Rapid Antiretroviral Therapy Initiation Following Rollout of Point-of-Care Early Infant Diagnosis Testing, Uganda, 2018-2021

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BACKGROUND

Uganda Ministry of Health (MOH) recommends a first HIV DNA-PCR test at 4-6 weeks for early infant diagnosis (EID) of HIV-exposed infants (HEI) and immediate return of results. WHO recommends initiating antiretroviral therapy (ART) ≤7 days from HIV diagnosis. In 2019, MOH introduced point-of-care (POC) whole-blood EID testing in 33 health facilities and scaled up to 130 facilities in 2020. We assessed the impact of POC testing on turnaround time for EID results and ART linkage pre-POC and during POC testing.

METHODS

- We evaluated EID register data for HEI at 10 public health facilities with POC and EID testing volume of ≥12 infants/month from 2018-2021.
- Abstracted data for 12 months before and after POC testing rollout and compared time to sample collection, results receipt, and ART initiation between periods using medians, Wilcoxon, and log-rank tests

RESULTS

- Data for 4,004 HEI were abstracted, of which 1,685 (42%) were from the pre-POC period and 2,319 (58%) were from the period during POC; 3,773 (94%) had a first EID test (pre-POC: 1,649 [44%]; during POC: 2,124 [56%]).

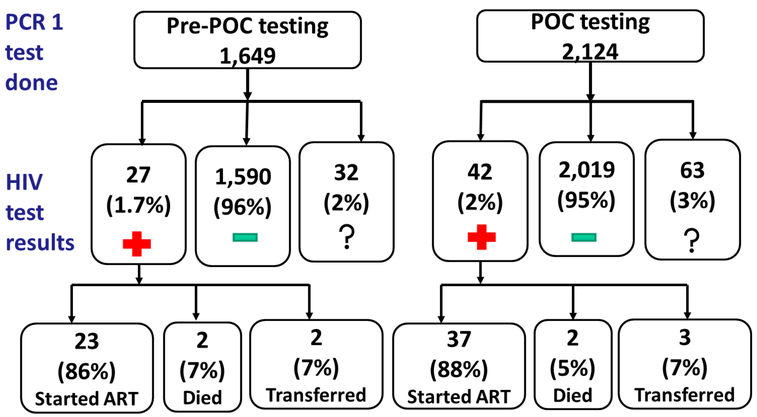
- Pre-POC, 4% (1/23) HIV-positive infants started ART on the sample collection day compared to 33% (12/37) during POC (p<0.001); ART linkage ≤7 days from HIV diagnosis was 74% (17/23) pre-POC and 95% (35/37) during POC (p<0.001).

Point of Care testing **decreased turnaround** time from EID sample collection to results receipt by infants' caregivers from 28 (IQR 14-52) days pre-POC to 1 (IQR 0-25) day during POC (p<0.001), and **ART linkage** ≤ 7 days from HIV diagnosis improved from 74% pre-POC to 95% during POC (p<0.001).

Turnaround time (days) and age at steps in the EID care cascade pre- and post-POC testing initiation at ten health facilities, Uganda, 2018–2021

	n	Median (IQR) days		P value
		Pre-POC	POC	
All HIV-exposed infants				
Age at sample collection	3,773	44 (38-51)	42 (33-50)	<0.001
Sample collection to results at clinic	3,627	20 (10-30)	1 (0-17)	<0.001
Infants infected with HIV				
Age at sample collection.	69	94 (43-124)	125 (74-206)	0.04
Sample collection to results at clinic	69	18 (6-29)	0 (0-3)	<0.001
Sample collection to ART initiation	60	24 (12-33)	1 (0-12)	<0.001

HIV positivity rate was similar pre-POC and during POC



CONCLUSIONS

POC testing improved EID results turnaround time and ART initiation for HIV-positive infants. While POC testing expansion could further improve ART linkage and loss to follow-up, there is need to explore barriers around same-day ART initiation for infants receiving POC testing.

ADDITIONAL KEY INFORMATION

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