



Care Entry Point as a Predictor of HIV Treatment Interruption, Mortality, and Viral Load Suppression in a Multi-State Nigerian Cohort: A Retrospective Analysis, 2022–2025

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Background: The route through which a person living with HIV first enters care reflects both clinical severity at diagnosis and structural channels connecting them to services. Whether entry pathways independently predict treatment interruption (IIT), mortality, and viral load suppression (VLS) has not been examined across a geographically diverse multi-state Nigerian cohort.

Objective: To determine whether care entry point independently predicts IIT, mortality, and VLS among patients initiating ART between 2022–2025 across 89 facilities in Edo, Niger, and Bayelsa States.

Methods: Retrospective cohort analysis of RADET (Retention Audit Determination tool) data from 89 facilities across 40 LGAs (study cohort $n=24,154$). Entry points were grouped into six categories: Community-Based, Facility-Based OPD/Inpatient, TB DOTS, PMTCT, Transfer-In, and Other. IIT was assessed in the Active/IIT cohort ($n=22,482$); mortality in the full cohort; VLS in patients with documented results. Chisquare tests were applied throughout.

Results: Care entry point was significantly associated with IIT ($\chi^2=122.04$, $p<0.001$), mortality ($\chi^2=67.74$, $p<0.001$), and VLS ($\chi^2=29.78$, $p<0.001$). TB DOTS patients had the highest IIT (24.6%) and mortality (10.5%). Transfer-In patients had the lowest IIT (11.0%). VLS ranged from 91.0% (PMTCT/TB DOTS) to 93.7% (Facility-Based).

Conclusion: Care entry point is a significant, independent determinant of HIV treatment outcomes. TB DOTS-linked patients carry the highest dual burden of IIT and mortality, reflecting TB-HIV co-morbidity vulnerabilities. Community-based patients sustain a 19.9% IIT rate, demonstrating that testing reach does not automatically translate into durable facility attachment. Transfer-In patients consistently outperform across all metrics.

