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Harnessing Health care Quality and Innovation to Build Resilient, High Impact Healthcare System

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16/ Quality Improvement Initiative on Viral Load Re-Suppression Among Children and Adolescents Living With HIV: The Case of Orphan and Vulnerable Children at Saint Paul Comprehensive Specialized Hospital in Addis Ababa, Ethiopia

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Abstract

Introduction: In Ethiopia, there are approximately 20,000 children and adolescents living with HIV (CALHIV). Ensuring effective HIV treatment and care for this vulnerable population is essential to reduce HIV-related morbidity and mortality as well as prevent further transmission. High viral load leads to treatment failure, resulting in the accumulation of resistance mutations and disease progression. Thus, there is a clear need for targeted efforts to improve viral load suppression treatment monitoring for CALHIV in resource-limited settings.

Problem statement: The baseline in January 2022 at Saint Paul Comprehensive Specialized Hospital showed 22 CLAHIV were not virally suppressed, which is below national targets. To address this gap, MENA, through CVDA, collaborated with Saint Paul Comprehensive Specialized Hospital to implement a quality improvement (QI) initiative from March 2022 to September 2023.

Aim: This QI initiative aimed to decrease CLAHIV with HVL at St. Paul Hospital from 22 to 5 by September 2023.

Method: The Model for Improvement (MFI) model was applied to improve viral load re-suppression rates among CALHIV who are in care and treatment at Saint Paul Comprehensive Specialized Hospital, Addis Ababa. We applied the following tools, including fishbone, driver diagram, run chart, and process mapping, in addition to MFI.

A QI team comprising community health workers and health facility staff was formed. Team members were trained on QI methods, including root cause analysis, process mapping, PDSA cycles, and the use of run charts.
The QI initiative proceeded in phases:

- Root cause analysis: Fishbone diagrams and driver diagrams were used to explore reasons for high viral load.
- Development of change ideas: Potential solutions were proposed based on identified barriers.
    - ✓ Assign a community engagement facilitator,
    - ✓ Use calendars as reminders
    - ✓ Provide community Enhanced Adherence Counseling (EAC) at the community level

- Testing and implementation: Change ideas were tested using iterative PDSA cycles and implemented if successful in improving testing rates.
- Monitoring: Run charts were used to track viral load re-suppression rates over time.

Outcome measure: Proportion of children and adolescents with viral load re-suppression during this period

Process measures:

- Number of CLAHIV on community Enhanced Adherence Counseling (EAC).
- Number of facility-based case management services provided.
- Number of social service workers (SSWs) and referral linkage officers assigned.

Result: We applied change ideas simultaneously. Thus, the findings of this QI project were a cumulative effect of all change ideas tested.

The run chart shows the impact of the QI initiative on high viral load suppression rates. High viral load suppression from 22 CLAHIV with HVL to 4 (re-suppression improved to 82% during this period.

The run chart showed special cause variation with 11 consecutive data points below the median, indicating significant improvement attributable to the QI initiative.

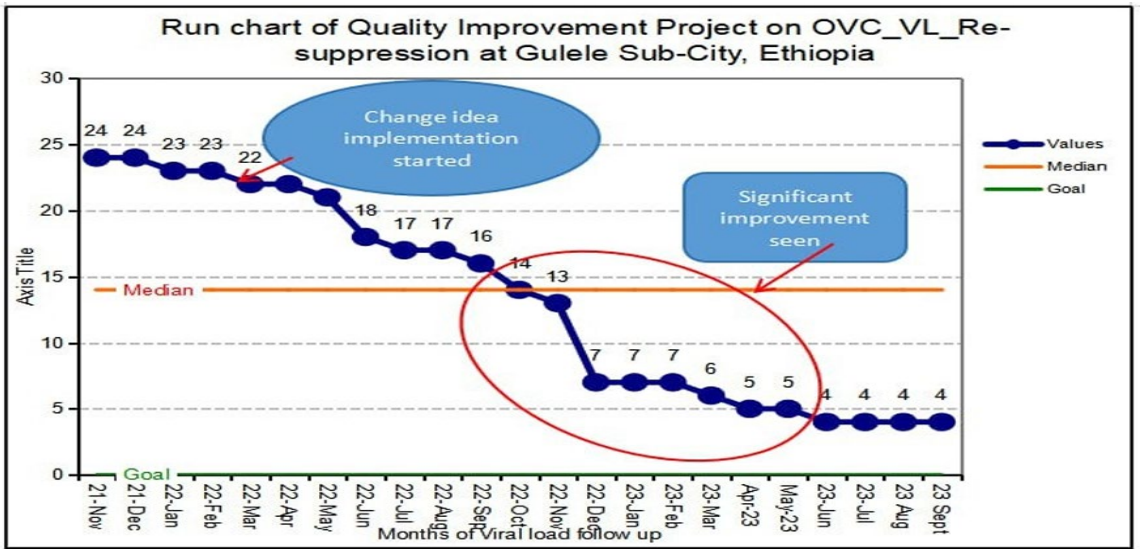


Figure I. Quality improvement project on OVC_VL_Resuppression at Gulale Subcity, Ethiopia.

Conclusion: A focused QI initiative can significantly reduce high viral load rates among CALHIV. The project exemplifies how the quality of HIV care and treatment can be enhanced in resource-limited settings through the application of QI approaches. The change ideas and implementation strategies can be adapted and applied in other facilities and contexts to ensure successful treatment outcomes. Ongoing QI efforts will be essential to consolidate and sustain this initial improvement.

Lessons Learnt: Several important lessons were learnt during the implementation of this QI project:

- QI tools like root cause analysis and PDSA cycles were easy to apply in this setting and helped guide appropriate solution development. Consistent mentoring and coaching of team members were essential for the successful execution of the change ideas
- Periodic data quality audits were needed to ensure the accuracy of reported metrics
- Support and engagement of facility managers and staff were crucial for the uptake and sustainability of changes
- Run charts provide a simple yet robust method to track improvements