



Use of computer-based tool to monitor World Health Organization early warning indicators for ART: A case study of Liverpool VCT Care & Treatment in Kenya

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Preamble

• What is HIV Drug Resistance

– This refers to reduced viral susceptibility to anti-retroviral drugs. This occurs due to mutations arising mainly due to non-adherence to treatment

• Impact of drug resistance

- Poor treatment outcomes
- Poor quality of health
- Management of a patient with DR is more costly.
- Raises the need to develop new anti-HIV drugs

- The HIVDR early warning indicators (EWI) are ART **site-based** indicators associated with HIVDR prevention.
- The EWIs monitor factors associated with HIV DR prevention without requiring laboratory testing for drug resistance.
- In 2010, the WHO developed 6 EWI to help the ART sites pinpoint gaps in their HIV management which may lead to preventable HIV drug resistance (HIVDR).

Background

- In 2011, working with MSH/HCSM, the National AIDS & STI Control Program (NASCO) upgraded the computer based Antiretroviral Dispensing Tool (ADT) to incorporate the EWIs
- These EWIs cover
 - Prescribing practices (WHO EWI 1a)
 - % loss to follow up during the first 12 months of ART (WHO EWI 2)
 - Patient retention on first line ART (WHO EWI 3a)
 - ART appointment keeping (WHO EWI 5b)
- Kenyan ART sites however lacked the means to track the pharmacy data required to monitor the indicators 1, 2 & 3a

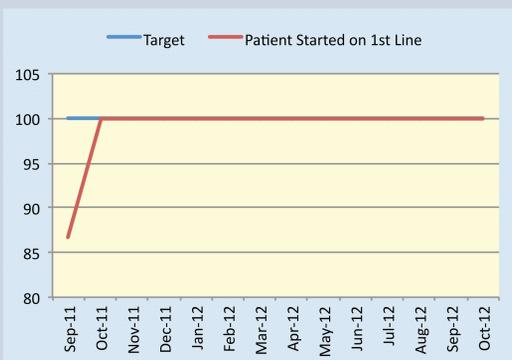
Methodology

- In 2011, working with MSH/HCSM, the National AIDS & STI Control Program (NASCO) upgraded the electronic dispensing tool (ADT) to incorporate the EWIs
- The ADT is used to manage ART patients and commodities thereby providing data to help monitor the three EWIs:
 - EWI 1— % of adult patients initiating ART who are prescribed an appropriate first-line regimen;
 - EWI 2— % of patients lost to follow-up 12 months after ART initiation; and
 - EWI 3a—% of patients on appropriate first-line ART at 12 months.
- In September 2011, the updated ADT was deployed to ART sites, including LVCT CCC in Hurlingham.
- EWI 1 was monitored monthly; EWIs 2 and 3a were monitored 12 months after the implementation.
- LVCT pharmacy staff monitored and acted on the ADT's EWI reports for ART patients initiated thereafter.
- Some of the interventions included :
 - calling patients who missed appointments,
 - sending appointment reminder SMS to patients
 - intense adherence counseling
 - Putting in place a stronger multi-disciplinary team (MDT) to follow up patients as per the recommendations of the medicine and therapeutic committee (MTC)
- EWI data for the period July 2011 to Dec 2012 was extracted from ADT and subjected to further analysis in Excel.

Results

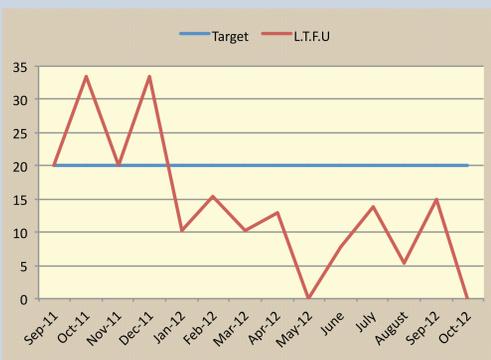
- In October 2011, LVCT data analysis showed that for EWI 1, **86.7%** of adult patients were started on first-line regimens. Effective monitoring of clients improved the indicator to **100%** by December 2012.
- In October 2011, EWI 2 showed that **33%** of patients were lost to follow-up. After review of the data in October 2011 and introducing interventions including calling patients who missed appointments and sending appointment reminder SMS to patients, this was reduced to **0%** by October 2012.
- In September 2011, EWI 3 showed that the retention rate for patients on first-line regimens was **65%**. After introducing interventions that included intense adherence counseling, this improved to **100%** in October 2012.

EWI (1) - % of adult patients initiating ART who are prescribed an appropriate first-line regimen;



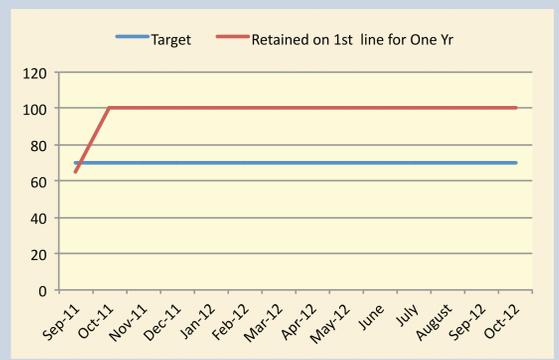
- In October 2011, LVCT data analysis showed that for EWI 1, 86.7% of adult patients were started on first-line regimens.
- Effective monitoring of clients improved the indicator to 100% by December 2012.
- Assessment of adherence and intensive adherence counseling was also done

EWI (2) - % of patients lost to follow-up 12 months after ART initiation;



- In October 2011, EWI 2 showed that 33% of patients were lost to follow-up. After review of the data in October 2011 and introducing interventions including calling patients who missed appointments and sending appointment reminder SMS to patients, this was reduced to 0% by October 2012.
- The facility has managed to maintain LTFU at below 20% since Jan 2012.

EWI (3a) - % of patients on appropriate first-line ART at 12 months.



- All patient started on 1st line regimen were retained
- Any change in regimen required a viral load to be done

Study Limitations

- Consistent availability of alternate regimens
- Ready availability of viral load tests
- Appropriate analysis of patient cohorts (Adult, Children)
- Determination of patient characteristics number in care, no. on treatment

Recommendations

- Strengthen MTC
- Encourage ART sites to use the EWI data for patient management.
- Active program and regional oversight to monitor changes in EWI
- All ART sites should develop interventions to undertake proactive follow up of the patients
- Given the 100 % retention rate on EWI, it appears that the target was too low as there was no treatment failure based on available data

Conclusion

- The upgraded ADT helped LVCT staff monitor treatment trends that led to interventions to improve patient management. Such monitoring ultimately minimizes the risk of HIV drug resistance and decreases the costs of providing more expensive second-line regimens, and hence better patient outcomes

