Data Informed Stepped Care (DiSC) to Improve HIV Care for Youth with HIV: A Cluster Randomized Trial

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BACKGROUND

- Adolescents and young adults living with HIV (YLH) may benefit from differentiated care
- Providers and policymakers are hesitant to assign YLH to differentiated care due to concerns over poor retention and viral suppression
- The DiSC study tested effectiveness of a data-informed stepped care intervention that assigned YLH to different intensities of care according to need

METHODS

- YLH at 12 intervention facilities underwent risk assessment and step assignment at each visit
- Those at lowest risk were eligible for differentiated care services: multi-month refill and pharmacy fast-track
- YLH received a standardized questionnaire to assess baseline characteristics at enrollment and were followed for 12 months
- Electronic medical record data were abstracted for clinic visits and viral load
- Differences between arms evaluated using mixed effects Poisson regression, clustered by individual and facility

Table 1: DiSC Trial Outcomes

Outcome	Indicator
Retention in care	Missed visits: Not seen within 30 days of a scheduled visit
Loss to follow-up	Not returned to care within 12-month study interval
Viral non-suppression	HIV viral load (VL) >1,000 copies/mL
Receipt of differentiated care	• Longer inter-visit interval • Fast-track visit
ART adherence	Pill coverage: days of dosing and inter-visit interval since last visit >80%

More low-risk YLH were assigned to fast-track visits without additional loss to follow-up or viral non-suppression.

RESULTS

- 1,911 YLH ages 10-24 enrolled between April-July 2022
- Demographic characteristics generally balanced between intervention and control arms except proportion of YLH coming to clinic alone
- Majority of YLH (65%) assigned to differentiated care services (Step 1) at baseline

Figure 1: Initial step assigned at enrollment

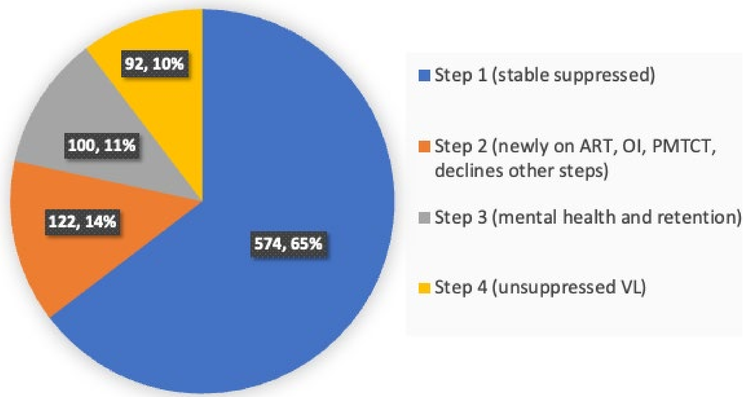
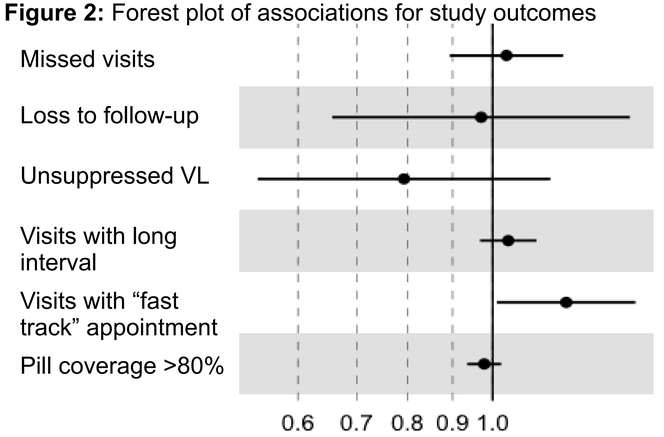


Table 2: Baseline characteristics of study participants by study arm

Characteristic	Overall (N=1904)	Control (N=1016)	Intervention (N=888)	p-value
Age	17.0 (14.0, 19.0)	17.0 (15.0, 19.0)	16.0 (14.0, 19.0)	0.26
Gender				0.21
Female	1,102 (57.9%)	570 (56.2%)	532 (60.0%)	
Highest education				
Primary	1,044 (55.1%)	530 (52.5%)	514 (58.0%)	
Secondary	752 (39.7%)	422 (41.8%)	330 (37.2%)	
College/university or higher	100 (5.3%)	58 (5.7%)	42 (4.7%)	
Visit clinic alone	**1,235 (65.1%)**	**694 (68.6%)**	**541 (61.1%)**	**0.04**

Figure 2: Forest plot of associations for study outcomes



Estimates were adjusted for baseline level of corresponding outcomes during a 6-month pre-enrollment period and variables that differed by arm at baseline.

- Missed visits did not differ between intervention (8.5%) and control arms (8.3%) (aRR 1.04, 95%CI: 0.89-1.20)
- Viral suppression was similar between arms (aRR 0.78, 95%CI: 0.49-1.23)
- YLH in the intervention arm were more likely to be assigned to pharmacy fast-track visits compared to control arm (aRR 1.21, 95%CI: 1.01-1.45)

CONCLUSIONS

- The DiSC tool resulted in increased assignment of low-risk YLH to fast-track visits without additional loss to follow-up or viral non-suppression
- Differentiated services were readily implemented in YLH and may align well with school schedules, decrease health system burden, and tailored intensive care for YLH with unique needs

ADDITIONAL KEY INFORMATION

NCT: NCT05007717

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