Implementation of a combination intervention on Time to HIV Viral Suppression in the Deep South

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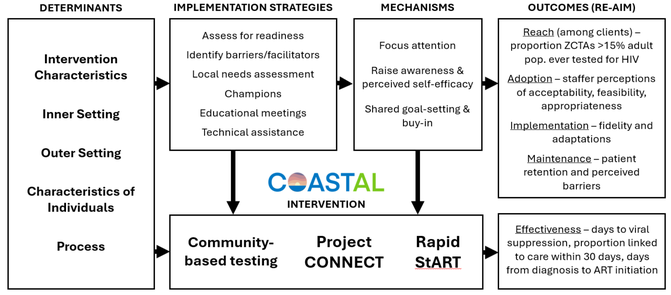
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BACKGROUND

- The U.S. Southeast has the highest regional HIV incidence and the longest times to achieving and sustaining viral suppression (VS).[1, 2]
- To address these gaps in Alabama (AL), we initiated COAST-AL, a combination intervention including:
  - data-driven community-based HIV testing,
  - community-based needs assessments to expedite linkage,
  - rapid HIV treatment initiation program

  with the Mobile County Health Department (MCHD) and affiliated clinics serving urban and rural areas with the aims of evaluating both effectiveness and impact.[3]
- MCHD clinics provide care for approximately 70% of people newly diagnosed with HIV in the county. The COAST-AL study team worked with MCHD clinic staff and community advisory board to adapt a rapid HIV treatment initiation protocol which was implemented November 2023.

Figure 1. COAST-AL Implementation Logic Model (simplified)



METHODS

- Using both clinic and state surveillance data, time from HIV diagnosis to viral suppression (TVS) pre- (May 2020-April 2022) and post-implementation (Nov 2023-Oct 2025) were estimated for Health Department Clinics (HD Clinics) and Mobile County (County).
- Time to VS (number of days from HIV diagnosis to date of first recorded viral load less than 200 copies/mL) was assessed via Kaplan-Meier curves and Cox regression.
- For county-level estimates, Time to VS was estimated among PWH with documented quantitative HIV viral load results in AL's HIV surveillance system. Clinic level data was extracted from the HD clinic electronic health record.
- Preliminary HIV incidence rate at the county level was calculated using data from surveillance and U.S. Census estimates.

KEY FINDINGS

Implementation of a combination intervention with an academic-public health-community partnership to increase testing, expedite linkage and initiation of ART has shown decrease in time to VS at the clinic level highlighting intervention effectiveness. More modest impacts in time to VS and rise in incidence noted at the county level inform the next phases of the work to engage additional community entities in testing, linkage and rapid start programming.

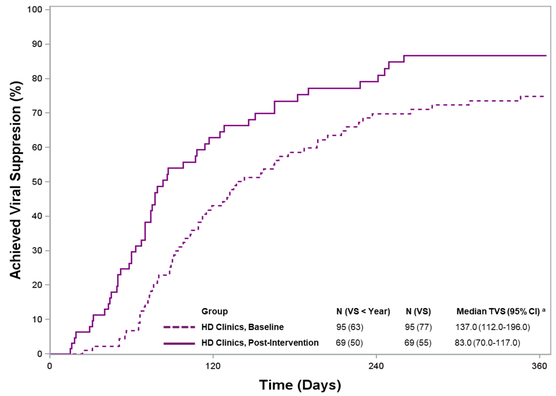
Table 1. Characteristics of Newly Diagnosed PWH at HD Clinics

	Baseline (N = 95)	Post Intervention (N = 69)
Age at HIV Diagnosis (years)*	35.0 (28.0, 47.0)	32.0 (27.0, 45.0)
Race		
Black or African American	59 (62.1%)	43 (62.3%)
White	31 (32.6%)	25 (36.2%)
Ethnicity, Not Hispanic or Latino	89 (93.7%)	66 (95.7%)
Sex, Male	76 (80.0%)	51 (73.9%)
Time to: Linkage to Care (Days)*	18.0 (8.0, 66.0)	14.0 (6.0, 60.0)
Missing	0	2
Time to: ART Initiation (Days)*	44.0 (28.0, 91.0)	13.0 (4.0, 60.0)
Missing	4	2
Achieved Viral Suppression		
≤ 90 Days	25 (32.5%)	32 (58.2%)
≤ One year	63 (81.8%)	50 (90.9%)
Within a year or more	77 (81.1%)	55 (79.7%)

*Median (IQR)

RESULTS (cont.)

Figure 2. Time to Viral Suppression (Days) in MCHD Clinics (COAST-AL and Mobile County)



- Persons diagnosed with HIV at HD clinics in the post-intervention period achieved VS significantly faster than those diagnosed in clinics during the baseline period (HR: 1.88, 95% CI: 1.31-2.70).
- Preliminary state data indicate PWH living in Mobile County during the post-intervention period achieved VS faster than PWH during the baseline period (HR: 1.24, 95% CI: 0.93-1.65).
- Preliminary analysis of HIV incidence rates for the county increased from 3.54 per 100k residents to 4.20 per 100k residents over the same time periods.

Table 2. Time to Viral Suppression (Days) in Health Department Clinics and County

Group		N (VS < Year)	N (VS)	Median TVS (95% CI) [a]	Percent VS Estimate, 90 days (95% CI) [a]
HD Clinics	Baseline	95 (63)	95 (77)	137 (112 - 196)	27.6 (19.4-38.3%)
	Post-Intervention	69 (50)	69 (55)	83 (70 - 117)	54.0 (41.9-67.1%)
County	Baseline	139 (94)	139 (117)	174 (123 - 231)	33.8 (26.5-42.4%)
	Post-Intervention	104 (77)	104 (80)	119 (78 - 145)	43.1 (34.2-53.3%)

Abbreviations: VS = viral suppression; TVS = Time to Viral suppression; CI = confidence interval;

CONCLUSIONS

- COAST-AL intervention reduced time to VS at HD clinics which was also reflected in improved time to VS at county level.
- This was largely driven at the clinic level by time to initiation of antiretroviral therapy.
- The county level reduction in time to VS may reflect a combination of factors including population level impact of a large regional HIV clinic. In addition, HD providers may have implemented elements of the rapid treatment at other HIV clinical care sites..
- Ongoing increases in HIV incidence highlight opportunities for integrating HIV prevention strategies into status neutral care.

PLAIN LANGUAGE SUMMARY

An academic and public health partnership successfully helped patients start HIV treatment faster and reach undetectable levels sooner. The program is now expanding to include more community partners in its testing, linkage and rapid treatment efforts.

ACKNOWLEDGEMENTS

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