A Comparative Analysis of Adherence and Persistence Patterns among Patients Treated with a Long-Acting Injectable Antiretroviral Regimen versus Oral Single-Tablet Regimens

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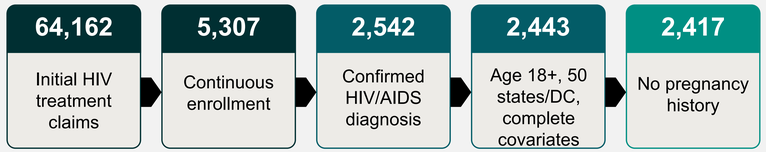
Background

+ HIV viral suppression can be successfully achieved with antiretroviral therapy (ART), but near perfect adherence is essential to maintain suppression and reduce the risk of treatment resistance.
+ Oral single-tablet regimens (STR) have significantly simplified HIV treatment but taking a daily tablet may still be challenging for some patients.
+ Long-acting injectable (LAI) ART offers less frequent administration with comparable efficacy to oral STR. Understanding adherence patterns is essential for optimizing treatment outcomes.

Methods

+ **Study population**: Adults newly initiating LAI or oral STR HIV treatment between January 2021 and December 2024 with a one-year follow-up.
+ **Outcomes measured**: adherence was measured using proportion of days covered (PDC) and persistence was measured as time to treatment discontinuation, allowing a 60-day grace period.
+ **Statistical analysis**: multivariable logistic regression was used to compare the cohorts. Results are reported as odds ratios (OR) with corresponding 95% confidence intervals (CI). Statistical significance was set at p<0.01.

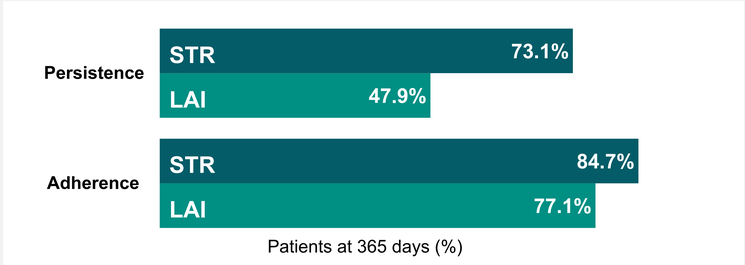
Cohort Selection



FINAL COHORT | **2,417 adults initiating LAI (n=96) or STR therapy (n=2,321)**

Results

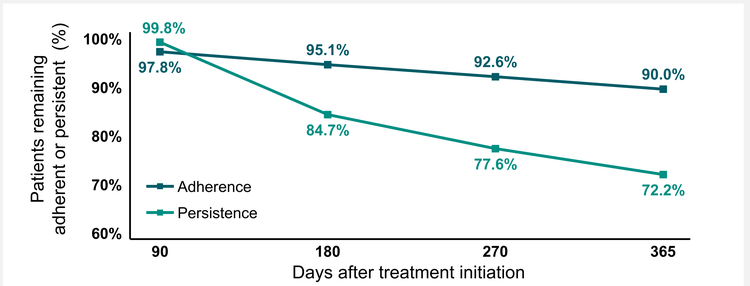
Adherence and Persistence by Treatment Route



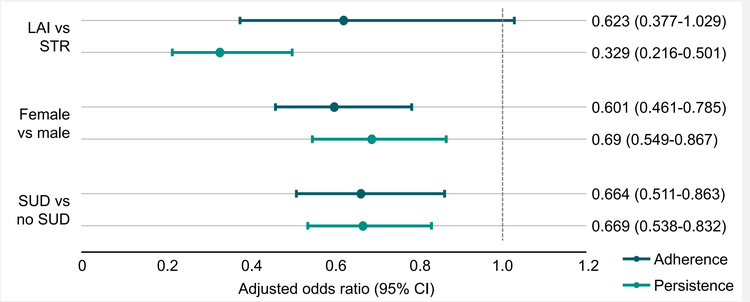
+ Female sex and substance use disorder (SUD) were significantly associated with lower odds of both adherence and persistence.
+ There was no statistically significant difference when comparing LAI vs STR in the SUD subgroup.

SUD subgroup	LAI (n=25)	STR (n=476)	P-value
PDC ≥80%	68.0%	80.7%	0.128
Persistence	44.0%	66.6%	0.029

Adherence and Persistence over 12-month follow-up



Adjusted Predictors of 12-month Adherence and Persistence



Values left of 1.0 indicate lower adjusted odds versus the reference group. SUD = substance use disorder

Conclusion

+ LAI ART was associated with significantly lower odds of 12-month persistence (25.2% lower than STR). After adjustment, adherence was similar between LAI and STR users, although the point estimate favored STR (aOR 0.62; 95% CI 0.38-1.03).
+ Female sex and substance use disorder were independently associated with lower adherence and persistence.
+ These findings highlight the need for a deeper understanding of clinical and non-clinical factors to optimize LAI utilization.
+ Interventions should focus on identifying patient-specific barriers and providing targeted, practical patient solutions to optimize LAI adherence and persistence.

Limitations

+ The LAI cohort was substantially smaller than the STR cohort, limiting interpretability. Findings may reflect differences in patient selection, healthcare access and social-determinants between cohorts not measured by our analysis.
+ Claims data may not fully capture scheduling variability associated with LAI administration.