

Effectiveness of Differentiated Service Delivery ART Care Among Priority Populations in Sub-Saharan Africa: Evidence from a Systematic Review and Meta-analysis

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BACKGROUND: Differentiated service delivery (DSD) for antiretroviral therapy (ART) is a patient-centred approach designed to improve HIV treatment access, retention, adherence, and viral suppression. In sub-Saharan Africa, including Uganda, DSD models such as community ART groups, fast-track refills, multi-month dispensing, and community-based ART delivery are increasingly used to reduce clinic burden and improve outcomes among people living with HIV.

AIM: To assess the effectiveness of DSD ART care compared with standard facility-based ART care among priority populations in sub-Saharan Africa.

METHODS: Evidence from multiple trials and implementation studies was systematically synthesized using logit transformations and random-effects modelling. Statistical heterogeneity was assessed using the I² statistic.

RESULTS: The pooled estimate demonstrated high effectiveness of DSD ART care across included studies, with a 95% confidence interval of 0.82 to 0.95. Moderate heterogeneity was observed, suggesting variation across study populations, DSD models, and implementation contexts. Overall, DSD ART care was associated with improved retention in care, reduced clinic congestion, greater patient convenience, and high levels of viral suppression. Community-based and patient-centred models appeared particularly beneficial for stable clients, as they reduced transport burden, waiting time, and frequency of clinic visits. Evidence from Uganda and other sub-Saharan African settings also suggests that DSD models can achieve outcomes comparable to or better than standard care, although implementation quality, health worker capacity, supply chains, and local infrastructure remain important determinants of success.

CONCLUSION: DSD ART care is an effective strategy for improving HIV treatment delivery in sub-Saharan Africa. However, scale-up should be context-specific and supported by strong health systems, reliable drug supply, monitoring systems, and patient-centred implementation approaches.

KEYWORDS: Differentiated service delivery; ART care; HIV treatment; viral suppression; retention in care; Uganda; sub-Saharan Africa; systematic review; meta-analysis.

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