



U.S. President's Malaria Initiative

## CASE STUDY

# Improving Uptake of Intermittent Preventive Therapy in Pregnancy (IPTp) at Rachuonyo Sub County Hospital in Homa Bay County

### Summary

The use of Sulfadoxine Pyrimethamine (SP), commonly known as fansider in pregnant women without malaria has been shown to provide requisite protection against the disease in malaria endemic regions. A dose of SP is given to women at 16 weeks' gestation, four weeks apart as a directly observed therapy during antenatal clinic (ANC). Greater therapeutic benefits are realized with more intermittent preventive treatment in pregnancy (IPTp) doses. In Kenya, momentum is gaining towards pregnant women receiving three or more doses of IPTp. Rachuonyo Sub County Hospital formed a quality improvement team in November 2016. Following a brainstorming and multi-voting exercise, they settled on improving IPTp uptake. A baseline assessment was done, followed by process mapping, root cause analysis, and development of change ideas to address poor IPTp uptake. Deming's Plan-Do-Study-Act (PDSA) cycle was followed during implementation, and by closely tying their performance to the prioritized countermeasures, the team has since improved uptake of both IPTp 1 and IPTp 3 or more from baseline median of 45% to uptakes greater than 90%.

### Background

Rachuonyo Sub County Hospital (RSCH) is situated in Kasipul Sub County in Homa Bay County in Kenya. The facility serves a catchment population of 41,739 people. The hospital offers basic and emergency, curative and preventive services; among them maternal and child health services.

The USAID Applying Science to Strengthen and Improve Systems project (ASSIST), with funding from the President's Malaria Initiative (PMI), began supporting quality improvement (QI) with a focus on preventing malaria in pregnancy in Homa Bay County in November 2016. RSCH is a high malaria caseload facility and was selected, along with seven other facilities, for initial implementation of malaria QI within the county. ASSIST is currently implementing malaria QI activities in 45 facilities across five counties in Western Kenya, a malaria endemic lake region.

### Implementation

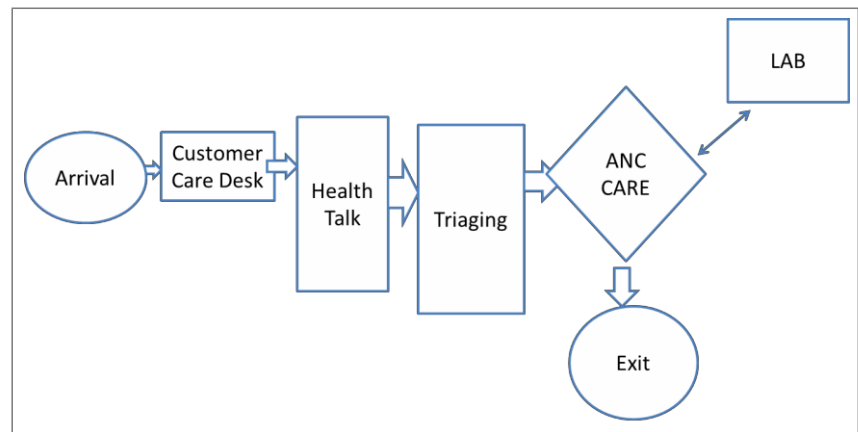
RSCH formed a quality improvement team (QIT) in November 2016. The QIT members were trained in quality improvement by ASSIST in the same month using the Kenya Quality Model for Health curriculum. The QIT comprised of a maternal and child health (MCH) nurse, an outpatient department clinical officer, a laboratory technologist, a pharmacist, a records officer, and the sub county malaria control coordinator.

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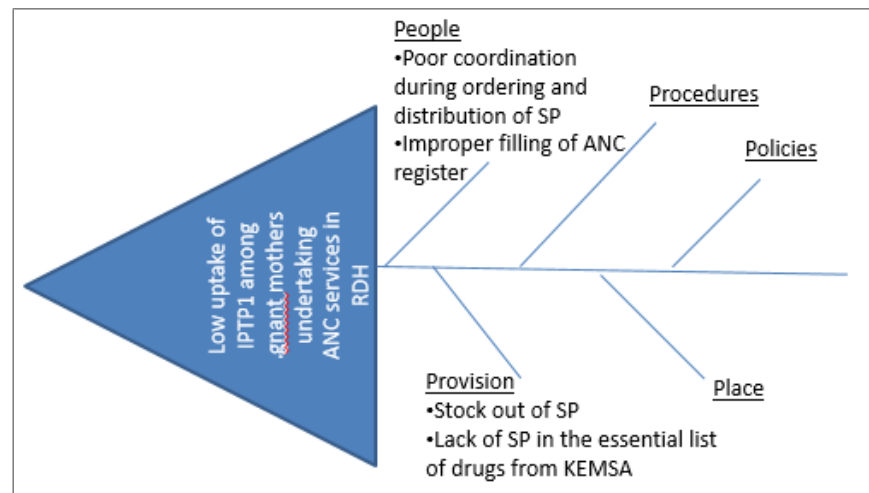
The clinical officer served as the coach while the MCH nurse as deputy coach. To select an improvement area, the QIT with the support of ASSIST's Improvement Advisor conducted a situation analysis of malaria in pregnancy indicators, brainstormed and multivoted settling on improving IPTp uptake. Uptake of IPTp 1 (given to eligible pregnant women for the first time in that pregnancy) was taken as the outcome measure, while IPTp 3 or more (third or more SP dose given in subsequent ANC visits) as the balancing measure.

**Figure 1. Process map drawn by the team to show client flow in ANC**



To address the performance gap, the team in December 2016, discussed and accepted their previous client flow (Figure 1), and went head on to determining the root causes of poor IPTp 1 uptake among their ANC clients. A fish bone diagram (Figure 2) was used to identify the root causes in questions.

**Figure 2. Fish bone diagram used by the team**



Change ideas

(countermeasures) for the root causes were then

identified through brainstorming (summarized in Table 1). To ensure that the QIT tackled the change ideas systematically, to enable them conclusively address the problem and its root causes, a decision

**Table 1. Change ideas as highlighted by the team**

Root Cause	Change idea
Stock out of SP	<ul style="list-style-type: none"> <li>•Budget allocation for SP.</li> <li>•Supervision of Rural Health facilities and redistribution of SP.</li> <li>•Creating a proper system favorable for ordering and distribution of SP.</li> <li>•Ensuring the availability of SP in the KEMSA list of essential drugs.</li> </ul>
Improper Filling of ANC Register	On job Training Of MCH staff on register filling

matrix was used to prioritize the countermeasures (**Table 2**). A work plan was then developed to guide implementation.

Fortnight QIT meetings were convened and reviews (study) of the previous work plans and latest data on the IPTp uptake done. Decision (-Act) on whether to modify, change, or disregard previous changes would then be made. Another fortnight plan would be drawn reflecting the latest decision and members would disperse to implement (-Do) again. However, the team did not meet twice in December 2016 because of an ongoing national health worker strike. A coaches review meeting was held for the county in mid-January 2017 and subsequently every two months. ASSIST supported the team to conduct continuous medical education sessions (CMEs) in quality improvement twice in a quarter. A joint ASSIST and county coaching visit was held in February, April, and May. A harvest meeting for the county was held in April 2017 to share lessons and progress on the improvement projects being implemented by the teams in the county.

The first small test of change by the team was on providing on-job-training (OJT) to MCH staffs in properly filling the ANC register in the first and second week of March 2017 by the coach and deputy coach. This was followed by a county level facilitative supervision targeting documentation, reporting, and quantification of malaria commodities in the third week of March 2017. The facilitative supervision realized excess months of stock of SP in facilities in the sub county, and thus RSCH benefited from a redistribution exercise done in the same month of March 2017. In May 2017, new staff were deployed to support the MCH, and the coach again provided OJT on documentation of ANC register and on the benefits of good MIP care and support.

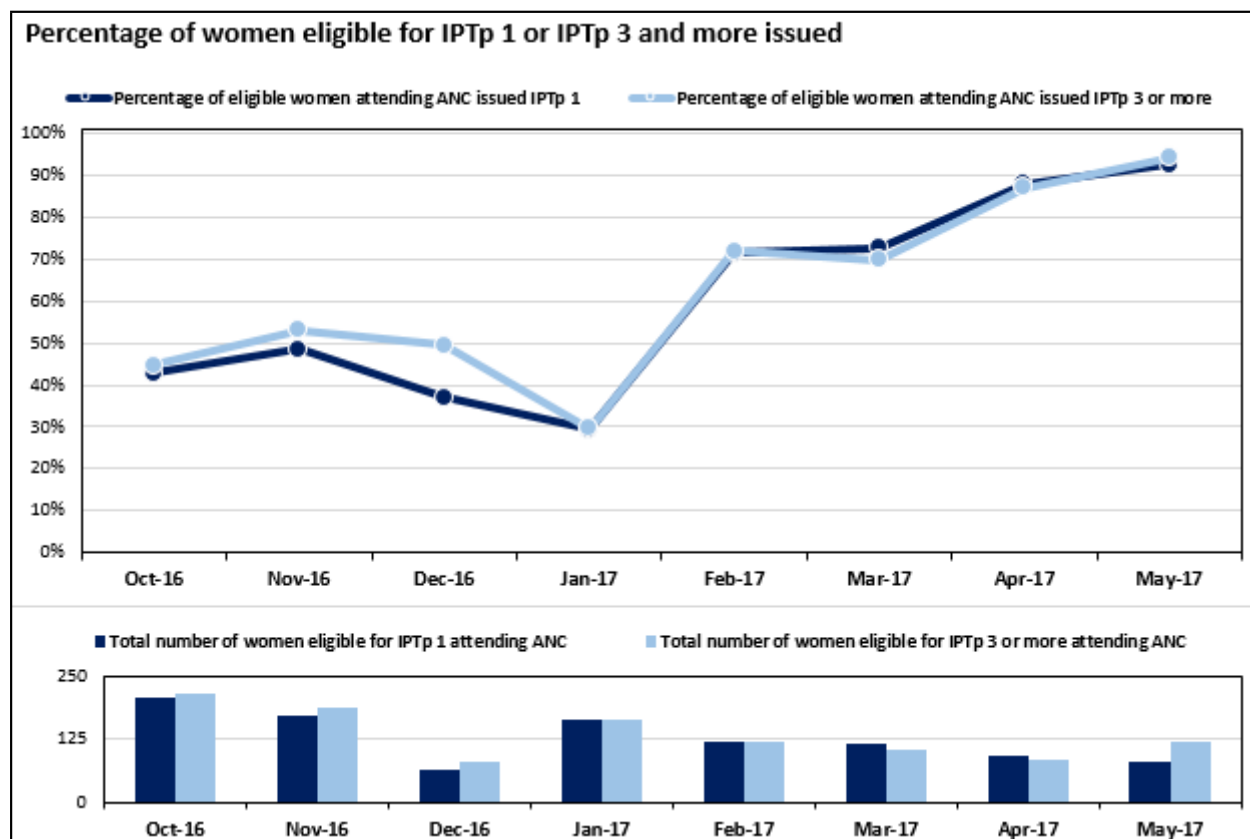
**Table 2. Prioritization of change ideas / countermeasures**

Change Idea	Importance	Scope Control	Chances of success	Total score
Budget Allocation for SP	3	1	3	7
Supervision and Redistribution Of SP	3	3	3	9
Bringing on Board Sub county pharmacist with the aim of having SP in KEMSA essential list of drugs	3	1	1	5
On job Training of MCH staffs on proper Register filling	4	3	4	11

## **Results**

IPTp 1 uptake more than doubled the baseline median of 42% (October to December 2016) after three months of implementation (April 2017) and is a progressive high above 90%. An equivalent increase was also achieved with IPTp 3 or more (see **Figure 3** comparing IPTp 1 and IPTp 3 or more uptake).

**Figure 3. Comparing Uptake of IPTp 1 and IPTp 3 or more**



**Lessons Learned**

By working as a team to improve IPTp 1, the team realized that an equivalent measure of effort translates into improving new area of focus—IPTp 3 or more. Further, heightened county and sub county level support and coordination was realized amidst this improvement work that enabled the team to tackle factors beyond SP shortages.

**Next Steps**

This team is seeking to ensure that all women eligible for IPTp are issued with the drug. Consideration is also being made on improving early ANC onset as a process measure, with a concentration on increasing the number of eligible women accessing IPTp 3 or more.