Improvements in Pediatric HIV Case Identification Across 17 Health Facilities in Lagos, Nigeria: A Quality Improvement Collaborative Approach*

Olaposi Olatoregun,[1] Bolanle Banigbe,[1] Kendra Njoku,[2] Prosper Okonkwo,[1] Toyin Jolayemi,[1] Emmanuel Aiyenigba,[1] Rodrigo Boccanera,[3] Daniel Ikeda,[4] Bruce Agins,[4] Remi Olaitan[1], Obioha Eberendu[1]
[1]APIN Public Health Initiatives, Lagos, Nigeria; [2]Institute for Healthcare Improvement, Boston, MA, USA; [3]HIV/AIDS Bureau, Health Resources and Services Administration, Rockville, MD, USA;
[4]HEALTHQUAL, Institute for Global Health Sciences, University of California, San Francisco, USA

BACKGROUND

- Nearly 300,000 children (<15 years) are living with HIV in Nigeria, yet only 15% are estimated to be on antiretroviral therapy (ART), underscoring significant performance gaps in case identification and treatment initiation.
- Despite national recommendations to offer HIV testing to pediatric patients of unknown HIV status with high suspicion of infection, testing coverage among these patients remains low, indicating suboptimal uptake of these recommendations.
- Improvement collaboratives (IC), a quality improvement methodology, has been applied with significant success to improve uptake of guidelines, address gaps in HIV service delivery, and achieve data-driven improvements at scale.
- With funding through the Health Resources and Services Administration (HRSA) as part of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), AIDS Prevention Initiative Nigeria (APIN) partnered with UCSF-HEALTHQUAL to implement an IC—the All Kids Count (AKC) Collaborative—to improve pediatric case finding in Lagos State, Nigeria.

APPROACH

- As part of AKC activities, **17** primary and tertiary health facilities in Lagos State collected and reported performance data on HIV testing rate and yield on a fortnightly basis (**Table 1**), All measures were disaggregated by service delivery point or modality (e.g., TB clinic, inpatient unit, outpatient department, index case testing) to target improvement activities.
- In addition, sites used root cause analysis, process mapping, and rapid-cycle Plan-Do-Study-Act (PDSA) cycles to devise, test, and implement improvement interventions.
- QI training, guidance, and coaching on implementation of PDSA cycles was provided on a monthly basis by APIN staff, with technical support from UCSF-HEALTHQUAL, and the Institute for Healthcare Improvement.

Table 1. Required measures

Measure	Definition
HIV testing rate	Proportion of children of unknown HIV status who received an HIV test.
HIV testing yield	Proportion of children of unknown HIV status who received an HIV test with a positive result.

RESULTS

Fig. 1. Structure of AKC Collaborative

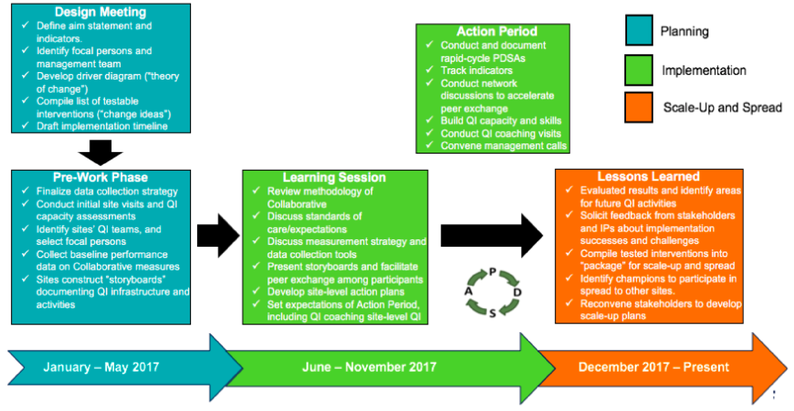


Table 2. Successful interventions

Intervention
1. Use of index cards to track index case testing
2. Reminder calls and health talks at ART clinic
3. Use of Bandason et al. (2016)[1] screening tool
4. Training of healthcare workers in pediatric HIV testing services
5. Offering testing at outpatient department while queuing
6. Intensified index case finding activities

CHALLENGES

- Frequent facility staff turnover necessitating frequent re-training and re-orientation.
- Challenges disaggregating HIV testing data by service delivery point, sex, and age to tailor improvement activities.
- Limited capacity of facility-based cadres to independently generate and visualize performance data.
- Variable capacity of facility-based cadres to apply QI methods to improvement of gaps uncovered by performance data.

- 17 health facilities in Lagos State participated in the AKC Collaborative between January 2017 and December 2017 **(Fig. 1).** In June 2017, a learning session was convened in which facility QI teams shared implementation challenges and successful interventions.
- In the first quarter of AKC implementation, testing coverage of eligible pediatric patients increased by **27%** compared to baseline **(Fig. 2)**.
- Among 16,146 children who received HIV testing in AKC's first quarter, 69 (0.43%) were newly identified as HIV-positive, representing a **36%** increase compared to baseline **(Fig 3.).** Despite increases in case identification, overall testing yield in AKC's first quarter remained indistinguishable from baseline.
- Successful interventions were compiled into a "change package" for scale-up and spread to non-participating sites supported by APIN (**Table 2**).

Fig. 2. HIV testing coverage

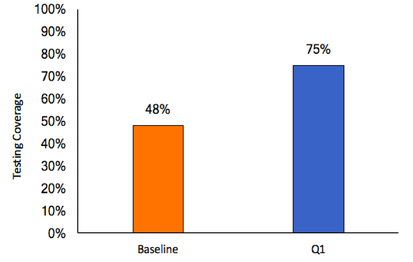
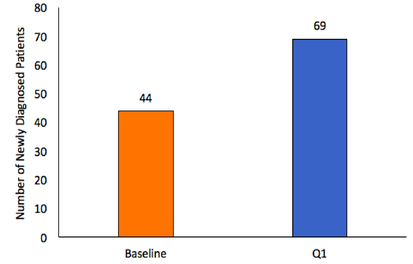


Fig. 3. Case identification



CONCLUSIONS/LESSONS LEARNED

- Implementation of a IC was associated with improvements in case identification among HIV-infected children across 17 facilities in Lago State, Nigeria.
- Successful interventions to improve case identification were compiled into a "change package" that will be spread to APIN-supported facilities in Lagos and Benue States, Nigeria, in FY 2018.
- Further work is needed to ensure that improvements are sustained, and that routine facility-based performance measurement is integrated into routine quality management activities.

REFERENCES

[1] Bandason et al. "Validation of a screening tool to identify older children living with HIV in primary care facilities in high HIV prevalence settings." *AIDS*. 2016;30:779-785

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