Improving Patient Biometrics Match Outcomes in Cross River State: An Implementation Review on the Deployment of Biometrics Confirmation Slip

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Background

The PEPFAR/USAID-funded ACE-5 project implemented the Patient Biometric Service (PBS) in line with national requirements to deduplicate and enhance medical records for people living with HIV (PLHIV). However, a review of PBS performance data in Cross River State, Nigeria identified low recapture rates and suboptimal fingerprint match outcomes.

Objective

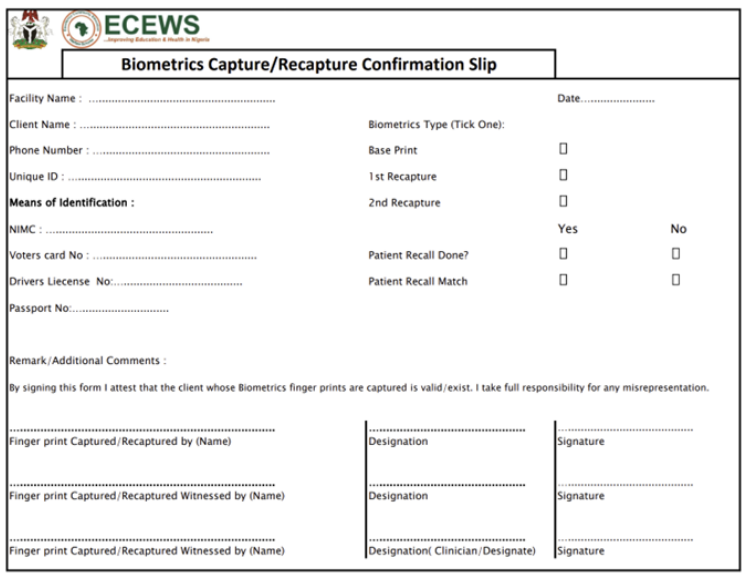
This study describes the lessons learnt from implementing a quality improvement (QI) intervention to improve biometric recapture and match outcomes for PLHIV in Cross River State

Methods

The QI intervention was implemented using a Plan-Do-Study-Act cycle across all 64 project-supported ART facilities in Cross River. In the Plan phase, root cause analysis conducted for the cohort of PLHIV with fingerprint recapture as of March 2024 identified that ancillary staff conducting fingerprint recaptures could not accurately identify eligible clients, leading to repeat recaptures for clients with already matched prints. In the Do phase, a Biometrics Confirmation Slip (BCS) was developed and deployed in May 2024 (Fig.1). This was a checklist that required multi-level verification of client identity before fingerprint captured. This was integrated into routine service flow. Key healthcare staff were required to attest to the client's identity, sign on the checklist, as the client passed through each service delivery point. Biometrics data (date of capture, date of recapture, and match outcome) for PLHIV aged >6 years were extracted from the National Data Repository and electronic medical records at the 64 facilities. Recapture rates (proportion of clients recaptured) and match rates (proportion of clients with matching capture and recapture prints) were compared before (January–April 2024) and after the intervention (May-August 2024).

Results

During the period, 14,441 PLHIV had their prints recaptured. Overall print recapture rate improved from 63.0%(21,906/34,747) to 99.0%(36,347/36,713) before and after the intervention respectively, and the match rate improved from 30.6% (6,710/21,906) to 95.0% (34,558/36,347) before and after the intervention respectively (Fig.2). Integrating the BCS with routine services facilitated its adoption by service providers, and the multi-level authentication process enabled accountability among healthcare staff.



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Biometrics Capture/Recapture Confirmation Slip

Facility Name : ..... Date.....

Client Name : ..... Biometrics Type (Tick One):

Phone Number : ..... Base Print ☐

Unique ID : ..... 1st Recapture ☐

Means of Identification : 2nd Recapture ☐

NIMC : ..... Yes No

Voters card No : ..... Patient Recall Done? ☐ ☐

Drivers Liecense No:..... Patient Recall Match ☐ ☐

Passport No:.....

Remark/Additional Comments :

By signing this form I attest that the client whose Biometrics finger prints are captured is valid/exist. I take full responsibility for any misrepresentation.

Finger print Captured/Recaptured by (Name)	Designation	Signature
Finger print Captured/Recaptured Witnessed by (Name)	Designation	Signature
Finger print Captured/Recaptured Witnessed by (Name)	Designation(Clinician/Designate)	Signature

Figure 1: Sample of Biometric Confirmation Slip

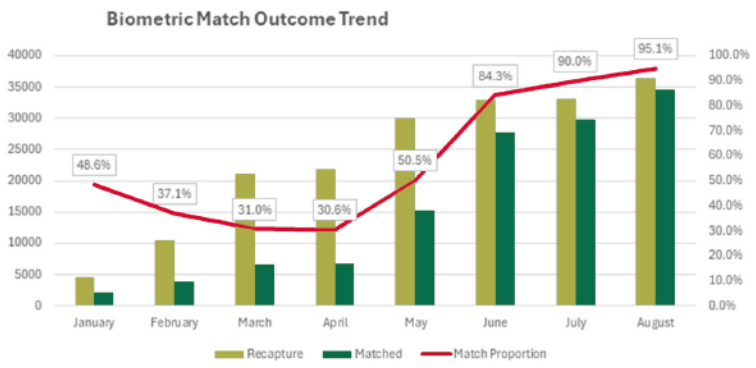

Figure 2: Role of Biometric Confirmation slip in Improving Patient Biometrics Match Outcomes

> **Integrating the Biometric confirmation slip with routine services facilitated its adoption by service providers.**

Conclusions and recommendations

The introduction of multi-level systems to validate an implementation can effectively improve its outcomes. This approach is recommended for scale-up to other programs implementing PBS.

Acknowledgments

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