73) | 305 (70) | 329 (77)* |
| | Female | 164 (19) | 101 (23)* | 63 (15) |
| | Transgender | 13 (2) | 10 (2) | 3 (1) |
| | Unknown | 54 (6) | 19 (4) | 35 (8)* |
| Race | White | 384 (44) | 161 (37) | 223 (52)# |
| | Black | 402 (46) | 241 (55)# | 161 (37) |
| | Asian, American Indian, Pacific Islander | 47 (5) | 22 (5) | 25 (6) |
| | Unknown | 32 (4) | 11 (3) | 21 (5) |
| Payer | Commercial | 305 (35) | 146 (34) | 159 (37) |
| | Medicare | 184 (21) | 76 (17) | 108 (25)* |
| | Medicaid | 182 (21) | 118 (27)# | 64 (15) |
| | Ryan White | 13 (2) | 7 (2) | 6 (1) |
| | Other plan or self-pay | 92 (11) | 52 (12) | 40 (9) |
| | Unknown | 89 (10) | 36 (8) | 53 (12) |
| Baseline CD4 <200 cells/mm$^3$ | | 172 (20) | 125 (29)# | 47 (11) |
| Baseline BMI | Underweight <18.5 kg/m2 | 25 (3) | 18 (4)* | 7 (2) |
| | Normal 18.5-24.9 kg/m2 | 291 (36) | 160 (39) | 131 (33) |
| | Overweight 25-30 kg/m2 | 284 (35) | 128 (32) | 156 (39)* |
| | Obese >30 kg/m2 | 202 (25) | 100 (25) | 102 (26) |
| Baseline eGFR (mL/min/1.73m$^2$) | <60 | 101 (12) | 48 (11) | 53 (14) |
| | 60-89 | 306 (38) | 139 (32) | 167 (43)* |
| | 90+ | 409 (50) | 242 (56)# | 167 (43) |
| Baseline ALT> upper limit of normal (ULN) | | 243 (30) | 109 (26) | 134 (35)* |
| Follow-up (yrs), mean (SD) | | 7.9 (4.4) n=865 | 7.9 (4.2) n=435 | 7.8 (4.6) n=430 |
| Follow-up since HTE baseline start (mo), mean (SD) | | 39.4 (24.2) n=865 | 34.1 (22) n=435 | 44.8 (25.2) n=430# |
| Prior known regimens, mean (SD) | | 1.3 (1.5) n=865 | 2.1 (1.5) n=435# | 0.5 (1.1) n=430 |
| HTE regimens, mean (SD) | | 1.9 (1.2) n=865 | 1.8 (1.2) n=435 | 2 (1.3) n=430* |
| Duration of baseline HTE regimen (mo), mean (SD) | | 14.5 (15.6) n=865 | 13.3 (13.5) n=435 | 15.8 (17.4) n=430* |
| Suppressed at last available observation on baseline HTE regimen (<200 copies/ml) | | 372 (68) | 143 (49) | 229 (90)# |
| Failure at any time on baseline regimen (2 consecutive viral loads >200 copies/ml) | | 152 (18) | 115 (26)# | 37 (9) |
| Viremic on all HTE regimens | | 158 (26) | 132 (42)# | 26 (9) |
| Ibalizumab-containing (IBA)[1] | | 2 (0) | 0 (0) | 2 (0) |
| Fostemsavir (FTR) [1] | | 17 (2) | 3 (1) | 14 (3)* |
| Maraviroc (MVC) [1] | | 147 (17) | 30 (7) | 117 (27)# |
| Etravirine (ETR) [1] | | 317 (37) | 75 (17) | 242 (56)# |
| Enfuvirtide (ENF) [1] | | 2 (0) | 1 (0) | 1 (0) |
| Bictegravir (BIC) [1] | | 84 (10) | 77 (18)# | 7 (2) |
| Dolutegravir + Rilpivirine (DTG + RPV) [1] | | 164 (19) | 88 (20) | 76 (18) |
| DTG (not including DTG+RPV) [1] | | 111 (13) | 68 (16)* | 43 (10) |
| DTG BID[1] | | 63 (7) | 33 (8) | 30 (7) |
| Darunavir (DRV) [1] | | 281 (32) | 125 (29) | 156 (36)* |
| DRV BID[1] | | 93 (11) | 32 (7) | 61 (14)* |
| DRV+ DTG BID[1] | | 13 (2) | 9 (2) | 4 (1) |
| With historic genotypic test | | 208 (24) | 137 (31)# | 71 (17) |
| With genotypic result available | | 113 (13) | 79 (18)# | 34 (8) |
| Resistant to ≥2 classes | | 9 (8) | 5 (6) | 4 (12) |

[1] First HTE regimen; #p<.001; *.001≤p<.05

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