



**Title: Implementing a MOST-guided randomized trial to improve HIV treatment adherence and retention in care: Early outcomes from the SUSTAIN (SUpporting Sustained HIV Treatment Adherence after Initiation) Study**

***ACCEPTED FOR POSTER PRESENTATION***

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## **Introduction**

Interventions are needed to improve HIV treatment outcomes in resource-constrained settings, particularly among individuals beginning antiretroviral therapy (ART), among whom 25-40% discontinue care within one year. To test combinations of five evidence-based ART adherence monitoring and support interventions, we are implementing a Multiphase Optimization Strategy (MOST)-informed randomized trial in Cape Town. Here we provide a progress report on study implementation to date.

## **Methods**

Beginning in March 2022, a total of 512 individuals initiating ART will be enrolled at three community clinics. Participants receive an electronic adherence monitor (EAM) and are randomized to one of 16 experimental conditions, each entailing a unique combination of five intervention components. Three components identify nonadherence (via viral load test indicating unsuppressed virus; missed pharmacy refill; or insufficient dose-taking, per EAM). If nonadherent, participants are contacted by phone and offered support from two remaining components (or standard counseling), per randomized condition: weekly texts and counseling enhanced by motivational interviewing techniques. Participants are monitored over 12 months; follow-up concludes at 24 months. Measures include viral suppression; implementation, service, and client outcomes; and cost-effectiveness of intervention combinations.



## **Results**

By late May, 38 participants were enrolled. Average age was 31.8 years; 31.6% were male. In this initial cohort, 21, 15, and 20 participants, respectively, were assigned to monitoring via viral load, pharmacy refill, or EAM. Among the latter, nine (45%) had been identified as nonadherent; average time to nonadherence was 20.6 days from study enrollment, and 29.3 days from ART start. Most had been called three times; five (55.6%) had been reached by phone.

## **Conclusion**

In the first months after initiating ART, nearly half of trial participants monitored by EAM were identified as nonadherent, with an opportunity to benefit from support; future study phases will measure monitoring, and intervention uptake and impact of the full study population.