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Health Facility Guide for Assessing Treatment of Febrile Illness

MAY 2016

This guide for assessing treatment of febrile illness at the health facility level was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Lisa Dolan-Branton, Sharon Stash, Tiwonge Moyo, Dyson Mwandama and Nyanyiwe Mbeye of URC and Taroub Harb Faramand and Julia Holtemeyer of WI-HER, LLC through the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project. The USAID ASSIST Project is made possible by the generous support of the American people through USAID. Support to develop this guide was provided by the President's Malaria Initiative through USAID.

Cover:

A pregnant woman takes intermittent preventive treatment (IPT) to protect against malaria during an antenatal care appointment at Eduardo Mondlane Health Center in Chimioi, Manica, Mozambique. *Photo: © 2015 Arturo Sanabria, Courtesy of Photoshare*

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Acronyms

ACT	Artemisinin-based combination therapy
AL	Artemether lumefantrine
ANC	Antenatal care
ARI	Acute respiratory infection
ASAQ	Artesunate-amodiaquine
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
DH	District hospital
DHO	District Health Office
DMO	District Medical Officer
F	Females
FBC	Full blood count
HC	Health center
HMIS	Health management information system
HSA	Health Surveillance Assistant
IMCI	Integrated management of childhood illness
J2	Malawi's electronic data system
M	Males
MCH	Maternal and child health
MOH	Ministry of Health
mRDT	Malaria rapid diagnostic test
N	No
N/A	Not applicable
NMCP	National Malaria Control Program
OPD	Outpatient department
ORS	Oral rehydration salts
PMI	President's Malaria Initiative
QI	Quality improvement
RA	Rectal artesunate
U5	Under five
URC	University Research Co., LLC
USAID	United States Agency for International Development
VHC	Village health clinic
Y	Yes

Introduction

This guide aims to guide facility teams to assess the quality of care processes to diagnose and provide definitive treatment for common illnesses that present with fever in children under five and pregnant women. Although there are additional causes of fever in children, some of the most common causes of fever include malaria, acute respiratory infections, and diarrheal diseases, all of which result in numerous infections and deaths in developing countries.

Early and accurate diagnosis of fevers is essential for effective case management, reducing both illness and deaths from fevers in children, especially those under five years of age who are most vulnerable. Although there has been tremendous progress over the past decade, malaria is a major contributor to the burden of disease in Africa and remains a leading cause of death from febrile illness for children under the age of five and for pregnant women. Accurate diagnosis of malaria improves case management and may also help to reduce the emergence and spread of drug resistance by reserving anti-malarial medications for those who actually have the disease.

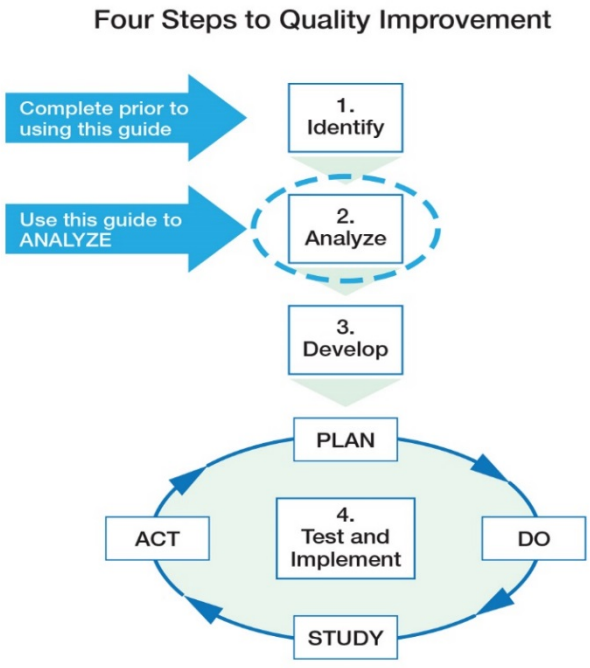
For the many people who become infected with malaria each year, basic treatment of uncomplicated malaria remains a mainstay of effective services. Many countries in sub-Saharan Africa have rolled out malaria rapid diagnostic tests (mRDTs) and artemisinin-based combination therapies (ACTs), as well as new national guidelines and large-scale training programs; yet, implementation of these new strategies and changes in provider practice lag behind. Effective case management connecting patients to the services they need, where and when they need them, remains a global health priority in many highly-affected countries and regions in Africa.

In order to do the right thing at the right time for each patient, you must to be able to identify the specific needs of the patient, as a man, woman, girl, or boy, in order to be able to identify and propose services or interventions in a way that responds to their specific needs. By collecting data separately for males and females, i.e. collecting sex-disaggregated data, you can analyze how your facility reaches males and females differently, and identify if there is a gap in care that needs to be addressed. Without disaggregating data by sex, gaps can be masked by an "average" that hides which population groups are experiencing poorer outcomes. It is often necessary and beneficial to collect age-disaggregated data as well, as different ages of girls and boys, and women and men, in different stages of their lives also have different vulnerabilities, risks, and opportunities that can require tailored services and interventions.

This guide follows the Model for Improvement developed by Associates in Process Improvement, as depicted in the figure, **Four Steps to Quality Improvement**, focusing in on the Analyze phase. Before embarking on this phase, a quality improvement (QI) team should be in place at the facility and have an improvement aim as directed by country leadership, related to improvement of care for patients presenting with fever.

This guide provides methods and tools that busy clinical and administrative teams can use to complete the "analyze" step of quality improvement, to analyze the quality of patient care for patients who present with fever in their health facility, with a focus on those populations with the greater burden of illness and mortality, i.e., children under five years of age and pregnant women.

The guide will help a health facility team assess its systems and processes in order to improve diagnosis and case management of febrile illness. The guide walks the team through planning the assessment, gathering data, and then analyzing and prioritizing quality gaps. Depending on how many staff and resources that a facility can devote to this assessment, teams should plan to complete the process in about one month.



Four Steps to Quality Improvement
The Improvement Guide: A Practical Approach to Enhancing Organizational Performance, 2nd ed. Langley and others (Jossey-Bass, 2009).

How to use this guide

This guide is divided into three action steps, outlined below. Tools, tables, and matrices are part of each step to guide the planning and implementation of the assessment. They are listed here to introduce the user to what you will find throughout the guide. A detailed description of how to complete each step follows this outline.

Action Step #1: Plan for the quality assessment: With your improvement team, plan how to complete your quality assessment. There are several areas to focus on in order to get a clear picture of your systems and process to care for patient presenting with fever. These tools will guide you through this step:

- Project Team Task Matrix (see p. 8)
- Data Sources and Data Collection Action Plan (**Appendix 1**)

Action Step #2: Gather Data and Information: Assess your facility and gather data on meaningful performance indicators using these tools as your guide:

- Facility Assessment (**Appendix 2**)
- Uncomplicated Febrile Illness Assessment (**Appendix 3**)
- Severe Febrile Illness Assessment (**Appendix 4**)
- Walking in Your Patients' Shoes Assessment (see p. 6)
- Outpatient Department (OPD)/Health Center/Clinic Core and Supporting Processes Assessment (see p. 7)

Action Step #3: Analyze Gaps: Based on Action Step 2, review your assessment and performance indicator results to decide where to focus your improvement efforts. You should clearly define your gaps based on assessment results. Next, prioritize what you want to focus your improvement efforts on. These tools will guide you to analyze gaps:

- Quality Indicator Results Matrix (see **Appendix 5**)
- Gap Analysis Planning Matrix (see pp. 15-16)

Action Step #1: Plan the Quality Assessment

The broad aim of this quality assessment is to create a picture of your system to see beyond one patient at a time. Systematically analyzing key work processes, quality of care, and patients' outcomes and then reflecting on what that information tells you about gaps in care will help make novel insights visible to your team. Building common knowledge and insight in the improvement team as representatives of the entire facility will create a sense of value and ability to contribute to better care for patients.

Three assessment tools included as **Appendices 2-4** of this guide will assist you in evaluating your facility infrastructure, and measuring quality performance for our target populations of children under five years old and pregnant women presenting at the facility with fever. These tools assess the resources and infrastructure needed to deliver care, the processes of care being provided, and patient health outcomes as a result.

This first action step explains the tools that will be used to assess the quality of treatment of febrile illness and outlines how you will design the assessment by completing the Data Sources and Data Collection Action Plan in **Appendix 1**, which identifies the data sources, data collection methods, and team member roles in collecting information on the key quality indicators of the assessment. This planning process needs to be completed by the facility's improvement team.

Assessment of your facility infrastructure and resources

The assessment of several health facility factors is crucial to creating systems and processes for the care of patients presenting with fever. Matching the volume of patients needing services with adequate numbers of competent staff with the right range of skills is a complex task at best. In some cultures, the sex of providers can influence which patients seek care and the quality of their interaction.

Once we have the right ratio of staff to patient demand, how do we keep staff skills up to date with the latest evidence and provide the reference tools at hand for new or complex patients? When our clinicians appropriately diagnose severely ill patients, does a responsive referral system between facilities exist? Are the pieces in place for a functioning improvement team with the skills and leadership support to make changes within our systems and processes? The Facility Assessment Tool in **Appendix 2** will help your team identify and analyze gaps in your infrastructure.

Here is an excerpt of the Facility Assessment Tool that examines staff access to evidence-based policies, guidelines, and standards:

1. Relevant febrile illness and IMCI policies, guidelines, and standards are available and staff are aware of them	
Suggested	**Fill in your methods, frequency, and responsible person**
Methods: Verification through direct observation.	Observe all consultation rooms
Frequency: Once during assessment	First day of the assessment
Responsible person: Select a member of the improvement team	Lisa

Checklist **Please answer Yes or No for each.**	**Y**	**N**
Verify that the following 5 key documents are available in the consultation room: • National standard treatment guidelines – latest edition • National guidelines for the treatment of malaria – latest edition • National guideline for the IMCI – latest edition • Job aids for all febrile illnesses • Pediatric handbook of treatment guidelines from the Ministry of Health or professional society	____ ____ ____ ____ ____	____ ____ ____ ____ ____
All standards/guides are available	**Y**	**N**

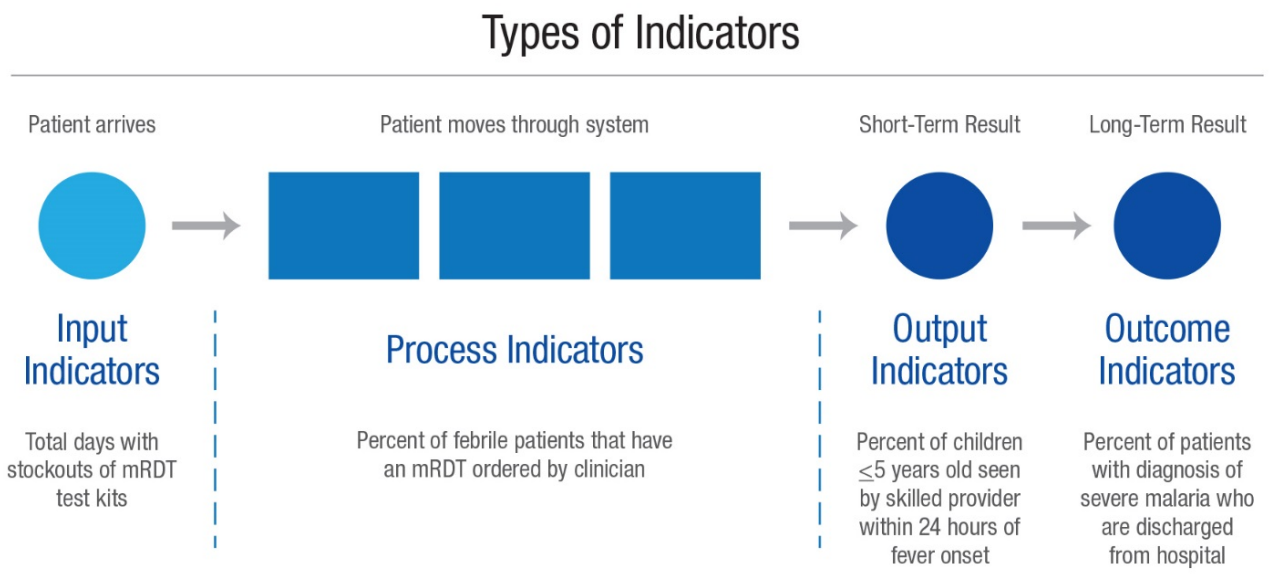
Measuring quality performance

Meaningful performance indicators are essential for your health facility improvement team to analyze current systems and processes, guide improvement efforts, and sustain optimal performance. Indicators that map across the care processes will help your team improve each step along the way, as well as improve higher level outcomes. The rationale to build a relevant, timely, and specific set of indicators is so that you are not "flying blind," or in other words, so that you are using data to assess your system and decide on priority areas where you can improve care.

Indicators should reflect the process of care for all types of patients, which is why data collection tools should allow for the sex of the patient (female or male) to be recorded. When we have separate data for females and males, we can then analyze the data by sex to identify gaps in performance between females and males and address them. These gaps can exist in access, care, diagnosis, treatment, and recovery, but can only be identified and addressed by using sex-disaggregated data, i.e., separate data for males and females. It may also be useful to collect the age of patients in order to analyze data by age group and compare, for example, pregnant women under 18 years old, 18-35 years old, and over 35 years old.

Why collect sex- and age-disaggregated data?
The Sustainable Development Goal for Malaria, the Roll Back Malaria Initiative, the United Nations Development Programme, the United States Agency for International Development, and more, all recommend collecting sex-disaggregated and age-disaggregated data whenever possible. This is because women, men, girls and boys have very different needs, barriers, and issues that affect their ability to access and benefit from health services based on the socially constructed roles, behaviors, activities, and attributes that a given society or community considers appropriate for girls, boys, women, and men. So, in order to better meet the needs of women, men, girls, and boys, and achieve the highest possible quality of health care, we collect and analyze sex-disaggregated data over time.

Different types of indicators tell the story of the process of care, as in the example below:



Input indicators measure the availability of key resources (human, material, etc.) needed to carry out a care delivery process.

Process indicators measure the degree of adherence with an evidence-based intervention or set of interventions.

Output indicators measure the immediate results of the service (i.e., the number or percent of services provided or products delivered to patients or clients), often to show the short-term results of the key processes being improved.

Outcome indicators evaluate how a system is performing with respect to the health of a defined population or individual.

Three step-by-step data collection tools for facility assessment (**Appendix 2**), uncomplicated febrile illness (**Appendix 3**), and severe febrile illness (**Appendix 4**) are the core of this guide. They have been compiled from the experiences of facility-level improvement teams in Kenya, Malawi, Tanzania, and Uganda. Use the three assessment tools to assess the quality of care process and outcomes for your facility.

Below is an excerpt of the tool assessing the processes of care for uncomplicated febrile illness:

1. Ensure that all children under five and pregnant women with fever are treated early	
Suggested	**Fill in your method, frequency, and responsible person**
Method: In the DH and HC, data should be collected by the provider at time of consultation. At the VHC, this information can be found in the register (and the Sick Child Reporting Form). Decide as a team if you will collect data on your entire population or a sample.	Check register each Friday for the month of the assessment Sample of 10 children per week: 5 Monday morning, 5 Wednesday afternoon
Frequency: Weekly throughout assessment process	Weekly
Responsible person: The first provider who sees the children under five with fever or staff at clinic with access to registers/health passports	Upendo

Measures that will be estimated using these data	**Register Review** Please review the appropriate register in the clinic.		**Female**	**Male**	**Total**
	• (1) # children under five years old presenting with a fever who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset	No.	6	1	7
	• (2) Total number of health passports checked for children under five	No.	7	3	10
• % children under five presenting with a fever who are seen by a skilled provider within 24 hours of fever onset	• Calculate the percent by dividing (1) by (2)	%	86%	33%	70%

Decide on use of additional assessment tools

Two assessment tools are included here to assist your team in including patient and staff voices in your gap analysis efforts. *Walking in Your Patients' Shoes* and the *OPD/Health Center/Clinic Core and Supporting Processes Assessment* have been used in QI activities for many years. They can assist your team in gaining

important insights from patients and staff. Decide which additional assessments you would like to add to the three core assessments.

Walking in Your Patients' Shoes Assessment

Learn how it looks and feels to be a patient in your own facility. Have a staff person either shadow a patient or do a "walk through" of the facility as a patient. Make it as realistic as possible and use the notes categories below to keep track of your observations.

Suggestions for getting great insights:

- Create as realistic a visit as possible, by going through each step in the process (weighing, registration, group health education, clinician, waiting, lab tests, getting drugs from the pharmacy, etc.). Split the different parts of the visit on different days or do multiple walk-throughs on different days with different staff. Take note of how visits will differ by type of patient, or do multiple walk-throughs as different types of patients (e.g., male, female, non-pregnant woman, pregnant-woman, HIV-positive pregnant woman).
- Let your staff know that you will be doing a walk-through and engage them in planning the simulated visit.
- Have another staff member to play the part of a family member.
- Note your observations on the form below or potentially audio tape the "visit."
- Share what you learn with your QI team and other staff.

Walking in Your Patients' Shoes Assessment				
Date:	**Name(s):**	**Type of patient:**	**Start:**	**End:**
Category	**Written observations**			
Positive				
Negative				
Unexpected				
Unclear				
Enjoyable				

OPD/Health Center/Clinic Core and Supporting Processes Assessment

Customize this table with your processes and then let staff members and QI team members fill it in.

OPD/Health Center/Clinic Core and Supporting Processes Assessment						
List of common processes	Works well	Small problem	Large problem	Don't know	Facility QI team working on it	Source of patient complaints
Pharmacy dispensing						
Clinician evaluation						
Registration						
Getting diagnostic test results						
Education for patients and families						
Referral to next level of care						
Queuing for each step in process						
(Add your own processes)						

Tasks for the improvement team to complete the assessment

Within this assessment, your team will accomplish several tasks in order to get a complete picture of your health care team and facility's systems, processes, and infrastructure. Over approximately one month, you and your team members will review your health facility's current performance by measuring data, observing care processes, developing flowcharts of patients' journeys through the facility, and checking if existing infrastructure and resources meet the needs of employees and patients. After your data collection efforts, the next step for your team is to analyze all of the information and prioritize action on gaps found in the system.

Use the Project Team Task Matrix to create a work plan with your team

The entire assessment does not need to be completed in a day. Lay out a plan that works within your staff capacity and resources, over a few weeks or one month. Use the Project Team Task Matrix to plan by whom and how common tasks for using these assessment tools will be carried out for your facility. It is intended as a guide for the process, which should take no longer than one month.

Guidance on choosing the number of patients to sample

"*For data used as part of an improvement effort, getting samples across a wide range of conditions (locations, days of the week, shift, etc.) is almost always more important than the number of samples collected under a specific condition. In general, more data (larger sample sizes) lead to more information and better precision of results. Unless the data are already collected and reported, larger sample sizes also involve more effort and costs… Sample size issues in improvement efforts are a balance between resources (time, money, energy, slowing improvement efforts) and the precision of the results desired). We advise improvement teams to consider smaller sample sizes at any one time but commit to collecting and graphing over time (e.g., daily, weekly, monthly) as a way to improve learning and conserve team resources.*"

From "Sampling Considerations for Health Care Improvement", R. Perla, L. Provost, S. Murray, *Q Manage Health Care*, 2013.

Project Team Task Matrix

Project Team Task Matrix			
Assessment area	Tasks	Team member responsible	Estimated time to complete
Assembling your team	Identify staff members who are involved in care for patients with fevers and chose those who would be positive addition to the team	Team lead	1 hour
	Discuss with leadership the need to include these staff in the assessment process, approx. time commitment, roles	Team lead	30 minutes
	Invite team members to join	Team lead	1-2 days
	Assemble team in kick off meeting to review project	Team lead	30 min to 1 hr.
	At follow-on meeting, review tasks, find areas of interest for team members, assign tasks	Team lead	1 hour
	Meet at least weekly to review progress	All team members	30 minutes
Facility	Observe educational and job aid materials in place	Assigned team members	30 minutes
	Discuss with relevant district staff or facility leadership for patient counts with specific illnesses, training records, etc.	Assigned team members	1 hour
	Stock of drugs and supplies	Assigned team members	1 hour/week
Flowcharts	Schedule two-hour session with improvement team members (and others if needed) who are part of the process charted	Team lead	Variable
	Assemble materials needed for flowcharting in a group: large paper and/or small sticky notes pads, color markers	Team lead	
	Choose team member to lead flowchart exercise, decide on boundaries of process, map steps of your febrile patients common flow through the system with all team members brainstorming and documenting steps (consider breaking up into smaller groups for different processes or doing shorter meetings for each process)	Facilitator to lead exercise; all team members	2-3 hours
Quality performance data	Assign each team member specific quality indicators to collect. Distribute forms for collection to team.	Team lead	30 minutes
	Decide together (suggestions in the specific indicators): • Where you will find the data needed • How many patients you will include in the sample (see guidance on p. 7 on choosing numbers of patients to sample) • Which days/weeks you will collect the information	All team members	2 hours
	Use the three assessment tools in Appendices 2-4 for data collection:		1 month
	• Observing labs tests accuracy and clinician competency assessing and treating patients with standards-based checklists	Assigned team members	See specific indicators for time estimate
	• Counting items or patients from registers, health passports/records, stock records, etc.	Assigned team members	1-2 hours per week
Analysis and prioritizing	Team meeting to review all data and information for gaps in care and patient outcomes • Use Gap Analysis Planning Matrix on pp.15-16 to note all quality gaps and prioritize which gaps to begin working on	All team members and lead, assign recorder	1-2 hours

For each indicator in the three assessment tools, there is a grid that will help you to plan how to collect the data. Work with your team to fill in the section on "method, frequency, and responsible person." These completed pages are the worksheets for each team member to use in collecting, aggregating, and calculating the results for each indicator.

Below is an excerpt of the tool assessing the processes of care for severe febrile illness:

3. Ensure cases of severe malaria are confirmed	
Suggested	**Fill in your method, frequency, and responsible person**
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from the mRDT (or lab) and the OPD registers. Cross-check data from the mRDT (or lab) register and the ANC register. (OPD register does not capture malaria in pregnancy.)	Check register each Friday for the month of the assessment Sample of 10 pregnant women per week: 5 Monday morning, 5 Wednesday afternoon
Frequency: Weekly during assessment period.	Weekly
Responsible person: Select a member of the improvement team.	Bahati

Measure that will be calculated using these data	**Register Review** Please review the appropriate register in the clinic.		**Female**	**Male**	**Total**
	• (1) # of children under five presenting with fever for whom malaria microscopy was performed to confirm malaria infection	No.	3	2	5
	• (2) # of children under five presenting with severe malaria	No.	4	2	6
• % of children under five presenting with severe malaria for whom malaria microscopy was performed	• Calculate the percent by dividing (1) by (2)	%	75%	100%	83%
	• (1) # of pregnant women presenting with fever who have a positive mRDT *Note: According to PMI and WHO guidance, a clinical diagnosis of malaria must be confirmed by a positive result on malaria test.*	No.			6
	• (2) # of pregnant women presenting with fever	No.			10
• % of pregnant women with fever for whom an mRDT was performed according to national guidelines	• Calculate the percent by dividing (1) by (2)	%			60%

Some indicators in the three assessment tools require clinic observation rather than a register review; for these indicators, there is a checklist that the responsible person can use to collect, aggregate, and calculate results. Below is an excerpt of this type of checklist from the tool assessing the processes of care for uncomplicated febrile illness in **Appendix 3**:

4b. Ensure correct treatment of uncomplicated malaria in children under five	
If the measures listed below cannot be calculated from a register review, use this checklist to observe the pharmacist.	
Suggested	**Fill in your method, frequency, and responsible person**
Method: Decide as a team if you will collect data on your entire population or a sample. Observe a pharmacist dispensing drug (AL) to children under five who have been diagnosed with malaria. • Follow through the checklist to observe compliance to guidelines • Add or edit the standards listed below as necessary • Place a check mark if "Yes"	Observe pharmacist one morning and one afternoon for the month of the assessment Sample of 14 per week: 7 Monday morning, 7 Wednesday afternoon
Frequency: Weekly during the assessment process	Weekly
Responsible person: Select a member of the improvement team. The quality improvement team member should observe the patient taking the first dose of AL at the facility/pharmacy.	Margaret

Measures that will be calculated using data from this checklist	• % of febrile children under five with a positive test result who received the first dose of AL at the facility						
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F
The drug dispenser (pharmacy personnel) administers AL to only children with a positive malaria test result	√		√	√	√		√
The first dose is given at health facility/pharmacy		√	√	√	√	√	
Add check marks in each column	1 / 2	1 / 2	2 / 2	2 / 2	2 / 2	1 / 2	1 / 2
Calculate Percentage for All Patients	Count total number of patients with 2 of 2 check marks (1) __3__ and total number of patients (2) __7__ Divide (1) by (2) and multiply by 100 for percentage routinely assessed __43__%						
Calculate Percentage for Females	Count total number of female patients with 2 of 2 check marks (1f) __2__ and total number of female patients (2f) __5__ Divide (1f) by (2f) and multiply by 100 for percentage of females routinely assessed __40__%						
Calculate Percentage for Males	Count total number of male patients with 2 of 2 check marks (1m) __1__ and total number of male patients (2m) __2__ Divide (1m) by (2m) and multiply by 100 for percentage of males routinely assessed __50__%						

The *Data Sources and Data Collection Action Plan* (excerpt below) found in **Appendix 1** will assist the team leader to outline and track which data and information will be retrieved in current registers or through new data collection forms. The team leader can use this planning tool to manage the data collection process. This plan can help you to keep track of who is doing what, by when. (See **Appendix 1** for complete table.)

Here is an excerpt of the table you can use to manage the data collection process:

Data Sources and Data Collection Action Plan					
Data Element/ Indicator	**Suggested Collection Method**	**Suggested Data Sources**	**Planned Collection Method and Source**	**Responsible Person**	**Collection Completion Date**
Facility assessment					
Policies, guidelines, and standards available to staff	Check in consultation room that they are available	N/A	Check the consultation room the first day of the assessment	Evelyn	January 15
Measure quality of care and outcomes for children under five (sex-disaggregated) and pregnant women					
% children under 5 with fever seen by skilled provider within 24 hours of fever onset	Check registers or passports for at least 25 patients	Patient health passport or record, clinic or OPD registers	Check registers and mark for 10 children per week for 4 weeks	Joseph	February 15

Action Step #2: Gather Data and Information

The team leader can now use the customized *Project Team Task Matrix* (see p. 8) and the *Data Sources and Data Collection Action Plan* (see **Appendix 1**) to manage your assessment activities throughout the month. Check in with your team regularly to help with problem solving and keeping the assessment on track. Revise your task matrix as needed.

Complete the flowchart activity during your assessment period. Links to additional help are included below to help complete this activity. The purpose of flowcharts is to identify gaps across the many processes of your clinic. Gaps are identified as less than optimal care and health status performance results and systems and processes that do not result in meeting patients' needs or achieving health and wellness for patients.

Map your key processes

Using a flowchart can be useful for providers to better understand their current processes, including where there are problems or unclear areas. A flowchart is a tool for mapping a process to better understand all of the steps and handoffs involved and where there is repetition, confusion, waste, or opportunity for making it more efficient. More detail on drawing flowcharts can be found on the USAID ASSIST Knowledge Portal at https://www.usaidassist.org/resources/flowcharts.

Start by building one flowchart of any of the following typical visits for patients with fever:

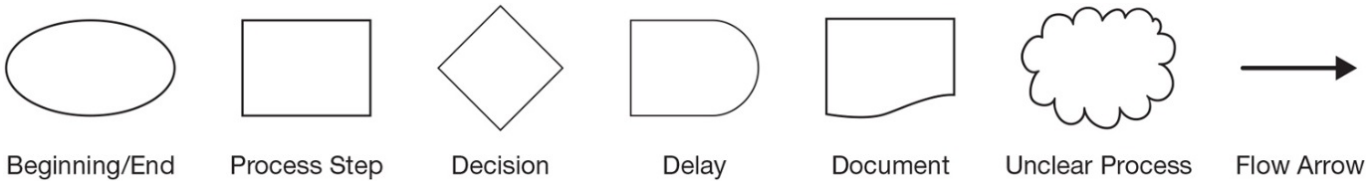
- Patient visit by a family with a child with fever
- Patient visit by a pregnant woman with fever
- Patient visit of a severely ill child or pregnant woman

Map additional visit types when you feel confident that you have a good picture of the visit in your first flowchart and have some ideas to test.

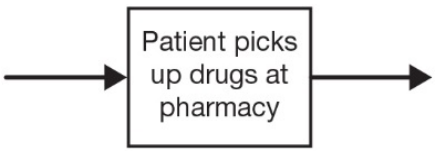
Steps to create a flowchart with your team

1. Decide on the beginning and end points of the process to be flowcharted
2. Identify the steps of the process
3. Link the steps with arrows showing direction
4. Review the draft to see whether the steps are in their logical order

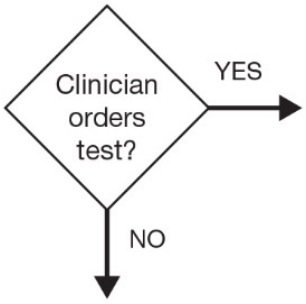
Use these symbols:



One flow line out of a step:



Two flowlines out of a decision (must ask YES/NO question):



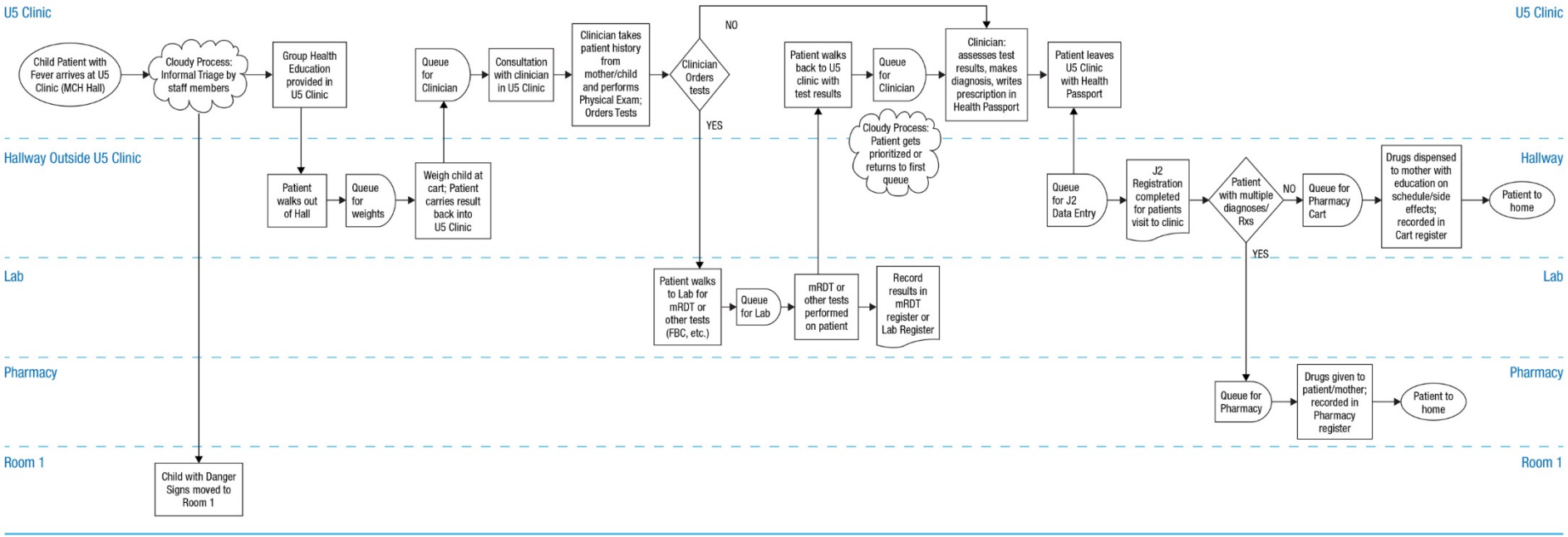
As your team reviews the flowchart, identify and document opportunities for improvement the Gap Analysis Planning Matrix in Action Step #3. Ask “Why” 3-5 times for each step to assist with analysis.

Here are some common areas to focus on:

- Number of locations where patients queue
- Time spent by patients from registration to discharge, or between any parts of the process
- Reduce waste and complexity
- Eliminate unnecessary steps for the patient or staff
- Rationalize the steps of the process
- Eliminate loops
- Avoid re-work

The following page shows a flowchart developed by the improvement team at Mchinji District Hospital in Malawi for uncomplicated febrile illness care for a child under five years of age.

Patient Flow Chart for Child Under 5 years old with Uncomplicated Febrile Illness at the Mchinji District Hospital



Action Step #3: Analyze Gaps and Prioritize Areas for Improvement

The last step is for the improvement team to analyze the information obtained from the three assessment tools and flowchart exercises. First, review each quality indicator result from the assessment tools. Use the Quality Indicator Results Matrix (see **Appendix 5**) to summarize your assessment and performance indicator results. Then, in the *Gap Analysis Planning Matrix* below, note the gaps that you identify. Make notes about any additional data you want to collect or important points in your team's discussion. Next, review the opportunities for improvement from the flowcharts developed by your team.

Gap Analysis Planning Matrix (add rows as needed)			
Focus Area	**Gap**	**Notes**	**Priority**
Uncomplicated Febrile Illness Children Under 5 and Pregnant Women	Errors in diagnostic test procedure	Diagnostics tests completed by untrained staff, unreliable test results, task shifting, potential over or under use of drugs due to misdiagnosis	Priority # 2
Severe Illness with Fever in Children Under 5 and Pregnant Women	10 patients come to clinic after having fever for >24 hours	High risk of severe illness, collect more data from community by asking families why they aren't seeking care sooner	Priority # 1
Facility Infrastructure and Resources	Not all elements of Referral System in place	Missing reliable method to transfer patient quickly	Priority # 3

Gap Analysis Planning Matrix (add rows as needed)			
Focus Area	**Gap**	**Notes**	**Priority**
		between health center and District Hospital	
Flowcharts	Triage at entry into clinic	No formal process, no staff member accountable for triage, no training in triage algorithm	Priority # 4

Once you have completed listing the gaps, follow the multi-voting exercise below.

Prioritizing: The purpose of analyzing your system is to make an informed decision as to where to invest time and resources on improvement for your facility. After listing the gaps identified from your data collection, use a multi-voting process with your improvement team to prioritize the gaps listed.

Steps for multi-voting:

1. Assemble your team
2. Post the completed *Gap Analysis Planning Matrix* (above) on the wall
3. Give each team member three colored sticker dots or a marker
4. Instruct each team member to put a sticker or tick mark next to the three different gaps that they think are most important to accomplish this year
5. If the voting resulted in a tie number of votes, decide if you want to include both or do a run-off vote
6. After voting is completed, discuss the top three to five gaps to decide which to address first

Consider several factors in choosing the **first** improvement project. It should be:

- Not the most complex or difficult issue
- An issue that will result in shorter cycle improvement effort
- Likely to result in building the confidence and experience of the team
- Unlikely to generate much resistance to change from the staff

In subsequent projects focused on closing gaps, you can expand into the more complex issues. This strategy will assist your team in gaining energy and momentum to take on the harder parts of the changes.

Appendices

Appendix 1: Data Sources and Data Collection Action Plan

Appendix 2: Facility Assessment Tool

Appendix 3: Treatment of Uncomplicated Febrile Illness Assessment Tool

Appendix 4: Treatment of Severe Febrile Illness Assessment Tool

Appendix 5: Quality Indicators Results Matrix

Appendix 1: Data Sources and Data Collection Action Plan

Data Element/ Indicator	Suggested Collection Method	Suggested Data Source	Planned Data Collection Method & Source	Responsible Team Member	Collection Completion Date
Facility assessment					
Policies, guidelines, and standards available to staff	Check in consultation room that these references are available	N/A			
Sufficient numbers of human resources	Ask site administration	Staff schedules			
% of eligible providers trained in IMCI guidelines	Ask site administration	Training records			
% of eligible providers trained in NMCP guidelines	Ask site administration	Training records			
Volume of patients presenting with febrile illness	Request from DHO or count from diagnoses in OPD/inpatient registers	District statistics; counts from registers			
Functioning QI team	Check in QI team mtg notes/minutes, ask facility leadership	QI team mtg minutes, report from leadership			
Effective referral system between facilities is in place and working reliably	Check at least 10 patients/records over a month	Records at facilities, OPD registers, patient health passports or records			
Total days per month with stock-outs of essential drugs & equipment	Monthly stock-out grid	Pharmacy stock records, lab stock records			
Measure quality of care and outcomes for children under five (sex-disaggregated) and pregnant women					
% of children under 5 years old with fever who are seen by skilled provider within 24 hours of fever onset	Check registers or passports for at least 25 patients	Patient health passports or records, clinic or OPD registers			

Data Element/ Indicator	Suggested Collection Method	Suggested Data Source	Planned Data Collection Method & Source	Responsible Team Member	Collection Completion Date
% of children under 5 who are routinely assessed for cough, difficult breathing, diarrhea, fever, and ear problems	Using a competency-based checklist (see the Treatment of Uncomplicated and Severe Febrile Illness Assessment Tools), observe the assessment of at least 10 patients per month or check patient records/passports and registers	Observation, patient health records or passports, OPD/clinic registers			
% of children under 5 presenting with fever for whom an mRDT was performed according to national guidelines	Create a list of children under 5 presenting with fever from the OPD register and compare those same patients in the lab register	Observation, patient health records or passports, OPD/clinic registers, or lab registers			
% of patients with fever for whom an mRDT was performed according to national guidelines	Using a competency-based checklist (see the Treatment of Uncomplicated Febrile Illness Assessment Tool), directly observe the mRDT being performed by trained person assigned at facility for approx. 10-20 tests at different times and days	Competency-based checklist in the Uncomplicated Febrile Illness Assessment Tool adapted to fit your policies/ procedures			
% of febrile children under 5 with a positive test result who are treated with AL	Generate a list of children under 5 with diagnosis of fever from the registers; confirm they had a positive test result from lab registers; then cross check the pharmacy register for appropriately dispensed drug	OPD/lab or mRDT/ pharmacy register			
% of febrile children under 5 with a positive test result who received the first dose of AL at the facility	Generate a list of children under 5 with diagnosis of fever from the registers; confirm they had a positive test result from lab registers; then cross check the pharmacy register for appropriately dispensed drug taken at the facility	Pharmacy, lab and OPD/clinic registers			

Data Element/ Indicator	Suggested Collection Method	Suggested Data Source	Planned Data Collection Method & Source	Responsible Team Member	Collection Completion Date
% of febrile children under 5 with a positive test result who were administered AL in the correct dose-per-weight	Generate a list of children with fever and weight recorded from OPD register or patient health passports; confirm they had a positive test result from lab registers; cross check the list with the specific dose dispensed in the pharmacy	OPD register/ patient health passports/lab register/ pharmacy register			
% of children under 5 with a fever who are diagnosed with diarrheal disease who are correctly treated using national guidelines	Check register or patient health passport for diagnosis matched with correct treatment (antibiotics, etc.)	Clinic/health center/OPD/ pharmacy registers			
% of children under 5 with fever and diagnosed with an acute respiratory infection who are correctly treated using national guidelines	Check register or patient health passport for diagnosis matched with correct treatment (antibiotics, etc.)	Clinic/health center/OPD/ pharmacy registers			
% of children under 5 presenting with severe malaria for whom malaria microscopy was performed	Generate list of children under 5 with severe malaria diagnosis; cross check this name/diagnosis list with lab register for microscopy	Inpatient ward/patient files/mRDT/ lab registers			
% of children under 5 with confirmed severe malaria who are administered parenteral antimalarial drugs	Review inpatient ward register or OPD/clinic register for children with confirmed severe malaria diagnosis and given IV/IM artesunate	Inpatient ward/patient files/lab/ pharmacy registers			
% of children under 5 with a confirmed diagnosis of severe febrile illness (malaria/diarrhea/ ARI) who were discharged from hospital	Generate a list of children under 5 admitted to hospital with severe febrile illness diagnosis; cross check list with discharge register for those living patients who were discharged to home	Inpatient admission and discharge registers			

Data Element/ Indicator	Suggested Collection Method	Suggested Data Source	Planned Data Collection Method & Source	Responsible Team Member	Collection Completion Date
% of pregnant women with fever for whom an assessment is done according to national guidelines	Observe clinicians managing pregnant women with febrile illness using the checklist to observe compliance to guidelines	N/A			
% of pregnant women with fever for whom an mRDT was performed according to national guidelines	Cross-check data from the mRDT (or lab) register and the ANC register	ANC or OPD register/lab or mRDT register			
% of pregnant women with a fever and a positive mRDT who are treated with an effective anti-malaria according to national guidelines	Compile data on pregnant women from the OPD and mRDT registers; cross-check with pharmacy registers	OPD/mRDT/ lab/ pharmacy registers			
% of pregnant women with a confirmed diagnosis of severe malaria who are discharged from hospital	Compile data from inpatient ward registers and patient files	Ward register/ patient files			
Optional Assessments					
Walking in Your Patients' Shoes	See instructions in guide	N/A			
OPD Core and Supporting Processes Assessment	Ask staff members involved in the listed processes to fill in the table	N/A			

Appendix 2: Facility Assessment Tool

Facility Name	
Facility District	
Facility Type	_____District Hospital (DH) _____Health Center (HC) _____Village Health Clinic (VHC)
Primary contact person at site	Telephone_____ Email _____
Completion date	
Completed by (name)	

Introduction

This data collection tool has been designed for all the health workers that provide front line care for children under five and pregnant women with febrile illnesses at the district hospital, health centers and village health clinic levels. The broad aim of the tool is for health workers to collect data that will help them provide quality care for patients with febrile illness.

We hope this tool will be handy as you collect the data that will inform the provision of quality care for the patients under your care.

This tool includes the improvement measures that will be measured by improvement teams during the baseline assessment and throughout the improvement activity.

The improvement measures in this tool are meant to capture aspects of the facility that may affect the quality of care.

Instructions

The tool includes instructions how to collect each measure and from what sources, when it should be collected, and by whom.

You will collect data from a few sources: interviews with key personnel, review of registries and patient records, and less frequently by observation of clinical practice.

- Record findings immediately as they are observed.
- DO NOT LEAVE ANY SPACE BLANK

1. Relevant febrile illness and IMCI policies, guidelines, and standards are available and staff are aware of them	
Suggested	Fill in your method, frequency, and responsible person
Methods: Verification through direct observation.	
Frequency: One time during assessment process.	
Responsible person: Select a member of the improvement team.	

Checklist Please answer Yes or No for each.	Y	N
Verify that the following 5 key documents are available in the consultation room: • National standard treatment guidelines – latest edition • National guidelines for the treatment of malaria – latest edition • National guideline for the IMCI – latest edition • Job aids for all febrile illnesses • Pediatric handbook of treatment guidelines from the Ministry of Health or professional society	____ ____ ____ ____ ____	____ ____ ____ ____ ____
All standards/guides are available	Y	N

2a. The site has sufficient and trained human resources to care for patients presenting with febrile illness	
Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: Ask the site administration, e.g., District Medical Officer (DMO), In-charge	
Frequency: One time during assessment process.	
Responsible person: Select a member of the improvement team.	

Human Resources	Female	Male	Total
How many staff are on site that care for patients daily?			
• Person responsible for registration (HSA, HMIS Officer, etc.)	_____	_____	_____
• Clinician	_____	_____	_____
• Nurses	_____	_____	_____
• Lab personnel	_____	_____	_____
• Pharmacy/dispenser personnel and provision of drugs and counseling	_____	_____	_____
• Health Surveillance Assistants (HSAs)	_____	_____	_____
• Others (Specify)	_____	_____	_____
Total number of health providers			

2b. The site has sufficient and trained human resources to care for patients presenting with febrile illness

Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: Ask the Malaria Coordinator at the District Health Office (DHO)	
Frequency: One time during assessment process	
Responsible person: Select a member of the improvement team	

Measures that will be estimated using this data	Human Resources		Female	Male	Total
	• (1) # of eligible providers trained in the IMCI guidelines • (2) # health providers (from table 2a)	No. No.	_____ _____	_____ _____	_____ _____
• % of eligible providers trained in the IMCI guidelines	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of eligible providers trained in the NMCP guidelines • (2) health providers (from 2a)	No. No.	_____ _____	_____ _____	_____ _____
• % of eligible providers trained in the NMCP guidelines	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____

3. Volume of patients presenting with febrile illnesses	
Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: Retrospective: Work with the facility HMIS officer to collect and aggregate monthly counts of patients with presenting with fever from the registers. Ongoing: Collect for several months if data unavailable for past months.	
Frequency: Retrospective: One time during assessment process. Ongoing: At the end of each month for 6-12 months	
Responsible person: Select a member of the improvement team.	

Month	Number of patients		
	Female	Male	Total

4. Presence of a functioning quality improvement team	
Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: Ask staff, check for meeting notes and documentation of tested changes.	
Frequency: One time during assessment process.	
Responsible person: Select a member of the improvement team.	

Checklist Please answer Yes or No for each.	Y	N
Verify: • The existence of a functional quality improvement team • Meeting held at least monthly to review data • Team makes changes to services based on improvement plan	____ ____ ____	____ ____ ____
TOTAL		
All 3 standards are met		

5. An effective referral system is in place	
Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: At the DH and HC, check the patient passports for at least 10 severely ill patients per month. At the VHC, check the register.	
Frequency: Weekly	
Responsible person: Select a member of the improvement team.	

Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Documented in health passports danger signs and symptoms of patients upon leaving facility and follow up options to seek care or advice										
Referral notes go with patient to referral site (VHC, HC or DH)										
Blood film/slide with patient sample travels with patient to DH										
Feedback report shared with HC or VHC on patients course of recovery or death										
Add all check marks in each column	4	4	4	4	4	4	4	4	4	4
Calculate Percentage (%)	# patients for whom all 4 standards were met (1) ____ Total # patients (2) ____ Divide numerator (1) by denominator (2) and multiply by 100 for percentage ____%									

6. Adequate supply of essential drugs and commodities

Suggested	Fill in Your Method, Frequency, and Responsible Person
Method: Daily completion of stock grid and monthly tally	
Frequency: Daily and monthly	
Responsible person: Select a member of the improvement team.	

MONTH: _____	Days of the month (mark each day with an X when an item is NOT in stock OR with a √ when the item is IN stock at your facility) to measure totals days of stock outs for each supply/drug/equipment																														Stock outs
Supply/Drug/ Equipment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
mRDT tests kits																																
AL																																
ASAQ																																
Quinine (oral tablets)																																
Rectal artesunate																																
Parental artesunate																																
Amoxicillin																																
Chloramphenicol																																
Ciprofloxacin																																
Clindamycin																																
Cloxacillin																																
Cotrimoxazole																																
Doxycyline																																
Erythromycin																																
Penicillin																																
ORS																																
Metronidazole																																
Microscope																																
Diagnostic Machine for Full Blood Count																																
Total days per month with stock-outs of essential drugs and equipment																																

Appendix 3: Treatment of Uncomplicated Febrile Illness Assessment Tool

Facility Name	
Facility District	
Facility Type	_____District Hospital _____Health Center _____Village Health Clinic
Primary contact person at site	Telephone_____ Email _____
Completion date	
Completed by (name)	

Introduction

This data collection tool has been designed for all the health workers that provide front line care for children under five and pregnant women with febrile illnesses at the district hospital (DH), health center (HC), and village health clinic (VHC) levels. The broad aim of the tool is for health workers to collect data that will help them provide quality care for patients with febrile illness.

We hope this tool will be handy as you collect the data that will inform the provision of quality care for the patients under your care.

This tool includes the improvement measures that will be measured by improvement teams during the baseline assessment and throughout the improvement activity.

The improvement measures in this tool are meant to capture key processes that together define the process of care for children under five and pregnant women with uncomplicated febrile illness.

Instructions

The tool includes instructions how to collect each measure and from what sources, when it should be collected, and by whom.

You will collect data from a few sources: interviews with key personnel, review of registries and patient records, and less frequently by observation of clinical practice.

- Record findings immediately as they are observed.
- DO NOT LEAVE ANY SPACE BLANK

1. Ensure all children under five and pregnant women with fever are treated early	
Suggested	Fill in your method, frequency, and responsible person
Method: In the DH and HC, data should be collected by the provider at time of consultation or from health passports. At the VHC, this information can be found in the register (and the Sick Child Reporting Form). Decide as a team if you will collect data on your entire population or a sample.	
Frequency: Weekly throughout assessment process	
Responsible person: The first provider who sees the children under five with fever or staff at clinic with access to registers/health passports	

Measures that will be estimated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five years old presenting with a fever who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset • (2) Total number of health passports checked for children under five	No. No.			
• % of children under five presenting with a fever who are seen by a skilled provider within 24 hours of fever onset	• Calculate the percent by dividing (1) by (2)	%			
	• (1) # pregnant women presenting with a fever who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset • (2) Total number of health passports checked for pregnant women	No. No.			
• % of pregnant women presenting with a fever who are seen by a skilled provider within 24 hours of fever onset	• Calculate the percent by dividing (1) by (2)	%			

2. Ensure evidenced-based diagnosis of uncomplicated fevers

Suggested	Fill in your method, frequency, and responsible person
Method: In the DH and HC, use the competency-based checklist for clinic observation for children under five and pregnant women with fever. In the VHC, this information can be found in the register or Sick Child Reporting Form. • Follow through the checklist to observe compliance to WHO, national, or facility-level guidelines • Add or edit the standards listed below as necessary • Place a check mark if "Yes" Decide as a team if you will collect data on your entire population or a sample.	
Frequency: Weekly over the period of the assessment	
Responsible person: Select an improvement team member.	

Measures that will be calculated using data from this checklist	• % of children under five who are routinely assessed for cough, difficult breathing, diarrhea, fever and ear problems • # of children under five presenting with a fever who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset									
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Observe whether the clinician asks the guardian the duration of the child's fever (note hours)										
Correctly assess danger signs										
Assess for presence of 3 main symptoms (cough, diarrhea, fever, ear problem)										
Assess for presence of stridor (or grunting)										
Assess for presence of severe chest in drawing										
Assess for chest in drawing/subcostal retractions										

(continued on next page)

Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Assess for lethargy, prostration, or unconsciousness. If the child is sleeping, try to wake them										
Assess for jaundice										
Assess for extreme pallor										
Assess if child is restless and irritable										
Assess for sunken eyes										
Correctly checked weight for age										
Measure patient's axillary temperature in °C										
Correctly checked immunization										
Correctly prescribes an antimalarial after a positive mRDT result										
Correctly verifies that a patient with a negative mRDT result does NOT receive an antimalarial										
Total check marks in each column	/16	/16	/16	/16	/16	/16	/16	/16	/16	/16
Note if 80% (13 of 16) or more correct (Y/N)										
Calculate Percentage for All Patients	Total number of "Y" among all patients (1) _____ Total number of patients (2) _____ Divide (1) by (2) and multiply by 100 for percentage assessed _____%									
Calculate Percentage for Females	Total number of "Y" among female patients only (1f) _____ Total number of female patients (2f) _____ Divide (1f) by (2f) and multiply by 100 for percentage of females assessed _____%									
Calculate Percentage for Males	Total number of "Y" among male patients only (1m) _____ Total number of male patients (2m) _____ Divide (1m) by (2m) and multiply by 100 for percentage of males assessed _____%									
Total from Row 1	Number of children seen <24hrs of fever onset _____									

Measures that will be calculated using data from this checklist	• % of pregnant women with fever for which an assessment is done per national guidelines									
Assessment Element (place check mark if Yes)	Patient1	Patient2	Patient3	Patient4	Patient5	Patient6	Patient7	Patient8	Patient9	Patient10
Observe whether the clinician asked for the duration of the woman's fever										
Correctly assessed for fever										
Correctly assessed for HIV testing during ANC										
Correctly assessed for cough and/or chest signs to rule out pulmonary edema										
Correctly assessed for pain when passing out urine										
Correctly assessed for the use of insecticide treated nets										
Correctly assessed for the gestation of the pregnancy										
Correctly assessed for palm pallor for anemia										
Severe cases referred										
Add check marks in each column	9	9	9	9	9	9	9	9	9	9
Note if 80% (8 of 9) or more correct (Y/N)										
Calculate Percentage for All Pregnant Women	Total number of "Y" among all pregnant women (1) _____ Total number of pregnant women (2) _____ Divide (1) by (2) and multiply by 100 for percentage assessed _____%									

3a. Ensure cases of uncomplicated malaria are confirmed	
Suggested	Fill in your method, frequency, and responsible person
Method: First, decide as a team if you will collect data on your entire population or a sample. Then an improvement team member with the OPD register, records all patients or sample # of patients by name and diagnosis of fever/suspected malaria, then reviews the mRDT register and confirms if the child had an mRDT.	
Frequency: Weekly over the period of the assessment	
Responsible person: Select an improvement team member.	

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five presenting with fever for whom an mRDT was performed • (2) # of children under five presenting with fever	No. No.	_____ _____	_____ _____	_____ _____
• % of children under five presenting with fever for whom an mRDT was performed	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of pregnant women presenting with fever who have a positive mRDT *Note: According to PMI and WHO guidance, a clinical diagnosis of malaria must be confirmed by a positive result on malaria test.* • (2) # of pregnant women presenting with fever	No. No.			_____ _____
• % of pregnant women with fever for whom an mRDT was performed	• Calculate the percent by dividing (1) by (2)	%			_____

3b. Ensure cases of uncomplicated malaria are confirmed

Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. The improvement team member goes to where rapid tests are done and uses the competency based checklist to see if mRDTs are conducted according to national guidelines. • Follow through the checklist to observe compliance to guidelines • Add or edit the standards listed below as necessary • Place a check mark if "Yes"	
Frequency: Weekly over the period of the assessment	
Responsible person: Select a member of the improvement team.	

Measures that will be calculated using data from this checklist	• % of patients with fever for whom an mRDT was performed according to national guidelines									
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
The provider should be wearing gloves. A new pair of gloves should be used for each patient.										
Unwrap the mRDT from the sealed package and place on a flat surface.										
Carefully write patient's name & date on the mRDT.										
Hold the patient's left hand, palm facing upwards, and select the third finger from the thumb, called the 'ring finger'. For infants, the big toe can be used, not the heel. Never use the thumb, for either children or adults.										
First massage the hand from the base to the finger tips, using firm strokes to stimulate blood circulation.										
Clean the finger with cotton wool dampened with alcohol. Use firm strokes to remove dirt and oils from the ball of the finger. Dry the finger with a clean cotton cloth, using firm strokes to stimulate blood circulation.										

(continued on next page)

Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Using a sterile lancet, apply firm pressure and puncture the ball of the finger or toe. If using a retractable lancet, continue to apply pressure while the needle penetrates the skin.										
Apply gentle pressure to the finger or toe & express the first drop of blood; wipe it away with dry cotton wool & make sure no cotton strands remain that might later be mixed with the blood.										
Apply gentle pressure to express a drop of blood. Touch the tip of the capillary pipette to the drop and draw blood to the black line (5ul).										
Dispense the blood drop into the round sample well on the mRDT.										
Add 4 drops of assay diluent into square assay.										
Set timer for 15 minutes for Bioline and 20 minutes for Paracheck rapid tests.										
The provider reads test results correctly: • A single line at "C" indicates a negative result (no malaria). • Two lines, one at "C" and another at "Pf" indicate a positive result. • No line at "C" indicates an invalid result (regardless of whether or not a "Pf" line is present). If this occurs, repeat the test.										
Record the mRDT result in the mRDT register and double check that the result is assigned.										
Add check marks in each column	/14	/14	/14	/14	/14	/14	/14	/14	/14	/14
Note if 80% (12 of 14) or more correct (Y/N)										
Calculate Percentage for All Patients	Count total number of "Y" among all patients (1) _____ and total number of patients (2) _____ Divide (1) by (2) and multiply by 100 for percentage confirmed _____%									
Calculate Percentage for Females	Count total number of "Y" among female patients only (1f) ____ and total number of female patients (2f) ____ Divide (1f) by (2f) and multiply by 100 for percentage of females confirmed _____%									
Calculate Percentage for Males	Count total number of "Y" among male patients only (1m) ____ and total number of male patients (2m) _____ Divide (1m) by (2m) and multiply by 100 for percentage of males confirmed _____%									

4a. Ensure correct treatment of uncomplicated malaria	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from OPD and mRDT registers, matching the names of under five children who had a positive test and those that were prescribed artemether lumefantrine (AL). Cross-check with pharmacy register/AL register to see who was administered AL. Compile data on pregnant women from the OPD and mRDT registers. Cross-check with pharmacy records.	
Frequency: Weekly over the period of the assessment	
Responsible person: Select a member of the improvement team.	

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children with fever and a positive mRDT/microscopy test who had AL dispensed • (2) # of children with fever and a positive mRDT	No. No.	_____ _____	_____ _____	_____ _____
• % of febrile children under five with a positive test result who are treated with AL	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of children with fever and a positive mRDT/microscopy test who took the first does of AL at the facility • (2) # of children with fever and a positive mRDT	No. No.	_____ _____	_____ _____	_____ _____
• % of febrile children under five with a positive test result who received the first dose of AL at the facility	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____

(continued on next page)

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five who had their weight taken at the facility on the day they received AL • (2) # of children with fever and a positive mRDT/microscopy test who had the correct dose-per-weight • (3) # of children with fever and a positive mRDT	No. No. No.	_____ _____ _____	_____ _____ _____	_____ _____ _____
• % of febrile children under five with a positive test result who were administered AL in the correct dose-per-weight	• Calculate the percent by dividing (2) by (3)	%	_____	_____	_____
	• (1) # of pregnant women presenting with a fever and a positive mRDT who are treated with an effective antimalarial drug as per national guidelines • (2) # of pregnant women with fever and a positive mRDT	No. No.			_____ _____
• % of pregnant women with a fever and a positive mRDT who are treated with an effective anti-malaria medication as per national guidelines	• Calculate the percent by dividing (1) by (2)	%			_____

4b. Ensure correct treatment of uncomplicated malaria in children under five

If the measures listed below cannot be calculated from a register review, use this checklist to observe the pharmacist.

Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Observe a pharmacist dispensing drug (AL) to children under five who have been diagnosed with malaria. • Follow through the checklist to observe compliance to guidelines • Add or edit the standards listed below as necessary • Place a check mark if "Yes"	
Frequency: Weekly during the assessment process	
Responsible person: Select a member of the improvement team. The quality improvement team member should observe the patient taking the first dose of AL at the facility/pharmacy.	

Measures that will be calculated using data from this checklist	• % of febrile children under five with a positive test result who received the first dose of AL at the facility										
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F	Patient11 M/F
The drug dispenser (pharmacy personnel) administers AL to only children with a positive malaria test result											
The first dose is given at health facility/pharmacy											
Add check marks in each column	2	2	2	2	2	2	2	2	2	2	2
Calculate Percentage for All Patients	Count total number of patients with 2 of 2 check marks (1) _____ and total number of patients (2) _____ Divide (1) by (2) and multiply by 100 for percentage treated with first dose of AL at the facility _____%										
Calculate Percentage for Females	Count total number of female patients with 2 of 2 check marks (1f) ____ and total number of female patients (2f) ____ Divide (1f) by (2f) and multiply by 100 for percentage of females treated with the first does of AL at the facility _____%										
Calculate Percentage for Males	Count total number of male patients with 2 of 2 check marks (1m) ____ and total number of male patients (2m) _____ Divide (1m) by (2m) and multiply by 100 for percentage of males treated with the first does of AL at the facility_____%										

(continued on next page)

Measures that will be calculated using data from this checklist	• % of febrile children under five with a positive test result who were administered AL in the correct dose-per-weight										
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F	Patient11 M/F
The drug dispenser checks to see if the weight of the child has been taken											
The drug dispenser checks that the dose prescribed is in the correct dose-per-weight											
Add check marks in each column	2	2	2	2	2	2	2	2	2	2	2
Calculate Percentage for All Patients	Count total number of patients with 2 of 2 check marks (1) _____ and total number of patients (2) _____ Divide (1) by (2) and multiply by 100 for percentage of children treated with correct dosage _____%										
Calculate Percentage for Females	Count total number of female patients with 2 of 2 check marks (1f) ____ and total number of female patients (2f) ____ Divide (1f) by (2f) and multiply by 100 for percentage of females treated with correct dosage _____%										
Calculate Percentage for Males	Count total number of male patients with 2 of 2 check marks (1m) ____ and total number of male patients (2m) _____ Divide (1m) by (2m) and multiply by 100 for percentage of males treated with correct dosage _____%										

5. Ensure correct treatment of uncomplicated diarrhea in children under five	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from OPD and pharmacy registers, matching the names of under five children who had a fever and diagnosis of diarrheal disease and those that were prescribed a drug according to national guidelines.	
Frequency: Weekly during assessment period	
Responsible person: Select a member of the improvement team.	

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children with fever and a diagnosis of diarrhea who were treated according to national guidelines • (2) # of children with fever and a diagnosis of diarrhea	No. No.	_____ _____	_____ _____	_____ _____
• % of children under five with a fever who are diagnosed with diarrheal disease who are correctly treated according to national guidelines	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____

6. Ensure correct treatment of uncomplicated acute respiratory infections in children under five	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from OPD and pharmacy registers, matching the names of under five children who had a fever and diagnosis of acute respiratory infections and those that were prescribed a drug according to national guidelines.	
Frequency: Weekly during the assessment period.	
Responsible person: Select a member of the improvement team.	

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children with fever and an acute respiratory infection who were treated according to national guidelines • (2) # of children with fever and diagnosed with an acute respiratory infection	No. No.	_____ _____	_____ _____	_____ _____
• % of children under five with fever and diagnosed with an acute respiratory infection who are correctly treated according to national guidelines	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____

Appendix 4: Treatment of Severe Febrile Illness Assessment Tool

Facility Name	
Facility District	
Facility Type	_____District Hospital _____Health Center _____Village Health Clinic
Primary contact person at site	Telephone_____ Email _____
Completion date	
Completed by (name)	

Introduction

This data collection tool has been designed for all the health workers that provide front line care for under-five and pregnant women with severe febrile illnesses at the district hospital and health centre levels. The broad aim of the tool is for health workers to collect data that will help them provide quality care for patients with febrile illness.

We hope this tool will be handy as you collect the data that will inform the provision of quality care for the patients under your care.

This tool includes the improvement measures that will be measured by improvement teams during the baseline assessment and throughout the improvement activity.

The improvement measures in this tool are meant to capture key processes that together define the process of care for children under five and pregnant women with severe febrile illness.

Instructions

The tool includes instructions how to collect each measure and from what sources, when it should be collected, and by whom.

You will collect data from a few sources: interviews with key personnel, review of registries and patient records, and less frequently by observation of clinical practice.

- Record findings immediately as they are observed.
- DO NOT LEAVE ANY SPACE BLANK

1. Ensure that all children under five with severe fever are treated early	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from ward registers, patient files, and lab registers.	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measures that will be estimated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five years old presenting with a severe febrile illness who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset • (2) Total number of health passports checked	No. No.			
• % of children under five presenting with a fever who are seen by a skilled provider within 24 hours of treatment	• Calculate the percent by dividing (1) by (2)	%			

2. Ensure evidenced-based diagnosis of severe febrile illness

Suggested	Fill in your method, frequency, and responsible person
Method: In the DH and HC, use the competency based checklist for clinic observation for children under five and pregnant women with fever. In the VHC, this information can be found in the register or Sick Child Reporting Form. • Follow through the checklist to observe compliance to WHO, national, or facility-level guidelines • Add or edit the standards listed below as necessary • Place a check mark if "Yes" Decide as a team if you will collect data on your entire population or a sample.	
Frequency: Weekly during the assessment period.	
Responsible person: Select an improvement team member.	

Measures that will be calculated using data from this checklist	• % of children under five who are routinely assessed for cough, difficult breathing, diarrhea, fever and ear problems • # of children under five presenting with a fever who are seen by a skilled provider (clinician, nurse, or HSA at VHC) within 24 hours of fever onset									
Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Observe whether the clinician asks the guardian the duration of the child's fever (note hours)										
Correctly assess danger signs										
Assess for presence of 3 main symptoms (cough, diarrhea, fever, ear problem)										
Assess for presence of stridor (or grunting)										
Assess for presence of severe chest in drawing										
Assess for chest in drawing/subcostal retractions										

(continued on next page)

Assessment Element (place check mark if Yes)	Patient1 M/F	Patient2 M/F	Patient3 M/F	Patient4 M/F	Patient5 M/F	Patient6 M/F	Patient7 M/F	Patient8 M/F	Patient9 M/F	Patient10 M/F
Assess for lethargy, prostration, or unconsciousness. If the child is sleeping, try to wake them										
Assess for jaundice										
Assess for extreme pallor										
Assess if child is restless and irritable										
Assess for sunken eyes										
Correctly checked weight for age										
Measure patient's axillary temperature in °C										
Correctly checked immunization										
Correctly prescribes an antimalarial after a positive mRDT result										
Correctly verifies that a patient with a negative mRDT result does NOT receive an antimalarial										
Total check marks in each column	/16	/16	/16	/16	/16	/16	/16	/16	/16	/16
Note if 80% (13 of 16) or more correct (Y/N)										
Calculate Percentage for All Patients	Total number of "Y" among all patients (1) _____ Total number of patients (2) _____ Divide (1) by (2) and multiply by 100 for percentage assessed _____%									
Calculate Percentage for Females	Total number of "Y" among female patients only (1f) _____ Total number of female patients (2f) _____ Divide (1f) by (2f) and multiply by 100 for percentage of females assessed _____%									
Calculate Percentage for Males	Total number of "Y" among male patients only (1m) _____ Total number of male patients (2m) _____ Divide (1m) by (2m) and multiply by 100 for percentage of males assessed _____%									
Total from Row 1	Number of children seen <24hrs of fever onset _____									

Measures that will be calculated using data from this checklist	• % of pregnant women with fever for which an assessment is done per national guidelines									
Assessment Element (place check mark if Yes)	Patient1	Patient2	Patient3	Patient4	Patient5	Patient6	Patient7	Patient8	Patient9	Patient10
Observe whether the clinician asked for the duration of the woman's fever										
Correctly assessed for fever										
Correctly assessed for HIV testing during ANC										
Correctly assessed for cough and/or chest signs to rule out pulmonary edema										
Correctly assessed for pain when passing out urine										
Correctly assessed for the use of insecticide treated nets										
Correctly assessed for the gestation of the pregnancy										
Correctly assessed for palm pallor for anemia										
Severe cases referred										
Add check marks in each column	9	9	9	9	9	9	9	9	9	9
Note if 80% (8 of 9) or more correct (Y/N)										
Calculate Percentage for All Pregnant Women	Total number of "Y" among all pregnant women (1) _____ Total number of pregnant women (2) _____ Divide (1) by (2) and multiply by 100 for percentage assessed per national guidelines _____%									

3. Ensure cases of severe malaria are confirmed	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from the mRDT (or lab) and the OPD registers. Cross-check data from the mRDT (or lab) register and the ANC register. (OPD register does not capture malaria in pregnancy.)	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measure that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five presenting with fever for whom malaria microscopy was performed to confirm malaria infection • (2) # of children under five presenting with severe malaria	No. No.	_____ _____	_____ _____	_____ _____
• % of children under five presenting with severe malaria for whom malaria microscopy was performed	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of pregnant women presenting with fever who have a positive mRDT *Note: According to PMI and WHO guidance, a clinical diagnosis of malaria must be confirmed by a positive result on malaria test.* • (2) # of pregnant women presenting with fever	No. No.			_____ _____
• % of pregnant women with fever for whom an mRDT was performed according to national guidelines	• Calculate the percent by dividing (1) by (2)	%			_____

4. Ensure correct treatment of severe malaria

Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you will collect data on your entire population or a sample. Compile data from OPD and mRDT registers. Cross-check with pharmacy register. Compile data on pregnant women from the OPD and mRDT registers. Cross-check with pharmacy records.	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	<u>District Hospital</u> • (1) From the ward register/patient file, # of children under five with severe malaria who had parenteral antimalarial drugs administered • (2) From the ward register/patient file, # of children under five with confirmed (on the basis of smear microscopy) severe malaria	No. No.			
<u>District Hospital</u> • % of children under five with confirmed severe malaria who are administered parenteral antimalarial drugs	• Calculate the percent by dividing (1) by (2)	%			
	<u>Health Center</u> • (1) From OPD register, # of children under five with suspected severe malaria who had parenteral antimalarial drugs administered at referral • (2) From OPD register, # of children under five with suspected severe malaria	No. No.			
<u>Health Center</u> • % of children under five with suspected severe malaria who are administered parenteral antimalarial drugs	• Calculate the percent by dividing (1) by (2)	%			

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Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	<u>Village Health Clinic</u> • (1) From Village Clinic Register, # children under five with suspected severe malaria who are administered AL • (2) From Village Clinic Register, # children under five with suspected severe malaria who are administered rectal artesunate (RA) • (3) From Village Clinic Register, # of patients with suspected severe malaria at the VHC	No. No. No.	_____ _____ _____	_____ _____ _____	_____ _____ _____
<u>Village Health Clinic:</u> • % of children under five with suspected severe malaria who are administered AL • % of children under five with suspected severe malaria who are administered rectal artesunate (RA)	• Calculate the percent by dividing (1) by (3) for AL • Calculate the percent by dividing (2) by (3) for RA	% %	_____ _____	_____ _____	_____ _____
	<u>All Health Centers</u> • (1) # of pregnant women presenting with a fever and a positive mRDT who are treated with an effective antimalarial drug as per national guidelines • (2) # of pregnant women with fever and a positive mRDT	No. No.			_____ _____
<u>All Health Centers</u> • % of pregnant women with a fever and a positive mRDT who are treated with an effective anti-malaria as per national guidelines	Calculate the percent by dividing (1) by (2)	%			_____

5. Ensure correct treatment of severe illness with diarrhea and fever in children under five

If your patients with severe illness and fever are treated in a different part of the facility, proceed with collecting this indicator.

Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you are going to collect data on your entire population or a sample. Compile data from OPD and pharmacy registers, matching the names of under five children who had a fever and diagnosis of diarrheal disease and those that were prescribed a drug according to national guidelines.	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measure that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children with fever and a diagnosis of diarrhea who were treated according to national guidelines	No.	_____	_____	_____
	• (2) # of children with fever and a diagnosis of diarrhea	No.	_____	_____	_____
• % of children under five with a fever who are diagnosed with diarrheal disease who are correctly treated according to national guidelines	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____

6. Ensure correct treatment of severe acute respiratory infection in children under five	
Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you are going to collect data on your entire population or a sample. Compile data from OPD and pharmacy registers, matching the names of under five children who had a fever and diagnosis of acute respiratory infection and those that were prescribed a drug according to national guidelines.	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measure that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children with fever and an acute respiratory infection who were treated according to national guidelines	No.			
	• (2) # of children with fever and diagnosed with an acute respiratory infection	No.			
• % of children under five with fever and diagnosed with an ARI who are correctly treated according to national guidelines	• Calculate the percent by dividing (1) by (2)	%			

7. Ensure more febrile patients get well

Suggested	Fill in your method, frequency, and responsible person
Method: Decide as a team if you are going to collect data on your entire population or a sample. Record cases of severely ill patients admitted with fever from the ward register/patient records, and compare with names in discharge register. (For those with malaria, cross-check lab register to see if the case was confirmed with smear microscopy.)	
Frequency: Weekly during assessment period.	
Responsible person: Select a member of the improvement team.	

Measure that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
	• (1) # of children under five who are discharged with a confirmed diagnosis of severe malaria who got well/were discharged • (2) Total # of children under five admitted with a confirmed diagnosis of severe malaria (by smear microscopy) at the DH	No. No.	_____ _____	_____ _____	_____ _____
• % children under five with a confirmed diagnosis of severe malaria who got well/were discharged	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of children under five who are discharged with a confirmed diagnosis of severe diarrheal disease who got well/were discharged • (2) Total # of children under five admitted with a confirmed diagnosis of severe diarrhea	No. No.	_____ _____	_____ _____	_____ _____

(continued on next page)

Measures that will be calculated using these data	Register Review Please review the appropriate register in the clinic.		Female	Male	Total
• % of children under five with a confirmed diagnosis of severe diarrheal disease who got well/were discharged	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of children under five who are discharged with a confirmed diagnosis of an acute respiratory infection who got well/were discharged • (2) Total # of children under five admitted with a confirmed diagnosis of severe diarrhea	No. No.	_____ _____	_____ _____	_____ _____
• % of children under five with a confirmed diagnosis of an acute respiratory infection who got well/were discharged	• Calculate the percent by dividing (1) by (2)	%	_____	_____	_____
	• (1) # of pregnant women with a confirmed diagnosis of severe malaria who got well/were discharged • (2) # of pregnant women admitted with a confirmed diagnosis of severe malaria	No. No.			_____ _____
• % of pregnant women with a confirmed diagnosis of severe malaria who got well/were discharged	• Calculate the percent by dividing (1) by (2)	%			_____

Appendix 5. Quality Indicators Results Matrix

Indicators are numbered according to the data collection tables in each of the three assessment tools.

Facility Assessment (A1)	
Indicator	Results
1. Policies, guidelines, and standards available to staff	
2a. Numbers of trained human resources	
2b. % of eligible providers trained in the IMCI guidelines	
2b. % of eligible providers trained in the NMCP guidelines	
3. Volume of patients presenting with febrile illness	
4. Functioning QI team	
5. Effective referral system between facilities is in place	
6. Total days per month with stock-outs of essential drugs and equipment	

Uncomplicated Febrile Illness Assessment (A2)			
Indicator	Results		
1. % of children under 5 years old with fever who are seen by skilled provider within 24 hours of fever onset	F	M	Total
2. % of children under 5 who are assessed for cough, difficult breathing, diarrhea, fever, and ear problems	F	M	Total
3a. % of children under 5 presenting with fever for whom an mRDT was performed	F	M	Total
4a. % of febrile children under 5 with a positive test result who are treated with AL	F	M	Total
4a/4b. % of febrile children under 5 with a positive test result who received the first dose of AL at the facility	F	M	Total
4a/4b. % of febrile children under 5 with a positive test result who were administered AL in the correct dose-per-weight	F	M	Total
5. % of children under 5 with a fever who are diagnosed with diarrheal disease who are correctly treated according to national guidelines	F	M	Total
6. % of children under 5 with fever and diagnosed with an ARI who are correctly treated according to national guidelines	F	M	Total

Severe Febrile Illness Assessment (A3)			
Indicator	Results		
1. % of children under 5 years old with severe fever who are seen by skilled provider within 24 hours of fever onset	F	M	Total
2. % of children under 5 who are assessed for cough, difficult breathing, diarrhea, fever, and ear problems	F	M	Total
3. % children under 5 presenting with severe fever for whom malaria microscopy performed	F	M	Total
4. % of febrile children under 5 with suspected severe malaria who are administered parenteral antimalarial drugs	F	M	Total
4. % of children under 5 with suspected severe malaria who are administered AL	F	M	Total
4. % of children under 5 with suspected severe malaria who are administered rectal artesunate (RA)	F	M	Total
5. % children under 5 with a severe fever who are diagnosed with diarrheal disease who are correctly treated according to national guidelines	F	M	Total
6. % children under 5 with severe fever and diagnosed with an ARI who are correctly treated according to national guidelines	F	M	Total

Uncomplicated Febrile Illness Assessment (A2)			
Indicator	Results		
1. % pregnant women with fever who are seen by skilled provider within 24 hours of fever onset			
2. % of pregnant women with fever for whom an assessment is done according to national guidelines			
3a. % of pregnant women with fever for whom an mRDT was performed according to national guidelines			
4a. % of pregnant women with a fever and a positive mRDT who are treated with an effective anti-malarial according to national guidelines			
3b. % of patients with fever for whom an mRDT was performed according to national guidelines	F	M	Total

Severe Febrile Illness Assessment (A3)			
Indicator	Results		
7. % of children under 5 with a confirmed diagnosis of severe malaria who were discharged	F	M	Total
7. % of children under 5 with a confirmed diagnosis of severe diarrheal disease who were discharged	F	M	Total
7. % of children under 5 with a confirmed diagnosis of severe ARI who were discharged	F	M	Total
1. % pregnant women with fever who are seen by skilled provider within 24 hours of fever onset			
2. % of pregnant women with severe fever for whom an assessment is done according to national guidelines			
3. % of pregnant women with severe fever for whom an mRDT was performed according to national guidelines			
4. % of pregnant women with a severe fever and a positive mRDT who are treated with an effective anti-malarial according to national guidelines			
7. % of pregnant women with a confirmed diagnosis of severe malaria who are discharged from hospital			

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