Improving adherence to the Kenya National Malaria Diagnosis and Treatment Guidelines: An outreach, training and supportive supervision (OTSS) approach in Vihiga County, Western Kenya

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Introduction

MalariaCare, a President's Malaria Initiative-funded project, is currently working to scale up high-quality diagnosis and treatment services for malaria and other febrile illnesses in 8 malaria endemic counties in western Kenya.

To improve the quality of care, MalariaCare utilizes outreach training and supportive supervision (OTSS) visits as part of its quality assurance approach. The experiences of Vihiga county in implementing OTSS and the outcomes of these visits are presented.

Methods

In Vihiga county, the OTSS supervision teams visited all 45 public health facilities at least twice with 44 facilities (98%) visited three times, from November 2015 to December 2016.

OTSS Structure:

- Supervision team: a clinician and a laboratory technologist
- One day per facility
- Electronic checklist used to measure six quality of care indicators
- Supervisors observe facility practices
- Supervisors review problems with facility managers and staff and develop action plans to address them

Key Indicators:

- Supervisors observed 1-3 health care workers (HCWs) performing:
  1) malaria microscopy
  2) RDT
  3) clinical consultations
- Supervisors reviewed 10-20 patient records from registers to assess:
  4) testing prior to treatment
  5) adherence to positive test results
  6) adherence to negative test results

Quality of Care Standards:

- 75% or higher for the three observation indicators
- 90% or higher on the register review indicators

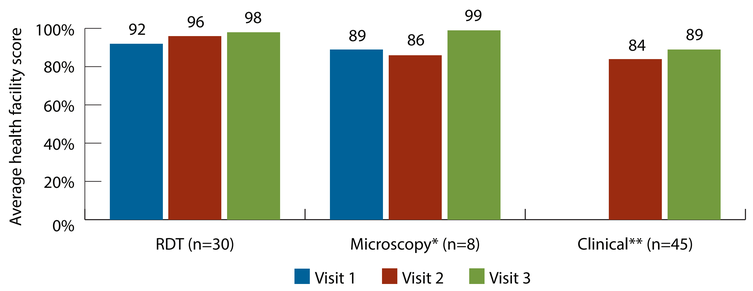
Results

RDT scores increased from 92% to 98% (Figure 1). Key areas of improvement included:

- correctly identifying and recording patients (84% vs. 100%) and test results (86% vs. 100%) in the register
- waiting the correct amount of time before reading test results (93% vs. 97%)
- properly disposing of used tests kits (74% vs. 96%)

Results, continued

Figure 1. Average facility performance on three observation indicators



*Of the 27 facilities with microscopy, 8 had scores at all three visits, 12 were missing staff, equipment, stock or a power source and were unable conduct microscopy observations during at least one visit;
**Clinical scores are from the 2nd and 3rd visit as the clinical tool was modified after the first visit, and data from the first round was not comparable.

Microscopy scores increased from 89% to 99%. Key areas of improvement were:

- supervisor/HCW agreement on slide positivity (88% vs. 100%)
- immersing thick film in 10% Giemsa stain for 10-15 min (90% vs. 100%)
- labelling slide with date and patient name or number (64% vs. 100%)
- rinsing thick slide with water after staining (38% vs. 100%)

Microscopy Improvement Story

Problem: Lack of functional microscopes

Solution: Supervisors advocated with county officials and NMCP to procure new microscopes.

Result: Six facilities received new microscopes. By the third visit, 24 of the 27 facilities that conducted microscopy had a functional microscope.

Clinical scores improved from 84% to 89%, with key improvements in:

- supervisor/HCW agreement on ordering a malaria test (93% vs. 98%)
- taking temperature (65% vs. 88%)
- asking about history of diarrhea (47% vs. 76%)
- conducting an eye, ear, nose & throat exam (38% vs. 71%)

Clinical Improvement Story

Problem: Poor history taking and physical examination

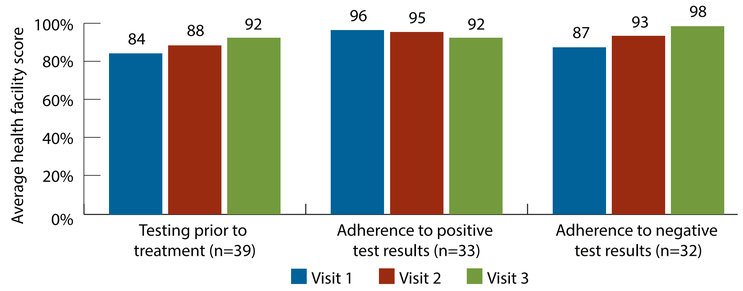
Solution: The clinical OTSS supervisor in Sabatia sub-county distributed CDs with history taking and physical examination demonstrations.

Result: By the next visit in this sub-county, 'conducting eye, ear, nose and throat exam' increased by 71% points, checking heart rate increased by 24% points and asking about vomiting had increased by 20% points.

While testing prior to treatment and adherence to negative test results improved (Figure 2), adherence to positive test results declined slightly, which is due in part to a decline in ACT stocks within the county from 89% to 47%.

Results, continued

Figure 2. Average facility performance on testing and adherence to test results indicators



Of the 19 facilities with data on all indicators at both time points, the proportion of health facilities meeting the standard for all indicators increased from 42% to 74%.

Recording Adherence Improvement Story

Problem: Poor recording in outpatient registers

Solution: Supervisors helped facilities standardize issuing outpatient numbers upon client arrival at the health facility to easily track clients throughout departments, rather than just before collecting medicines at the pharmacy

Result: Documentation of testing improved, contributing to an increase in testing prior to treatment indicator from 84% to 92%.

In addition to malaria-specific issues, supervisors also address broader health systems infrastructure issues. For example, OTSS supervisors helped organize for Misunguti dispensary to receive a new clinical examination table (Figure 3).

Figure 3. Clinical examination table at Misunguti dispensary


Improvised clinical examination table


New clinical examination table

Discussion

- OTSS and follow-up of key issues identified by supervision teams has resulted in progressive improvement in the quality of malaria case management in Vihiga county.
- While supervisors were able to address some infrastructure issues, lack of staff and supplies due to inadequate county resources remains a main barrier to microscopy availability and adherence to positive test results.

Conclusion

While performance was already high among facilities in Vihiga, OTSS has been an effective strategy to further improve health facility performance for malaria case management.

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