Interpersonal Communication Skills
for differential diagnosis of fever in children under-5

Trainer Guide
for training health providers

Uganda
July, 2013
Acknowledgements

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<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>artemisinin-based combination therapy</td>
</tr>
<tr>
<td>AL</td>
<td>artemether plus lumefantrine combination</td>
</tr>
<tr>
<td>AQ</td>
<td>amodiaquine</td>
</tr>
<tr>
<td>AS</td>
<td>artesunate</td>
</tr>
<tr>
<td>CME</td>
<td>continuing medical education</td>
</tr>
<tr>
<td>DHT</td>
<td>District Health Team</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic Health Survey</td>
</tr>
<tr>
<td>HRP2</td>
<td>histidine-rich protein 2</td>
</tr>
<tr>
<td>HF</td>
<td>health facility</td>
</tr>
<tr>
<td>HP</td>
<td>health providers</td>
</tr>
<tr>
<td>IPC</td>
<td>interpersonal communication</td>
</tr>
<tr>
<td>IRS</td>
<td>indoor residual spraying</td>
</tr>
<tr>
<td>JHU CCP</td>
<td>Johns Hopkins University Center for Communications Program</td>
</tr>
<tr>
<td>LLIN</td>
<td>long lasting insecticidal net</td>
</tr>
<tr>
<td>MFP</td>
<td>Malaria Focal Person</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Government Organization</td>
</tr>
<tr>
<td>NMCP</td>
<td>National Malaria Control Program</td>
</tr>
<tr>
<td>ORS</td>
<td>oral rehydration salts</td>
</tr>
<tr>
<td>PCR</td>
<td>polymerase chain reaction</td>
</tr>
<tr>
<td>PE</td>
<td>physical exam</td>
</tr>
<tr>
<td>RDT</td>
<td>rapid diagnostic test for malaria</td>
</tr>
<tr>
<td>SMP</td>
<td>Stop Malaria Project</td>
</tr>
<tr>
<td>SP</td>
<td>sulfadoxine / pyrimethamine</td>
</tr>
<tr>
<td>S/S</td>
<td>Signs and symptoms</td>
</tr>
<tr>
<td>TOT</td>
<td>training of trainers</td>
</tr>
<tr>
<td>UHMG</td>
<td>Uganda Health Marketing Group</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>VHT</td>
<td>Village Health Team</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
Introduction

Uganda’s malaria case management policy (2010) states that all suspected malaria cases must be confirmed with microscopy or rapid diagnostic tests (RDTs) before treatment with artemisinin combination therapy (ACTs). When fevers are treated presumptively as malaria, it can lead to misdiagnosis, misuse and/or overuse of antimalarials. Although fever is one of the main symptoms of malaria, not all fevers are caused by malaria.

In order to improve accurate diagnosis of malaria, the Ministry of Health is introducing RDTs for malaria in all health centres where microscopic examination of blood smears is not available.

The purpose of this training course is to improve interpersonal communication skills between health facility providers and caregivers of children under-5 in the diagnosis and treatment of febrile illness. The aim is to improve health provider skills in identifying and managing children with fever that have and do not have malaria and promote accurate diagnosis and rational use of antimalarials, ultimately leading to improved patient outcomes and patient confidence in health services.

About this Trainer Guide

This Trainer Guide is intended to be used by National Master Trainers and District Trainers in Uganda for the purposes of training health providers at all levels of public health facilities.

Health providers is defined as health workers who currently interact and communicate with caregivers of children under-5, and who triage, assess, diagnose and/or treat children under-5 for malaria or non-malaria febrile illnesses. This includes, but is not limited to, doctors, medical officers, clinical officers, nursing officers, enrolled nurses, nurse midwives, and nursing assistants.

There are 6 sections to this Trainer Guide:

I. Test & Treat Overview—contains background information about the Test & Treat Campaign.

II. Training Overview—contains information about how to prepare for, implement, and evaluate training of health providers.

III. Technical Information for Trainers—contains background information on IPC skills and differential diagnosis of common febrile illnesses in children under-5. Trainers should read and fully understand the content of this section before training, and be able to apply the content during the trainings.

IV. Trainer Instructions—contains a step-by-step guide to deliver the training content in a systematic and consistent manner using adult training methodology.

V. Annex A—contains copies of the Health Provider Workbook the health provider will receive.

VI. Annex B—contains the Trainer Materials the trainer will use to deliver and evaluate the training such as forms and answer keys to activities.

This Trainer Guide should be used in conjunction with the Job Aid for Children with Fever.
Section I

Test & Treat Overview
TEST & TREAT CAMPAIGN

Malaria continues to be one of the highest causes of mortality and morbidity among children aged five and below in Uganda. To address the problem, government efforts were previously aimed at educating the public that all fevers should be presumptively diagnosed as malaria and treated with anti-malarial medication. In June 2011 the MOH implemented a new National Malaria Control Policy (NMCP):

Policy Statement¹

Parasite-based diagnosis with microscopy or rapid diagnostic tests (RDTs) shall be part of malaria case management in all health facilities and at the community level

(i) Suspected malaria cases will be subjected to parasite-based diagnosis.

(ii) Microscopy remains the "reference or gold standard" for malaria diagnosis in case management and shall be the diagnostic method at all health facilities from level III and above.

(iii) RDTs will be used at HC II and community levels and to fill the gaps at higher level health centres whenever microscopy is not possible.

(iv) The type of RDTs to be deployed in the country will be guided by evidence on sensitivity, specificity, ease of use and stability in the field, as determined by the performance evaluation and pre-qualification schemes of the WHO coupled with in-country testing.

Despite this policy change, many children are still getting anti-malarial medicines without confirmation of malaria. The 2011 Demographic Health Survey (DHS) showed that only 25% of children with fever get tested for malaria, while 46% receive an anti-malarial.

New evidence has revealed that malaria may not be as prevalent as it used to be due to the many prevention efforts, including: indoor residual spraying (IRS), intermittent preventive treatment during pregnancy (IPTp) and increased promotion of long lasting insecticide treated mosquito nets (LLIN).

There is an urgent need to implement the new government policy to test all fever cases for malaria, rather than treating all fevers as malaria. This policy change requires strategic communication efforts to redirect perceptions and responses to fevers among service providers and caregivers of children aged five and below. NMCP and its partners are working to educate the public and health providers about the new test before treatment policy.

The Test & Treat Campaign will emphasize the necessity of testing for malaria before treating. The Stop Malaria Project (SMP) will be implementing the campaign in 18 central region districts of Uganda on behalf of the NMCP. The aim of the campaign is to build trust in malaria test results among clients and public health providers; increase the proportion of clients with a fever who are treated appropriately; and encourage community members to get their children under five years of age to be tested for malaria before treating.

The campaign will consist of a mass media component, training of public and private health providers to improve interpersonal communication (IPC) skills and orientation of district leadership and Village Health Teams (VHT) to the new policy and messages.

¹ Uganda National Malaria Control Policy. MOH NMCP. June 2011.
Section II

Training Overview
TRAINING of HEALTH PROVIDERS

The training of health providers is two days. Each day of the training is expected to last 7.5 to 8 hours long (including two 15 minute tea breaks and a 1 hour lunch). Daily ending times will be dependent on the time the health providers arrive in the morning and return back from breaks. It is important to complete the entire content of the training; therefore starting on time should be strongly encouraged.

A Training Attendance Register will be used to record the names and cadres of health providers attending training... Health providers who fully attend all sessions will receive a Certificate of Attendance at the end of the training. A sample register can be found on page 102.

Training Cascade

Training will follow a cascade system:

<table>
<thead>
<tr>
<th>Event</th>
<th>Duration</th>
<th>Number of Training Events</th>
<th>Trainers</th>
<th>Audience</th>
<th>Total Numbers Trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT for Master Trainers</td>
<td>2.5 days</td>
<td>1</td>
<td>SMP and MC Master Trainers</td>
<td>National Trainers</td>
<td>10</td>
</tr>
<tr>
<td>TOT for District Trainers</td>
<td>2.5 days</td>
<td>3</td>
<td>5 National Trainers per TOT</td>
<td>District Health Supervisors and Malaria Focal Persons responsible for supervising health facility staff at HC II, III, IV and regional hospitals</td>
<td>72 4 per district from 18 districts</td>
</tr>
<tr>
<td>Health Provider Training</td>
<td>2 days</td>
<td>14</td>
<td>1 National Trainer and 2 District Trainers Per training</td>
<td>15 per training workshop Doctors, clinical officers, enrolled nurses, registered nurses, midwives, and comprehensive nurses working in HCII, III, IV and regional hospitals</td>
<td>220 2 health providers per HClI and III health facilities 4 health providers per HClIV and regional hospitals</td>
</tr>
<tr>
<td>Support Supervision Visits</td>
<td>1 visit per month</td>
<td>3 visits per health facility</td>
<td>1st supervision visit will be conducted by the National Trainer and District Trainer together. 2nd and 3rd visit will be conducted by the District Trainer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Trainer Responsibilities

- Attend and participate fully during the ToT.
- Prepare for all health provider trainings in advance.
- Ensure the correct quantity of all of the training resources and materials are available throughout the training.
- Follow the steps in the *Trainer Guide* correctly and deliver the content using adult learning and participatory facilitation skills.
- Give the health providers correct information and verify the health providers understand the content.
- Use the *Job Aid for Children with Fever* as a teaching tool and show the health providers how to use it with caregivers and patients.
- Manage the time during training by starting and ending on time and completing all the training activities outlined in the *Trainer Guide*.
- Keep the health providers attentive, involved, and engaged during training.
- Give clear instructions for training activities.
- Give health providers feedback on their performance using the *Competency Checklist*.
- Implement the Pre- and Post-tests and evaluate each training.
- Complete a training report after each training and submit it to SMP.

Health Providers Participating in the Training

The following health providers will be selected to participate in the training:

- Any health provider who currently performs assessment, diagnosis and treatment of febrile illness in children under-5.
- Any health provider responsible for interpreting the results of a malaria test (RDT or microscopy) and communicating the results to patients and/or caregivers.
- Any health provider responsible for prescribing treatment to children under-5 based on malaria test results.
- Any health provider responsible for communicating treatment information and advice to caregivers of children under-5 with fever.
Learning Objectives

At the completion of this training, health providers will be able to:

- Apply interpersonal communication skills with patients and caregivers of children under-5 with fever:
  - when conducting a medical history and physical exam
  - when communicating the need for malaria testing
  - when communicating malaria test results and diagnosis of the cause of fever
  - when explaining treatment recommendations for positive malaria test results
  - when explaining negative malaria test results and adherence to test results
  - when explaining treatment recommendations for non-malaria febrile illness
  - when communicating instructions for the management of fever

- Use the Job Aid for Children with Fever to communicate accurate information and counsel patients and caregivers of children under five with fever.

- Explain the rationale of the NMCP policy to test all fever cases for malaria before treating malaria or other febrile illnesses.

- Demonstrate trust in malaria test results by only treating malaria based on positive test results rather than presumptive diagnosis.

- Explain the implications of non-adherence to negative malaria tests.

- Identify signs and symptoms of common febrile illnesses in children under-5 in Uganda.

- Interpret malaria test results.

- Diagnose other causes of fever in children under-5 when malaria tests are negative and follow the treatment recommendations from the Uganda Clinical Guidelines 2012: National Guidelines for Management of Common Conditions.
Health Provider Training Timetable

The training of health providers is two days. Each day of the training is expected to last **7.5 hours** (including two 15-minute tea breaks and a 1 hour lunch). Daily ending times will be dependent on the time the health providers arrive in the morning and back from breaks. It is important to complete the entire content of the training; therefore starting on time should be strongly encouraged.

**Day One**

<table>
<thead>
<tr>
<th>Time</th>
<th>8:30 to 10:00</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module 1—Introduction to Test &amp; Treat Training</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Pre-Test (20 min)</td>
</tr>
<tr>
<td>1.2</td>
<td>Introduction to Training (45 min)</td>
</tr>
<tr>
<td>1.3</td>
<td>Introduction to Test &amp; Treat Campaign (20 min)</td>
</tr>
<tr>
<td>10:00 to 10:15</td>
<td>Morning Tea Break (15 min)</td>
</tr>
<tr>
<td>10:15 to 13:00</td>
<td></td>
</tr>
<tr>
<td><strong>Module 2—Interpersonal Communication Skills</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Review of IPC Skills (45 min)</td>
</tr>
<tr>
<td>2.2</td>
<td>IPC Skills Practice (40 min)</td>
</tr>
<tr>
<td>2.3</td>
<td>Introduction to the <em>Job Aid for Children with Fever</em> (10 min)</td>
</tr>
<tr>
<td><strong>Module 3—IPC during the Assessment of a Child with Fever</strong></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Morbidity and Mortality of Children in Uganda (30 min)</td>
</tr>
<tr>
<td>3.2</td>
<td>Common Signs and Symptoms of Febrile Illnesses in Children Under-5 (40 min)</td>
</tr>
<tr>
<td>13:00 to 14:00</td>
<td>Lunch (60 min)</td>
</tr>
<tr>
<td>14:00 to 16:00</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Medical History and Physical Exam Process Review (90 min)</td>
</tr>
<tr>
<td>3.4</td>
<td>Practice using IPC Skills when Taking a History and Examining a Child with Fever (30 min)</td>
</tr>
<tr>
<td>16:00 to 16:15</td>
<td>Afternoon Tea Break (15 min)</td>
</tr>
<tr>
<td>16:15 to 17:00</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Practice using IPC Skills when Taking a History and Examining a Child with Fever (cont. 30 min)</td>
</tr>
<tr>
<td>3.5</td>
<td>Close Day 1 (10 min)</td>
</tr>
</tbody>
</table>
### Day Two

<table>
<thead>
<tr>
<th>Time</th>
<th>Day 2</th>
</tr>
</thead>
</table>
| **Module 4—Laboratory Diagnosis of Malaria** | Recap from previous day (10 min)  
4.1 Rationale for Testing before Treating Malaria (50 min)  
4.2 Accuracy and Reliability of Malaria Tests (60 min) |
| 8:30 to 10:30    | Morning Tea Break (15 min)                                           |
| 10:30 to 10:45   | **Module 5—IPC Skills to Communicate Malaria Testing and Treatment Recommendations**  
5.1 Communicating the Need for Malaria Testing, Positive Malaria Test Results and Treatment Recommendations (45 min)  
5.2 Overcoming Challenges to Communicating Negative Malaria Test Results (45 min)  
5.3 Communicating the Need for Malaria Testing, Negative Malaria Test Results, Adherence to Test Results and Treatment of Non-Malaria Fevers (45 min) |
| 10:45 to 13:15   | Lunch (60 min)                                                       |
| 13:15 to 14:15   | **Module 6—Putting it All Together & Close of Training**          |
| 14:15 to 16:45   | 6.1 Health Provider Competency Skills Assessment (90 min)  
6.2 Review Game (20 min)  
6.3 Post-Test (20 min)  
6.4 Close of Training—Evaluation and Certificates (20 min) |
| 16:45 to 17:00   | Afternoon Tea Break (15 min)                                         |
Preparing for Training Checklist

Successful training begins with thorough preparation. It is important for trainers take the time to plan each training. Before conducting the training it is important to read through this Trainer Guide one or more times to know the content and to be familiar with the flow. Review the learning objectives. Rehearse how you will deliver each of the participatory activities.

The following checklist will help to prepare you for the health provider training:

- Read and understand the content of this Trainer Guide.
- Prepare a list of health providers expected to participate in the training.
- Secure a location to deliver the training.
  - Select a training space in the community with room for a total of 20 to 25 health providers.
  - Secure enough chairs and tables.
- Invite the health providers to the training.
- Obtain per diems for each day of training.
- Practice role plays, demonstrations, and other activities which are new for you.
- Prepare all the needed materials and resources to conduct all the activities in each module.

Training Materials needed for each Health Provider Training

The following is a list of training resources National and District Trainers will need to train for each health provider training:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trainer Guide</td>
<td>1 per trainer</td>
</tr>
<tr>
<td>2. Job Aid for Children with Fever</td>
<td>1 per Trainer and 1 per HP</td>
</tr>
<tr>
<td>3. Health Provider Training Workbook</td>
<td>1 per HP</td>
</tr>
<tr>
<td>4. Pre-Test and Post-Test</td>
<td>1 per HP</td>
</tr>
<tr>
<td>5. Common Signs and Symptoms and Treatment of Childhood Febrile Illness handout</td>
<td>1 per HP</td>
</tr>
<tr>
<td>6. Training Attendance Register</td>
<td>1 per HP training</td>
</tr>
<tr>
<td>7. Certificates of Attendance</td>
<td>1 per HP</td>
</tr>
<tr>
<td>8. Pre- and Post-Test Score Tracking Sheet</td>
<td>1 per HP training</td>
</tr>
<tr>
<td>9. Trainer Report</td>
<td>1 per HP training</td>
</tr>
<tr>
<td>10. Flipchart paper</td>
<td>1 ream per HP training</td>
</tr>
<tr>
<td>11. Marking pens</td>
<td>20 markers per training</td>
</tr>
<tr>
<td>12. Notebooks for training</td>
<td>1 per HP</td>
</tr>
<tr>
<td>13. Pens</td>
<td>1 per HP</td>
</tr>
</tbody>
</table>
First Day of Training Checklist

- Ensure you have 1 copy of the Pre-Test for each health provider.
- Arrive to the training session at least 30 minutes early to set up the training room and organize materials.
- Ensure the training venue is clean and the seating arrangement is suitable for small group discussion.
- Greet the health providers as they arrive and ask them to sign the Attendance Register.
- Ask if everyone can hear you.
- Review the Pre-Test responses to assess the health providers’ current knowledge about the topics to be trained.
- Determine what expectations the health providers have for the training.
- Provide information about logistics of training.
- Give clear explanations on the training content.
- Establish ground rules the health providers will agree to.
- Follow the steps in the Trainer Guide and adjust activities to fit the needs of the health providers.
- Create a learning environment where health providers can learn from each other, feel comfortable to share ideas, and can freely ask questions.
- Involve all health providers and encourage participation.
- Answer questions, explain and clarify in language the health providers understand.
- Explain instructions clearly.
- Ensure health providers are actively engaged in activities rather than passive recipients of information.
- Facilitate group discussions, demonstrations, and provide role play practice.
- Monitor the progress of each health provider throughout the training.
- Use energizers when needed.
- Start and end sessions on time.
EVALUATION of TRAINING

Pre-and Post-Tests

Pre- and Post-Tests are used to assess the level of knowledge gained by the health providers participating in the training, not skills. They can also be used as a needs assessment to assess the existing knowledge of health providers and where gaps exist. A good trainer will adjust the length of time spent on key content based on how much or how little the majority of participants know. A good trainer will also utilize participants with high Pre-Test scores to help mentor those with low scores. Seating arrangements and small group activities can be adjusted to ensure strong participants are included in each small group.

The Pre-Test is a set of questions given to the health providers before the training begins in order to determine their existing knowledge level of the course content. After completion of the course, health providers will be given a Post-test with the same set of questions in a different order. The test questions will ask about information to be covered during the training; therefore it is important to follow the Trainer Guide to ensure all the key content is covered. Both tests should take approximately 15 minutes to complete.

Comparing the Post-test scores to the Pre-Test scores will help trainers and stakeholders to determine whether the training was successful in increasing participants’ knowledge of the training content. The tests will also be used to determine where knowledge gaps exist before and after training.

Instructions for Administering Pre- and Post-Tests

- Ensure you have enough copies of both test to give to each health provider.
- Administer the Pre-Test before beginning Module 1. Ask the health providers to put their name, title, and date on the top of each page of the test.
- Remind the health providers to select the best answer; there is only one correct answer.
- Ask the co-facilitator(s) to score each Pre-Test beginning Module 2. Use the Pre-Test answer key that found on page 98.
- Identify the knowledge gaps and strengths for each individual health provider, each cadre group and the average for all participants. A key to identify gap areas is provided at the end of the Pre-Test answer key.
- Adjust the training to spend more time on topics where most participants have knowledge gaps.
- Record the Pre-Test scores and gap areas on the Test Score Tracking Sheet found on page 109.
- Administer the Post-Test at the end of Module 7, before the Training Evaluation and Certificates of Completion.
- Score the Post-Test using the answer key that can be found on page 104.
- Record the Post-Test scores and gap areas on the Test Score Tracking Sheet.
• Identify where gaps still remain and use this information to recommend future continued medical education (CME) courses for the various health provider cadres.
• Compare the individual Pre- and Post-Test scores for each health provider and calculate the percentage improvement on the Test Score Tracking Sheet.
• Record the average per cent improvement and the recommended CMEs on the Training Report found on page 113.
• Submit all the completed tests and the Test Score Tracking Sheet with the Training Report.

Competency-Based Performance Assessment

Competencies are a written set of knowledge, skills, abilities, and attitudes that help define a standard level of job performance and to differentiate superior performance from average performance under specified circumstances.

Competencies help to:

• Define the essential functions of a role or job.
• Identify the behaviours required to be successful in a job so that health providers and their supervisors are aware of what is expected of them.
• Identify areas of strengths and those that need improvement over time.
• Observe for behaviours which can be used to give objective feedback though dialogue.
• Drive performance improvement of an organization or the health care system.

A Competency-based Performance Assessment is used to evaluate the level of behaviour change among the health providers who attended the training and to determine if they apply what they learned at the health facility. It is used to determine how many health providers are performing at a desired level of performance in order to create the desired impact.

A Competency-based Performance Assessment is also conducted regularly by supervisors during a support supervision visit using a list of desired core competencies that describe the behaviours that are expected of the health providers. Supervisors score the overall areas of performance and then provide positive reinforcement for desired performance and coaching and mentoring for areas that need improvement. A support supervision report should include the outcome of the performance assessment.

Core Competencies for IPC and Differential Diagnosis of Fever

The Core Competencies for IPC and Differential Diagnosis of Fever is a list of observable skills and behaviours used to assess the health provider’s ability at using interpersonal communication skills during patient assessment, diagnosis and treatment of children under-5 with fever. It will be used by both the health providers and trainers during the training to define competence and expected performance. It will also be used during the practice

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sessions to assess the performance improvement and to give feedback. It can be found on page 82.

*Core Competencies for IPC and Differential Diagnosis of Fever* will also be used by supervisors during support supervision visits. For this purpose, it will be used to assess how well health providers apply the skills they learned during training and how much they improve with practice over 3 supervision visits. Along with the training Pre- and Post-Test scores this competency list will serve to evaluate areas of strengths and weakness among health providers and to recommend additional CME courses.

The *Core Competencies for IPC and Differential Diagnosis of Fever* is divided into Domains, Core Competencies and Behaviours.

1. A **domain** is an area of performance. For the purposes of this training there are 3 domains: **Patient Assessment, Diagnosis and Treatment**.

2. A **core competency** describes the broad knowledge, skills and attitudes required to perform each domain. There are 10 core competencies for IPC and differential diagnosis of fever in children.

3. **Behaviours** describe the specific knowledge, skills and attitudes that can be demonstrated and observed by others to determine whether the core competency is performed.

How well each competency is performed is defined by **levels of proficiency**. Proficiency levels are differentiated by:

- The extent of knowledge and experience.
- The frequency the competency is applied well.
- The amount of assistance and coaching required for improvement.
- The ability to perform the competency independently and with confidence.

<table>
<thead>
<tr>
<th>Proficiency Level</th>
<th>Description of Performance Level</th>
<th>Rating</th>
</tr>
</thead>
</table>
| **Advanced**      | • Is very knowledgeable about the topic  
|                    | • Has repeated experience with this core competency.  
|                    | • Can demonstrate this competency very well.  
|                    | • Is capable of demonstrating almost all of the behaviours for this competency without assistance.  
|                    | • May serve as a role model or mentor for peers on this competency.  
|                    | • May need some coaching and support for difficult or unique situations. | 3 |
| **Satisfactory**  | • Is knowledgeable about the topic.  
|                    | • Has moderate experience with this core competency.  
|                    | • Can demonstrate this competency satisfactorily.  
|                    | • Is capable of demonstrating most of the behaviours for this competency without assistance.  
|                    | • Needs coaching in order to improve and demonstrate the advanced aspects or behaviors associated with this competency. | 2 |
| **Unsatisfactory**| • Has limited to very limited knowledge about the topic.  
|                    | • Has limited experience with this core competency. | 1 |
Final Evaluation

The Final Evaluation Form should be implemented anonymously. Review the health provider’s responses to the Final Evaluation Form and summarise the responses in the Final Evaluation Summary Template found on page 110. Attach the summary to the Training Report.

Certificates of Attendance

Certificates of Attendance will be awarded on the last day of training to health providers who attend all of the training. It is important to communicate this expectation to the health providers at the beginning of the training. A sample of the certificate can be found on page 102.

Ensure all the blank certificates have been signed by the required authorities.

Review the Training Attendance Register on the last day of training. Only health providers who have attended the full 2 days of training will receive a certificate. Complete the certificate by writing the health provider’s full name. Fill in the dates of the training and the location the training was conducted.

Training Report

The Training Report is used to communicate information to stakeholders such as the NMCP and SMP about how the health provider trainings were delivered, how they were received, their impact, and any additional observations and recommendations. The training reports will be used to help analyse whether the Test & Treat Campaign objectives were met, lessons learned and recommendations. The template of the health provider Training Report can be found on page 113.
## ADULT LEARNING TECHNIQUES

### Adult Learning Principles

Adults learn best when they:
- Can contribute what they know and share their experiences with others in the training room.
- Know how the training will help them be better at a skill or their job.
- Feel valued and recognized for their contributions.
- Can apply what they learn as soon as possible.
- Can link new information to something they already know.

Adults prefer learning to be active rather than passively sitting and listening to the trainer. Trainers should use a variety of learning styles (auditory, visual, and kinesthetic) and training techniques to keep their learners engaged.

### Brainstorming

Brainstorming generates ideas from a group and stimulates creative thinking. The trainer poses a question and allows participants to call out answers. All ideas from the group should be recorded. Trainers need to be careful not to criticize or judge participants’ contributions.

### Case Studies

A case study is a written description of a hypothetical or imaginary situation that is used for analysis and discussion. It is a detailed account of a real or hypothetical occurrence (or series of related events involving a problem) that participants might encounter in real life. It is analysed and discussed. Participants are often asked to arrive at a plan of action to solve the problem.

### Demonstration

A demonstration shows the skills needed to successfully perform a particular task or technique. The trainer or a participant demonstrates the task, describing each step and explaining the skills needed and the reasons for performing it in a particular way. It is often followed by a practice session where the participants perform the activity under the supervision of the trainer. Before you conduct a demonstration, arrange the necessary equipment and practice the skill. Allow sufficient time for participants to practice in pairs or in small groups. Simulated scenarios help participants practice how they would respond in real life. Participants respond to a simulated scenario without prior notice of what the situation will be.

### Dividing Participants into Small Groups

Break them into small groups in order to get participants involved in activities and discussions. This allows for physical activity, gets participants engaged and allows them to socialize with different groups of participants. You can divide the groups by counting, or by distributing different coloured objects such as bottle caps or strips of paper with group names. It is usually a good idea to assign a group leader to lead the group through the activity, take notes and report the group’s responses to the larger group.

### Drama

A drama differs from a role-play in that time is given to participants to develop a script and practice before presenting to the larger group. Dramas are useful activities for communicating values, lifestyles and attitudes.

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| **Energizers** | Energizers are designed to boost energy in a group of participants who have been sitting and listening for a long period of time. Energizers are short, a few minutes in length, and should include physical activity, laughter and diversion. Participants should stand up and move around during an energizer. As a general rule, energizers should be chosen with sensitivity to the cultural, gender and religious norms of the group. |
| **Flip charting** | Flipcharts provide an easy visual aid to capture words or pictures. When preparing flipcharts it is important to write clearly with large letters. Use blue or black marking pens (avoid using red as it is difficult to see). Use symbols, pictures and diagrams as much as possible. When reading a flipchart make sure it is visible, do not stand in front of the chart. |
| **Guided Discussion** | A guided discussion is designed to initiate and focus debates or to emphasize key learning points. Guided discussions can be conducted either in large or small groups. Trainers need to manage these discussions carefully, to ensure that time is not wasted on irrelevant points and that the discussion is not dominated by the more vocal participants. It is important to allow all participants to express opinions. |
| **Establishing Ground Rules** | Establishing ground rules at the beginning of a training session is essential for keeping the training running smoothly. Ground rules are easier to enforce if they are suggested by the participants. Explain the purpose of the ground rules and ask them to suggest their own. Write the participants’ suggestions on a flipchart paper and then ask the plenary to agree to them. Post ground rules in the room. If needed, use the ground rules as a reminder if the rules are broken. For example you can say, “We all agreed to follow these rules, do we need to re-address these and make changes?” |
| **Icebreakers** | Icebreakers are intended to do just what they say, “break the ice.” Icebreakers are designed to get all the participants to share and get to know each other better. Icebreakers are all about the participants. The trainer’s role is simply to facilitate the process. Trainers can introduce themselves and their credentials before the icebreaker. Because participants need to be socialized slowly, an icebreaker should get 2 to 6 people talking to each other first. The last thing you want to do is to ask people to stand and introduce themselves to a large group of people. Not only does this take too much time, it also creates stress and defeats the purpose of reducing tension. |
| **Linking and Chunking** | Learning is the process of taking new information in your working or short-term memory and integrating it with existing knowledge in your long-term memory. Once information is in the long-term memory you can recall it. Health providers like all adults, learn new information and skills by repetition and practice. Studies have shown that adults need to hear information or repeat a skill at least six times in order to be able to remember it. As a learner participates in a training course, what they see and hear enters their working memory where it is temporarily stored. The brain actively processes the new information and integrates it with what is already known and stored in the permanent long-term memory. This is called linking. Most adults can only hold and process so much data in their short-term or working memory. If you load it with too much information, then there’s no room to process it, which makes it more difficult to recall the information later on. This is called cognitive... |
section II: training overview

| overload. | One way to avoid cognitive overload is to organize training into small chunks or bits of information. This is called chunking. One way to do chunking is to allow time for the learner to practice or role play the information with activities that involve real-world scenarios. Case studies and practice exercises are good ways to apply new information into a workplace scenario which can be recalled after training. |

| Opener | Health providers such as clinical doctors, nurses, midwives, and pharmacists come into a training workshop with their brains full of things going on in their lives and work. They are distracted with work and personal responsibilities. They may view training as an interruption or a welcome time away from work to relax and not be engaged in training. An introduction to training is also called an opener. The aim of an opener is to get the training participants’ attention and to focus them on what they are about to learn during the training. Openers generally serve to reduce tension, build relationships, and introduce the health providers to the content of the training workshop. The opener also serves as informal needs assessment to help the trainer assess the “temperature” of the audience and determine their existing knowledge level is about the topics that will be covered during training. An opener can alert the trainer to which participants like to lead, which ones are quiet, and which ones like to talk. It is important for trainers to display enthusiasm about the goals and objectives of training. Explain why it is important for the health providers to come to the training each day and what they have to gain from learning what you are going to train. |

| Plenary | A plenary is when the entire group comes together to share ideas. As a trainer it will be important to gain participation from as many participants as possible. One of the easiest ways to get people involved is by asking for a show of hands if they agree or disagree. You can ask them to stand, stamp their feet, or walk to either side of the room. Another way to get participants involved is to ask questions, and to encourage them to ask their own questions or to make comments in return. The group will look to you for guidance and instructions. Be prepared to give clear instructions, and to ask for feedback about how well you are doing. |

| Presentations | A presentation or lecture can provide information, theories or principles quickly and easily. Presentations can range from a lecture to some participant involvement through questions and discussion. Whenever possible, ask the participants questions to encourage participation and focus their attention. |

| Time Management | Managing time during training is a challenge when conducting interactive and participative training of adults. Many trainers are reluctant to end group discussions, but in order to complete all the content of training agenda, it is critical to apply good time management techniques during training. Some strategies that have proven to work include: starting on time at the beginning of each day and after breaks and lunch; establishing ground rules that support starting on time; assigning a time keeper to notify participants when time is up; rewarding participants for being on time with praise or prizes; communicating information concisely and succinctly (avoid repetition during lecture); control the number of participant questions by stating how many questions will be allowed before moving to the next activity; explaining how much time is allowed |
### Reflective Learning
Reflective learning is a process in which the learner is asked to reflect on a particular experience and draw meaning from the experience. This process helps the learner to gain insight and understanding about themselves, their peer participants, their community, and their environment.

### Review
Reviewing content reinforces important information and helps Participants remember information and skills. Reviewing also helps the trainer to evaluate how well Participants understand the material. To have fun and excitement with the learning process, consider using games to review content that you want the participants to remember.

### Role-Play
Role-playing allows participants to act out situations that they might encounter in real life. It helps participants to practice skills, solve problems and gain insights into attitudes, values and perception held by others. Role-plays are often improvised with instructions, guidelines, and roles provided by the trainer. If possible, a few props are recommended such as a clipboard, uniform, or name tag in order to help establish the scene. It is a good idea to debrief after a role-play and reflect on the experience.

### Visual Aids
Visual aids are important for communicating concepts and diagrams. Most participants are visual learners. Pictures or drawings are helpful for audiences with limited literacy. Visual aids provide colour and help with memory retention. There are many kinds of visual aids that can be used in a training setting. Some examples of easy to use visual aids are flipchart paper with colour markers.
Section III

Technical Information for Trainers
GLOSSARY

Adherence
The extent to which a patient's behaviour corresponds with the recommendations of a healthcare provider.

Antigen
A substance that stimulates the production of an antibody when introduced into the body. Antigens include toxins, bacteria, viruses, enzymes, proteins and other foreign substances.

Antibody
Proteins found in the blood or lymph that act as an immune defence against foreign agents (antigens). Each antibody has a region that binds specifically to a particular antigen which it neutralizes.

Artemisinin-based combination therapy
A combination of artemisinin or one of its derivatives with an antimalarial or antimalarials of a different class.

Axillary
Of or relating to the armpit.

Buffer
A buffer is a solution containing either a weak acid and its salt or a weak base and its salt, which is resistant to changes in pH. The buffer for the malaria RDT acts as the lysing agent, causing the red blood cells to rupture and release parasite antigens (if present). Its other function is to flush the blood products along the strip.

Competence
The acquisition of knowledge, skills and abilities at a level of expertise sufficient to be able to perform in an appropriate work setting. It is important that this is a measurable standard.

Core competencies
An integrated set of knowledge, skills, abilities, and attitudes that help define a specific level of performance to a specific standard for specified circumstances. Competencies help to define the essential functions of a role or job and identify the behaviours required to be successful in a job.

Cure of malaria
Elimination of the symptoms and asexual blood stages of the malaria parasite that caused the patient or caregiver to seek treatment.

Diagnosis
The whole process of establishing the cause of a syndrome (for example a febrile episode), including clinical assessment and diagnostic tests.

Diagnostic performance
Level of capacity of a test to confirm or exclude a disease; it is a combination of the sensitivity and the specificity of a test.

Differential diagnosis
A review of the patient’s medical history, signs and symptoms, laboratory test results to determine the cause of illness in comparison to illnesses with similar symptoms.

Differential diagnosis of fever

Fever is a common symptom and not all fever is malaria. To confirm if a patient is suffering from malaria, the presence of malaria parasites must be demonstrated in the blood.

Drug resistance

The World Health Organization (WHO) defines resistance to antimalarials as the ability of a parasite strain to survive and/or to multiply despite the administration and absorption of a medicine given in doses equal to or higher than those usually recommended but within the tolerance of the subject, provided drug exposure at the site of action is adequate.

Fever

Elevated body temperature in response to an inflammatory process. Axillary (under the arm) temperature is above or equal to 37.5°C and/or the patient or caregiver describes history of body hotness.

Immunity

The ability of a person to resist a particular infection by the action of specific antibodies or sensitized white blood cells. With malaria, immunity increases with each episode of the disease. Children are more likely to suffer a severe episode of malaria, as they have little ability to resist the parasite.

Interpersonal communication

Face-to-face, two-way communication between two or more people. It includes verbal or non-verbal exchange of information or feelings. In the health care setting it is the dialogue that occurs between the health provider and the patient and/or caregiver during the history, physical exam, explanation of diagnostic tests that will be conducted, explanation of diagnostic test results, the rationale for the prescribed treatment and additional patient counselling.

Invalid test

A RDT result is considered invalid if the control line doesn’t appear after the test has run. The control line only gives information on the condition of the antibody-dye conjugate, but does not confirm the ability to detect parasite antigen.

Lysis

The disintegration or rupture of the cell membrane (in this case of the red blood cell), resulting in the release of cell contents.

Malaria risk

Individuals or groups of individuals that are more likely to suffer from a malaria episode if they contract the disease.

Monotherapy

Antimalarial treatment with a single medicine.

Papule

A solid elevation of skin with no visible fluid.

Parasitological test

For the purpose of this manual, a Rapid Diagnostic Test (RDT) for malaria or a microscopic examination of a blood slide (thin or thick smear) for malaria parasites.

Parenteral

The route by which a drug is administered other than through the digestive tract, normally by injection.

Plasmodium

A genus of protozoan vertebrate blood parasites that includes the causal agents of malaria. *Plasmodium falciparum, P. malariae, P. ovale* and *P. vivax* cause malaria in humans. Human infections with the monkey malaria parasite, *P. knowlesi* have also been reported from forested regions of Southeast Asia.
Prodromal symptoms

A prodrome is an early symptom, or set of symptoms, that might indicate the start of a disease before specific symptoms occur.

Rapid diagnostic test

An antigen-based stick, cassette or card test for malaria in which a coloured line indicates that plasmodia antigens have been detected.

Sensitivity

Sensitivity for diagnostics is the proportion of patients with the disease who have a positive result using the test under evaluation. Sensitivity is between 0% (bad performance) and 100% (optimal performance). Therefore, if an RDT has 97% sensitivity, this means that out of 100 patients with true malaria, the test will correctly identify 97 as positive for malaria. Three patients with true malaria will be missed.

Specificity

Specificity for diagnostics is the proportion of patients without the disease who have a negative result using the test under evaluation. Specificity is between 0% (bad performance) and 100% (optimal performance). Therefore, if a RDT has 95% specificity, the test will correctly identify 95 patients as negative for malaria. Five patients who do not have malaria will be incorrectly diagnosed as positive for malaria (false positive).

Triage

Determining the priority of patients’ treatments/transport based on the severity of their condition compared to the benefits of receiving that care.

Universal access

For malaria diagnostics: all sick persons fulfilling the definition of a suspected malaria case have access to a reliable malaria test, provided by a trained health worker at health facility or community level.

Vesicle

A fluid-containing elevation of the skin.
FEBRILE ILLNESSES in CHILDREN IN UGANDA

Fever is a common and important sign of illness. In Uganda and other parts of Africa, a patient with fever is often assumed to have malaria, but although malaria is very common, not all fevers are caused by malaria. Malaria is more common in some areas, and less common in others. There can also be considerable overlap of signs and symptoms between malaria and other febrile illnesses and the possibility of having two illnesses should not be ruled out.

Patients with malaria should always be treated promptly with antimalarial drugs, while those without malaria should be given the correct treatment for their illness. However, if we give antimalarial drugs to patients who do not have malaria parasites in their blood, we have failed to give them the correct treatment. If all patients with fever are given antimalarial drugs, many will not receive the correct treatment for their illness. This practice wastes medicines, increases the potential for drug stock-outs, raises health care costs and erodes patient confidence in the health services. Therefore, better health care can be provided if the cause of fever can be confirmed and treated appropriately.

In 2011, 131,000 children in Uganda did not reach their 5th birthdays putting Uganda on the list of countries with the highest burdens of child mortality. Pneumonia is the single largest cause of death among children in Uganda, causing an estimated 22,000 (18%) under-5 deaths and around 2 million episodes of sickness every year at an enormous cost to children and families.

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5 The Pneumonia and Diarrhea Working Group is chaired by UNICEF and the Clinton Health Access Initiative and supports the ten countries with the highest burdens of child mortality to implement Essential Medicines Scale-Up Plans to increase access to pneumonia, diarrhea and malaria treatment. The Projects are consistent with the Declaration on Scaling Up Treatment of Diarrhea and Pneumonia in the Highest Burden Countries endorsed at the Child Survival: Call to Action in 2012 and the pneumonia-related recommendations of the UN Commission on Life-Saving Commodities for Women and Children and are in support of the United Nations Secretary-General’s Every Woman, Every Child movement.

RATIONALE for TESTING for MALARIA BEFORE TREATING

In order to control malaria and reduce childhood mortality, it is important to give prompt and effective antimalarial treatment to any patient who truly has malaria. A major challenge to diagnosis of malaria is that it typically presents with non-specific symptoms similar to other common febrile illnesses. In sub-Saharan Africa most fevers are not due to malaria, and a significant proportion of mortality is from other causes. Additionally, new evidence has revealed that malaria may not be as prevalent as it used to be due to the many prevention efforts, including: indoor residual spraying (IRS), intermittent preventive treatment during pregnancy (IPTp) and increased promotion of long lasting insecticide treated mosquito nets (LLIN).

Therefore, in 2010, in line with World Health Organization (WHO) recommendations, Uganda’s malaria case management policy was revised to include prompt parasitological confirmation by microscopy or alternatively by RDTs in all patients suspected of malaria before treatment is started. Treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible.

Consequences of Treating Malaria Based on a Presumptive Diagnosis

If we give antimalarial drugs to patients who do not have malaria parasites in their blood, we have failed to give them the correct treatment. The burden of misdiagnosis of fever in Uganda is significant; 83% of sick children are treated presumptively for malaria instead of for the actual cause of their fevers (UMIS 2009).

The consequences of treating patients based on a presumptive diagnosis of malaria are significant.

1. Patients who are given presumptive antimalarial treatment for non-malarial disease have poor outcomes.
   - Bacterial, viral and other febrile illnesses cannot be distinguished from malaria without diagnostic testing—e.g. respiratory infections, sepsis, meningitis
   - Non-malarial febrile illnesses have high mortalities in Africa; mortality increases with delays caused by wrong diagnoses and inappropriate treatment.
   - Delay in correct treatment of disease leads to more severe disease that leads to high costs due to hospital admissions or death.
   - More children die from pneumonia than malaria in Uganda.
   - New evidence indicates that the vast majority of systemic infections and acute respiratory infections in children are due to viruses.

2. Waste of large quantities of scarce and expensive ACTs contributing to drug stockouts of drugs which should be targeted to treat patients who really have malaria.

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9 Heidi Hopkins, MD, MPH Malaria case management: from presumptive treatment to definitive diagnosis. MACIS meeting, April 2009.
3. Development and spread of ACT resistant parasites leading to ACTs no longer being an available and effective treatment for malaria. At present, there are few affordable new drugs to replace artemisinin derivatives if resistance develops to this class of drugs. WHO recognises the possibility of artemisinin resistance as a “global emergency” that may seriously threaten efforts to control and eliminate malaria.  

4. Increased risk of adverse drug reactions due to unnecessary antimalarial treatments

5. Increased health care costs. Artemisinin based drugs are expensive, despite subsidies. Misdiagnosis and over-diagnosis of malaria drain resources at the household level, affecting the poorest families.  

6. Absenteeism from work and school.

7. Erosion of patient confidence and trust in the health services.

**Benefits for Adherence to Test Before Treat Policy**

Increased use of quality diagnosis for malaria and confirmation of parasitemia has huge potential benefits for both health providers and consumers across all sectors in Uganda.

1. Better targeting of ACT (Coartem) preserves medicine for patients who truly need it and prevents the possibility of drug stock outs from delays in supply and procurement.

2. Better targeting of ACT may help to preserve drug efficacy and improve adherence to treatment by giving patients clear evidence of malaria infection.

3. Accurate diagnosis is essential to monitor trends in malaria prevalence, control and elimination

4. Targeting treatment to true malaria cases allows more efficient use of health care resources

5. Improving the accuracy of diagnosis is likely to reduce unnecessary expenses incurred by patients.

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14 Heidi Hopkins, MD, MPH. Malaria case management: from presumptive treatment to definitive diagnosis. MACIS meeting, April 2009.
INTERPERSONAL COMMUNICATION SKILLS

Interpersonal communication is an essential clinical skill needed to be able to interact with patients and caregivers in a health facility environment. Practicing good interpersonal communication skills such as appropriate questioning and active listening will help obtain better information, save time, determine the diagnosis, prescribe an effective treatment, and reduce errors in the assessment, diagnosis and treatment of children with fever.

Building and maintaining trusting relationships with patients and caregivers is vital to promoting health behaviour change such as adherence to malaria test results. If the patient trusts and believes in the health provider’s advice, they are more likely to follow-through with treatment recommendations.

Qualities of a Health Provider who is a Good Communicator\textsuperscript{15}

- Approachable
- Able to create rapport
- Knowledgeable
- Ensures confidentiality
- Active listener
- Shows interest and respect
- Asks questions for clarification
- Paraphrases what they heard the person say
- Non-judgmental
- Empathetic
- Honest and acknowledges limitations

Good Interpersonal Communication Skills

Good interpersonal communication between patients and health providers involves:

- **Greeting** patients and caregivers when they enter the consultation room.
- Putting the patient or caregiver at ease at all times so that he or she feels comfortable giving you honest and complete information about the illness, and trusting you to give correct advice and appropriate treatment.
- Maintaining privacy and confidentiality through a one-to-one session in the consultation room, will give the patient confidence to confide fully to the health provider fully.
- Demonstrating interest and respect.
- Demonstrating concern and empathy.
- Giving praise to the caregiver for recognizing the child’s signs and symptoms early and bringing the child to the health facility for care.
- Allow the patient and caregiver to be active participants in their care.

\textsuperscript{15} IPCC Training for Maternal, Neonate and Child Health Jan. 2012
• Asking the right open-ended questions in a manner that elicits the desired information. Use words the caregiver understands. Allow time for the caregiver to answer the question. Sometime the question may need to be rephrased in order to obtain the desired answer.

• Listening carefully to what the caregiver tells you and probing for additional answers. This shows your concern and respect and will help to find clues to the child’s problem.

• Observing body language to see whether the patient understands what you are saying or is uncomfortable. Giving non-verbal gestures such as eye contact and nodding of your head to show that you are listening.

• Providing information in a manner that is respectful and at a level the patient or caregiver understands.

• Providing an explanation about testing procedures and results, diagnosis and treatment recommendations.

• Counselling patients and caregivers to adhere to treatment recommendations.

• Asking the caregiver to repeat back information about the diagnosis and treatment to confirm it was understood. Ask the caregiver to explain what, how, how much, how many, when, how often and why the treatment is needed.

Benefits of Using IPC Skills

Studies show that patients who interact with health providers who practice good interpersonal communication skills are more likely follow through with medical recommendations, self-manage their medical condition, and adopt positive health behaviours. Studies have also shown that the health provider’s ability to explain, listen and empathize can have a profound effect on the patient’s biological and functional health outcomes as well as patient satisfaction and experience with the healthcare system.16

Other benefits of using IPC skills include:

• Helps to build rapport between providers and patients and put patients at ease.
• Improves patient assessment and differential diagnosis.
• Encourages patients to adhere to diagnostic and treatment decisions.
• Builds trust in the provider and the health system.
• Helps patients and caregivers to make informed decisions.
• Increases and maintains patient satisfaction.
• Encourages patients to return for follow-up visits.
• Improves the quality of care.

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ASSESSMENT of a CHILD WITH FEVER

Assessment of children with fever includes obtaining a good medical history and conducting a thorough physical exam using effective interpersonal skills, such as asking the right questions, putting the patient or caregiver at ease to answer questions, listening carefully, and explaining assessment findings in a manner that is respectful and at a level the patient or caregiver understands.

The goal of obtaining a medical history and doing a physical exam is to find clues that suggest a specific diagnosis. Obtaining a medical history involves asking questions about the patient’s signs and symptoms such as timing and duration of symptoms, that makes the symptoms better or worse, whether the patient has any other illness, and exposure to others who may also be sick. Obtaining medical history also involves carefully listening to the patient or caregiver; 80% of the diagnosis will come from what the patient tells the health provider. Guessing and assuming can easily lead to mistakes in making the correct diagnosis.

The cause of fever in a child may be subtle and not obvious to the caregiver. Illnesses can also have overlapping or similar signs and symptoms. That is why it is important to take the time to carefully and thoroughly assess the child before making a diagnosis. Caregivers may forget to give information or may not have thought about a particular sign or symptom until asked. Therefore, it is important to ask the questions in a non-threatening manner rather than expect the caregiver to volunteer the information. Sometimes you may need to ask the caregiver the same question in different ways to get a definitive answer. For example, you can ask the caregiver how many days the child has had fever, or you can ask the caregiver when did they child begin to have fever.

Examining sick children involves looking at the child’s overall appearance and behaviour. Children who are sick may appear underweight, dehydrated, lethargic, weak, or irritable. Physical examination involves looking at the child’s skin, eyes, ears, mouth, and nose to see if there is drainage, a rash, inflammation, or a change in colour. It involves looking at the child’s breathing and listening for abnormal breathing sounds such as wheezing, stridor, or crepitus. It also involves, touching the child’s skin to feel if it is hot or cold, taking a pulse rate, or observing for swelling or oedema. All children must be examined fully so that important signs are not missed.

The Medical History and Physical Exam Process for a Child with Fever can be found on page 87.
ASSESSMENT of DANGER SIGNS and SIGNS of SEVERE ILLNESS\textsuperscript{17}

A child with any danger sign or signs of severe illness needs urgent attention and referral to hospital for lifesaving treatments, such as injectable antibiotics, intravenous fluid replacement and oxygen that are not available at HCII and HCIII facilities.

Respiratory Distress and Chest In-drawing

Respiratory distress means the child is not getting enough oxygen to supply vital organs and perfuse tissues. Signs of severe respiratory distress include rapid difficult breathing, cyanosis and chest in-drawing. Chest in-drawing is a sign of respiratory distress and can be a sign the child has severe pneumonia. Chest in-drawing is due to the inward movement of the bony structures of the chest wall during inspiration in a child who is labouring to breathe and get air. A child with chest in-drawing is not getting enough oxygen because the lungs do not fill with air. When assessing for chest in-drawing observe the chest and abdomen below the ribs to see if it is pulling IN when the child breathes IN. If chest in-drawing is present you will see the lower rib as the child’s abdomen sucks in under the diaphragm. Chest in-drawing is not visible when the child is breathing out.

For chest in-drawing to be present, it must be clearly visible and present all the time. If you see chest in-drawing only when the child is crying or feeding or if only the soft tissue between the ribs goes in when the child breathes in, the child does NOT have chest in-drawing. Mild chest in-drawing is normal in young infants below 2 months.

Not Able to Drink or Breastfeed

Children who are not able drink or breastfeed are too weak to drink and swallow fluids or to suck or swallow when offered breast milk. A child who is breastfed may have difficulty sucking when his/her nose is blocked. If the child’s nose is blocked, clear it. If the child can breastfeed after the nose is cleared, the child does not have this danger sign.

Vomiting Everything

Vomiting everything means the child vomits all food, liquid, or medicine \textit{immediately} after swallowing. A child who vomits several times but can hold down some fluids should not be classified with this danger sign.

Convulsions

Convulsions are common in children with high fever from illnesses such as malaria or meningitis. Convulsions can be obvious rapid and jerky movements accompanied by uncontrolled movement of the eyes (\textit{nystagmus}), or they can be a subtle twitching of a finger, toe, or corner of the mouth. The child may lose consciousness or not be able to respond to spoken directions when convulsing. A history of convulsions in the last 2 days must be associated with the current illness to be classified as a danger sign.

\textsuperscript{17} Ibid
**Altered Mental State, Prostration or Extreme Weakness**

Altered mental state is classified as lethargy, drowsiness or confusion. Children who are very sleepy or lethargic are not awake or alert when they should be. A child who is drowsy does not show interest in what is happening around him. Often the lethargic child does not look at his mother or watch your face when you talk. The child may stare blankly and appear not to notice what is going on around him. A child who is unconscious cannot be wakened and does not respond when he is touched, gently shaken, or spoken to. A child who is unable to stand or sit without support is considered to be very weak.

**Severe Pallor**

Anaemia is a reduced number of red blood cells in the blood or when there is a reduced amount of haemoglobin in each red blood cell. Haemoglobin is responsible for carrying oxygen molecules. When there is less haemoglobin, there is less oxygen getting to the tissues, which makes the patient feel tired and weak. Malaria can cause anaemia by lysing or destroying red blood cells.

Palmar pallor is the single test to detect anaemia clinically. Assess palmar pallor by looking at the colour of the child’s palms. Hold the child’s palm open by grasp in it gently from the side. Compare the colour of the child’s skin with your own palm—or with the palms of other children.

- palm is pale = moderate palmar pallor
- palm is white = severe palmar pallor

**Severe Dehydration**

A child with severe dehydration has signs of dehydration such as sunken eyes, not able to drink or drinking poorly, and very slow skin pinch test (more than 2 seconds), accompanied by lethargy or unconsciousness. A child with severe dehydration will also have:

- Rapid and deep breathing faster than normal
- Dryness of the mouth and tongue
- Crying with few or no tears
- Passing very little urine which is often dark
- Fast, weak pulse low blood pressure

Any child with severe dehydration needs intravenous fluids urgently.

**Skin pinch test**

Locate area on child’s abdomen halfway between umbilicus and side of abdomen. Pinch between thumb and first finger and pick up all layers of skin. Hold the pinch for 1 second and then release. Look and count how long it takes skin to go back:

- Longer than 2 seconds = very slowly—sign of severe dehydration
- Skin stays up for an instant = slowly—sign of moderate dehydration
COMMON FEBRILE ILLNESSES IN CHILDREN

Diagnosis involves using the information gathered during the history and physical exam as well as results from laboratory tests to decide what illness, or combination of illnesses, the patient has. A careful differential diagnosis will help to determine which treatment has the best success of curing or alleviating the patient’s symptoms.

Fever

Fever is the body’s response to infection (bacterial, viral, fungal, and parasitic), or a non-infectious process such as malignancies or autoimmune diseases. Fever is a common symptom of many illnesses in children including malaria, measles, meningitis, ear infections, TB and AIDS. Signs of fever in children include an elevated temperature ≥ 37.5°C axillary, feeling hot to touch, chills, and sweating.

When assessing for fever it is important to use local terms for fever. Ask about the characteristics of fever such as duration and pattern. Also ask about the presence of other symptoms of infection such as stiff neck or neck pain, skin rash, headache, ear pain, or pain passing urine.

Fever can be managed by keeping the child cool with minimal clothing and blankets, tepid sponge bathing, fanning, and encouraging fluid intake.

Use of oral antipyretics such as Paracetamol 10 mg/kg every 6 hours.

Chicken Pox

Chicken pox is a highly contagious disease caused by infection with varicella zoster virus (VZV). The fever caused by chicken pox is mild. Chicken pox is diagnosed by a vesicular rash which appears in crops with faint erythematous macules. Ulcerations can also be found in the mouth and tonsils.

Because chicken pox is an airborne disease, it spreads easily through respiratory droplets from coughing or sneezing of individuals with the disease and through direct contact with secretions from the rash. A person with chicken pox is infectious one to two days before the rash appears and will remain contagious until all papules and vesicles have ruptured and crusted over (this takes approximately six days).

It is important to isolate children with chicken pox from other children, especially those who may be immuno-compromised with HIV or malnutrition, until all lesions have crusted over. It is also important for people exposed to the lesions to wash their hands before and after exposure to prevent contamination of the lesions and transmission of infection.

The treatment for chicken pox is aimed at relieving symptoms and letting the illness take its course. Cutting nails and keeping them clean is important as children are more likely to scratch their blisters. Topical antipruritic lotions such as Calamine can help soothe itching, dry lesions and prevent skin lesions from getting infected from scratching with dirty nails.

**Gastroenteritis**

Gastroenteritis is common in children and the primary cause of diarrhoea. Most cases of gastroenteritis in children are caused by viruses (e.g. rotavirus, enterovirus). Gastroenteritis is frequently caused by poor sanitation such as inappropriate disposal of human waste and poor hygiene such as not washing hands or drinking unsafe water. It can be prevented by washing hands and making water safe.

Symptoms of gastroenteritis include fever, diarrhoea, abdominal pain, nausea and vomiting, and loss of appetite.

**Types of Diarrhoea**

**Acute Watery Diarrhoea (including cholera and typhoid):** Diarrhoea is the passage of three or more loose or watery stools per day. Children can quickly lose body fluids and salts when they pass many watery stools causing dehydration. Acute or severe diarrhoea can lead to dehydration, malnutrition, and death in children.

**Persistent diarrhoea** is diarrhoea, with or without blood, which begins acutely and lasts for 14 days or longer. Children with severe persistent diarrhoea should be referred to the hospital. Persistent diarrhoea often causes nutritional problems and contributes to death in children.

**Dysentery (acute bloody diarrhoea)** is diarrhoea presenting with loose frequent stools containing blood. Most episodes are due to *Shigella*. Children with dysentery should be treated with an oral antibiotic for 5 days and followed up in 2 days.

**Dehydration** is the loss of water and body salts through diarrhoea. Dehydration is caused by frequent diarrhoea and/or vomiting. Children with persistent diarrhoea and/or dysentery should be assessed for dehydration. Most children with gastroenteritis can be treated with physiologically balanced oral rehydration solutions (ORS). Children with severe dehydration and lethargy require treatment with intravenous solutions to replace fluids and electrolytes. Children with diarrhoea need nutrition to restore digestive function. Caregivers should be counselled not to withhold food or stop breastfeeding.

**Ear Infection—Otitis Media**

Acute otitis media is an inflammation of the middle ear cavity behind the eardrum for **less than 14 days**. Fluid accumulates and causes pain through the increase of pressure in the cavity. When the eardrum ruptures, pus discharges from the ear.

On examination, confirm acute otitis media by otoscopy. The ear drum will be red, inflamed and immobile. A child with otitis media requires treatment with antibiotics. If drainage exist, the child’s caregiver should be taught how to keep the ear dry with ear wicking.
Malaria

Malaria is an acute febrile illness caused by malaria parasites. There are four types of malaria parasites that infect humans, namely: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale* and *Plasmodium malariae*. Of these, *P. falciparum* is the most common in Uganda. Human beings are infected through the bite of a female *Anopheles* mosquito carrying malaria parasites.

Most episodes of malaria that occur in Uganda are uncomplicated. Although uncomplicated malaria does not often cause death, it must be diagnosed early and treated promptly, especially in children, because it can quickly become severe, increasing the risk of death.

Symptoms of malaria can be vague and can sometimes overlap with other viral and bacterial infections. Therefore, any suspected cases of malaria must be confirmed by the presence of parasites either with microscopy or RDTs.

The symptoms of malaria, particularly the fever, are related to the rupture of parasitized red blood cells (erythrocytes). This releases toxic substances which in turn cause a rapid onset of fever along with all the other symptoms and complications. Fever in malaria is intermittent; that means, it comes and goes many times. Three phases can be distinguished in a typical episode of malaria:

- **The cold stage** is when the patient feels cold, chills and shivers.
- **The hot stage** is when the patient feels hot.
- **The sweating stage** is associated with profuse sweating and relief of symptoms.

In addition to fever, common symptoms of uncomplicated malaria in children under-5 include loss of appetite, weakness, lethargy, vomiting, and anaemia. A history of convulsions, or the presence of anaemia or splenomegaly strengthen the suspicion of malaria, but these signs are present in only a minority of children with malaria.

The NMCP recommends artemether/lumefantrine (AL) as the first line treatment for uncomplicated malaria in children in Uganda. The first line alternative treatment is artesunate/amodiaquine (AS/AQ) and the second line treatment is dihydroartemisinin piperaquine (DHA-PPQ).

**Severe malaria** can mimic many other diseases that are also common in malaria-endemic countries. The most important of these are central nervous system infections, septicaemia, severe pneumonia and typhoid fever. Other differential diagnoses include influenza, arbovirus infections, hepatitis, leptospirosis, the relapsing fevers, haemorrhagic fevers, rickettsial infections, gastroenteritis, and trypanosomiasis.

Nearly all deaths from severe malaria result from infections with *P. falciparum*. Severe malaria in children is diagnosed by the presence of parasitemia confirmed by positive malaria test and the presence of one or more of the following clinical features:

- impaired consciousness including unarousable coma
- prostration, generalized weakness so that the child unable to sit, stand or walk without assistance

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• multiple convulsions: more than two episodes within 24 hours
• deep breathing and respiratory distress, acidotic breathing
• failure to feed
• acute pulmonary oedema and acute respiratory distress syndrome
• circulatory collapse or shock, systolic blood pressure < 50 mm Hg in children;
• acute kidney injury
• clinical jaundice plus evidence of other vital organ dysfunction
• abnormal bleeding

Children seen in HCI or HCIII with danger signs or signs of severe illness should be referred immediately and given pre-referral treatment with rectal artesunate.

The NMCP recommends that children with severe malaria seen at HCIV and regional hospitals should be treated promptly with intravenous artesunate.

Malaria can be controlled by preventing mosquitoes from reaching and biting humans, reducing the population of mosquitoes and reducing the malaria parasite load in the human population. Use of insecticide-treated mosquito nets is an effective prevention from the bites of malaria infected mosquitoes.

**Measles**

Fever and a generalized rash are the main signs of measles. Measles is highly infectious. Maternal antibodies protect young infants against measles for about 6 months. Then the protection gradually disappears. Most cases occur in children between 6 months and 2 years of age. Overcrowding and poor housing increase the risk of measles.

Measles is caused by a virus. It infects the skin and the layer of cells that line the lung, gut, eye, mouth and throat. The measles virus damages the immune system for many weeks after the onset of measles. This leaves the child at risk for other infections.

After 1-2 weeks of incubation, the infection presents with a cough, mild conjunctivitis, fever and nasal discharge. Small grey-white lesions (Koplik spots) appear on the posterior buccal mucosa. A fine maculopapular rash develops behind the ears and along the hair-line, and spreads to become generalized and blotchy, lasting about 4 days.

Measles contributes to malnutrition because it causes diarrhoea, high fever and mouth ulcers. These problems interfere with feeding. Malnourished children are more likely to have severe complications due to measles. This is especially true for children who are deficient in vitamin A. For this reason, it is very important to help the mother to continue to feed her child during measles.

When assessing for measles look for a **generalized rash** and for one of the following signs:

- cough
- runny nose
- red eyes

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If the child has measles now or within the last 3 months, look for mouth ulcers, pus draining from the eye or clouding of the cornea. These are signs of severe measles.

Look inside the child’s mouth for **mouth ulcers and Koplik spots**. Ulcers are painful open sores on the inside of the mouth and lips or the tongue. They may be red or have white coating on them. In severe cases, they are deep and extensive. When present, mouth ulcers make it difficult for the child with measles to drink or eat. Koplik spots are small, irregular, bright red spots with a white spot in the centre. They do not interfere with drinking or eating. They do not need treatment.

Pus draining from the eye is a sign of **conjunctivitis**. Conjunctivitis is an infection of the conjunctiva, the inside surface of the eyelid and the white part of the eye. If you do not see pus draining from the eye, look for pus on the conjunctiva or on the eyelids. Often the pus forms a crust when the child is sleeping and seals the eye shut. It can be gently opened with clean hands. Wash your hands after examining the eye of any child with pus draining from the eye. The conjunctiva lines the eyelids and covers the white part of the eye.

When **clouding of the cornea** is present, there is a hazy area in the cornea. Look carefully at the cornea for clouding. The cornea may appear clouded or hazy, such as how a glass of water looks when you add a small amount of milk. The clouding may occur in one or both eyes. Corneal clouding is a **dangerous condition**. The corneal clouding may be due to **vitamin A** deficiency which has been made worse by measles. If the corneal clouding is not treated, the cornea can ulcerate and cause blindness. A child with clouding of the cornea needs **urgent treatment with Vitamin A**.

**Meningitis**

Meningitis is acute inflammation of the meninges, the membrane surrounding the brain. It is caused by bacterial or viral infection of the meninges and cerebrospinal fluid. Inflammation results in cerebral oedema and local necrosis of nerve fibres and cerebral vessels.

There are many species of bacteria that can cause meningitis. The most common causes of bacterial meningitis are **Meningococcal** (Neisseria meningitidis), **Pneumococcus** (Streptococcus pneumoniae), **group B Streptococcus** (Streptococcus agalactiae), **Mycobacterium tuberculosis**, and **E. coli** (Eschericia coli).

Children under the age of 2 are most susceptible to meningitis. In children known or suspected to be HIV-positive, tuberculosis or fungal meningitis should also be considered. Tuberculosis meningitis is also more common in children with severe malnutrition and those with presumed bacterial meningitis who respond poorly to antibiotic treatment. 

Early diagnosis is essential for effective treatment. Signs and symptoms of meningitis in children include:

- irritability, vomiting everything, lethargy
- tense or bulging fontanel in infants with an open fontanel
- stiff neck—restriction of neck movement, especially neck flexion, and pain (this may be a late sign)
- vomiting

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Section III: Technical Information

- headache
- high pitched cry
- apnoeic episodes—unusual patterns of breathing
- convulsions
- rash

If possible, confirm the diagnosis with a lumbar puncture and examination of the CSF.

**Pneumonia**

Pneumonia is the leading cause of death in children worldwide. Pneumonia kills an estimated 1.4 million children under the age of five years every year. **Pneumonia is the single largest cause of death among children in Uganda**, causing an estimated 22,000 (18%) under-5 deaths and around 2 million episodes of sickness every year.²³

Pneumonia is an infection of the lungs characterized by inflammation of pulmonary tissues such as the visceral pleura, connective tissue, bronchial tubes, and alveolar sacs. Pneumonia can be caused by bacteria, viruses or fungi. The vast majority of pneumonia is caused by bacterial infections from either *Streptococcus pneumonia* or *Hemophilous influenza*. Children who are not exclusively breastfed and those with weakened immune systems due to malnutrition or HIV infection are at an increased risk of getting pneumonia infection. Environmental factors such as indoor smoke from cooking and heating with wood or dung and living in crowded homes can also increase the risk of pneumonia.

When children develop pneumonia, their lungs become stiff and the alveoli fill with sticky liquid making breathing difficult and painful limiting the exchange of gasses and supply of oxygen to vital organs. When the pneumonia becomes more severe, the lungs become even stiffer and chest in-drawing can develop.

**Fast breathing** detects about 80% of children with pneumonia who need antibiotic treatment. According to the WHO, careful assessment of fast breathing by counting the number of breaths in 60 seconds has been shown to reduce childhood mortality from pneumonia.

**Stridor** is a harsh noise made when the child breathes in. It is caused by swelling in the larynx trachea, or epiglottis. To listen for stridor, put your ear the child’s chest and listen.

Pulse oxymeters can also be used to diagnose pneumonia, if available. An oxygen saturation of less than 95% is considered to be diagnostic criteria for pneumonia.

Information to gather when assessing a child with possible pneumonia:

- Cough; duration in days; paroxysms with whoops or vomiting or central cyanosis
- Exposure to someone with tuberculosis (or chronic cough) in the family
- Immunization history: DPT, measles, BCG
- History of choking or sudden onset of symptoms
- Known HIV infection

Section III: Technical Information

- Personal or family history of asthma

Pneumonia, whether severe or not requires treatment with antibiotics. Most cases of pneumonia require oral antibiotics, which can be prescribed at a HCII and HCIII. Hospitalization is recommended only for severe cases of pneumonia, and for all cases of pneumonia in infants younger than two months of age. Severe pneumonia requires referral to the hospital for oxygen therapy and intravenous antibiotics.

Pneumonia can be prevented by immunization, adequate nutrition and by addressing environmental factors. Recommended immunizations to prevent pneumonia include Hib, pneumococcus, measles and pertussis. Exclusive breastfeeding for the first six months of life provides essential nutrient and antibody protection to help prevent acquiring infections as well as reducing the length of illness if a child does become ill. Minimizing indoor air pollution with indoor stoves and encouraging hygiene can help reduce the risk of pneumonia in children as well as adults. In children infected with HIV, prophylaxis with the antibiotic cotrimoxazole is given daily to decrease the risk of contracting pneumonia.

**Cystitis (Urinary Tract Infection—UTI)**

In young children, UTIs often present with non-specific signs, such as vomiting, fever, irritability, or failure to thrive. Older children may present with more specific signs such as abdominal pain, pain on passing urine, increased frequency of passing urine, or bed wetting (in a child who was previously dry at night).

The prevalence of UTI is highest among girls. A urinalysis and urine culture is recommended for females age 3 to 24 months with fever ≥ 39º C. Uncircumcised male infants are more likely to get UTIs.

A child with UTI should be treated with antibiotics. The child should be encouraged to drink or breastfeed regularly in order to maintain a good fluid intake, which will assist in clearing the infection and prevent dehydration.

**Typhoid Fever**

Typhoid fever is a bacterial infection caused by bacteria (*Salmonella typhi* and *S. paratyphi A & B*) found in food or water. Typhoid fever should be considered in a child with fever for more than 7 days with a negative malaria test with any of the following symptoms:

- diarrhoea or constipation
- vomiting
- abdominal pain
- headache
- cough

Children with typhoid should be treated with antibiotics.

**LABORATORY TESTS for MALARIA**

Laboratory tests for malaria such as RDTs and microscopy provide objective evidence to confirm a presumptive or clinical diagnosis. **In Uganda, studies have shown RDTs are**
just as accurate as microscopy. Malaria parasites produce specific proteins (antigens) that RDTs detect. If a person is infected with malaria parasites, the parasites produce antigen, and the RDT result will be positive. If there are no parasites in the blood, there is no antigen, and the RDT result will be negative.

Microscopy

Microscopy is gold standard for laboratory confirmation of malaria. Laboratory diagnosis of malaria by microscopy is a high quality systematic process that involves collection of blood samples, making smears, staining the smears and identifying the parasites under a microscope. A drop of the patient’s blood is collected by finger prick, or from a larger venous blood specimen. It is then spread on a glass slide (blood smear), dipped in a reagent that stains the malaria parasites (Giemsa stain), and examined under a microscope at a 1000-fold magnification. Malaria parasites are recognizable by their physical features and by the appearance of the red blood cells that they have infected. Each species of malaria parasite has a distinctive physical feature under a microscope.

Although microscopy is considered the gold standard for the diagnosis of malaria, there are not enough trained microscopist in Uganda and the availability of quality microscopes and reagents is in short supply. Microscopy also requires a laboratory infrastructure.

Thick smears are ten times more concentrated than thin smears, facilitating the detection of parasites at low densities and providing information on the number of parasites per white blood cell or field (parasite density) or quantification. Quantification can provide valuable information for the health provider in terms of the severity of parasitemia infection and treatment failures.

While species of *Plasmodium* can be differentiated (specification) in the thick film, confirmation using the thin blood smear is recommended as the parasites are observed within the red blood cell. In Uganda, 99% of malaria infections are caused *P. falciparum*, therefore specification is not vital part of diagnosis and treatment as it would be in other countries with more species.

Methods used in Reporting Microscopy Results

Malaria parasites may be reported in three ways:

**Using Plus (+) sign to quantify the number of malaria parasites seen:** High density, ≥20 parasites in each field (++++) Medium density, (2-19) in each field (++)

- Low density, 1 or less in each field (+)

**Calculation of parasite density**

- Number of parasites per 200 WBCs X 40 = asexual parasites / µl.
- Number of parasites per 500 WBCs X 16 = asexual parasites /µl.
- Record of any gametocytes as seen or not as (Yes or No) where appropriate

**Parasites per field**

- Reports the average number of parasite count per field.

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For a microscopist to conclude that a slide is negative for malaria parasites, he/she must see no asexual parasites after examining 100 high power fields. **RDTs**

RDT stands for *Rapid Diagnostic Test*. Malaria RDTs detect the presence of specific malaria parasite proteins (antigens) in the blood. The presence of malaria parasites in a person’s blood is the cause of the fever and other symptoms associated with malaria illness.

RDTs are called “rapid” because they give results within 15 to 20 minutes. Their main advantage is that they can be used outside the formal laboratory environment where microscopy is not possible or practical. Performing RDTs does not require specialized training, refrigeration, or other laboratory equipment.

RDTs have been studied in Uganda and when performed correctly and the results are read correctly, they are **very accurate**. Studies with polymerase chain reaction (PCR) have shown that RDT sensitivity for malaria infection may be higher than that of standard microscopy.  

A negative RDT means the child does not have malaria and the child’s fever is caused by another illness.

### How RDTs Work

RDTs detect different antigens, such as Histidine Rich Protein 2 (HRP2), Lactose Dehydrogenase (LDH) and aldolase. Some of these antigens are species specific, such as the HRP2 that is produced by *Plasmodium falciparum* only. Some RDTs detect a combination of antigens, and therefore can detect more than one species of malaria parasites. Different strains of parasites produce different amounts of antigen; therefore, RDTs must undergo rigorous quality control to test that they are able to detect 200 parasites/ul (WHO defined limit) and that they can withstand heat and humidity.

As Uganda has greater than 99% (MIS 2009) of infections caused by *P. falciparum*, it is extremely important that the RDT chosen has the highest sensitivity in detecting the presence of this parasite. For this reason, the MOH in Uganda took the decision to deploy HRP2 only detecting RDTs. There are many brands of RDTs on the market and each brand or type of RDT has slightly different instructions for how to perform and read the tests. Manufacturer’s instructions should be read carefully before performing a test.

HRP2 RDTs rapidly detect *P. falciparum* Histidine-Rich Protein 2 (HRP2) in human blood. HRP2 is a soluble antigen produced by *P. falciparum* malaria parasites and is present in the blood of infected or recently infected individuals. As opposed to HIV tests, which detect the presence of antibodies, malaria RDTs detect the presence of parasitic HRP2 antigen. Therefore, if the HRP2 antigen is not present, the RDT will not detect it.

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27 Malaria Rapid Diagnostic Test Performance Results of WHO product testing of malaria RDTs: Round 3 (2010-2011).

Inside the RDT cassette is a strip made of nitro-cellulose that has antibodies against *P. falciparum*.

A drop of the patient's blood is collected and added to the RDT through one well (hole) on to the strip.

Following the patient's blood, a few drops of a liquid called a ‘buffer’ are added through another well.

When blood and buffer are added to the cassette, it flows along the strip.

The buffer lyses (destroys) the blood cells releasing the contents of the blood cells, including any parasite antigen, if present, and carries it along the length of the strip.

If HRP2 malaria parasite antigens are present, the antibodies will bind to them and the control and positive test bands are formed.

A red or purple control band should appear at the point marked ‘C’ when the buffer and the blood have reached the end of the test strip.

The control band indicates whether the RDT has worked correctly. Adding too much buffer or too little blood may result in no control line. In this case, the test is invalid and must be repeated with a new RDT. The test can also be invalid if the wrong buffer was used, blood or buffer is placed in the incorrect well, if the RDT test was stored incorrectly or has expired.

If malaria parasites are present in the blood, another red or purple band will form on the test line sometimes called T” or “Pf” indicating the RDT result is positive.

If there are no parasites in the blood, only the control band is formed and no band is formed in the test line, indicating the result is negative.
**Benefits and Limitations of Microscopy and RDTs**

Microscopy and RDTs are highly reliable and accurate if the tests are performed and interpreted correctly. In Uganda, studies have shown RDTs to have comparable accuracy against microscopy, with sensitivity as high as 97% and specificity ranging between 85-100% depending on the type of RDT.\(^{29,30}\)

<table>
<thead>
<tr>
<th>Benefits of Microscopy</th>
<th>Limitations of Microscopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A well trained microscopist can identify the species of <em>Plasmodium</em>.</td>
<td>Requires highly trained personnel who are supervised regularly and who are not distracted or overworked.</td>
</tr>
<tr>
<td>Provides a quantitative estimate of the parasite density.</td>
<td>Requires quality microscopes and reagents.</td>
</tr>
<tr>
<td>Gold standard for routine malaria laboratory diagnosis.</td>
<td>Requires a supply of electricity.</td>
</tr>
<tr>
<td>Very sensitive with high parasitemia, less sensitive at lower parasitemia.</td>
<td>Available only at hospitals, HCIV, and some HCIII.</td>
</tr>
<tr>
<td>Low cost once initial investment has been made.</td>
<td>Takes 40 – 60 minutes to give results.</td>
</tr>
<tr>
<td>Can be used to assess response to antimalarial therapy.</td>
<td>There are not enough trained microscopists in Uganda and a short supply of functional microscopes and reagents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits of RDT</th>
<th>Limitations of HRP2 RDTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate and highly sensitive.</td>
<td>They are mainly qualitative, producing only &quot;yes/no&quot; diagnosis. Does not provide a quantitative estimate of the parasite density.</td>
</tr>
<tr>
<td>Simple to use.</td>
<td>Do not provide specification information on all species of <em>Plasmodium</em>. Only detect antigens for specific species of <em>Plasmodium</em>.</td>
</tr>
<tr>
<td>Gives results within 15 to 20 minutes.</td>
<td>They require subjective interpretation, which may result in reader variation in results.</td>
</tr>
<tr>
<td>Can be used outside the formal laboratory environment.</td>
<td>Will give false results if the kit is expired or exposed to high humidity and temperatures above 35/40 degrees Celsius.</td>
</tr>
<tr>
<td>Does not require specialized training or other laboratory equipment.</td>
<td>Will give a negative result if the species of malaria parasite is different from the antigen the RDT is designed to detect.</td>
</tr>
<tr>
<td>A shelf life as long as 1-2 years at ambient temperatures, with no need for refrigeration.</td>
<td>Will give invalid results if the wrong buffer is used or if too little or too much buffer is used.</td>
</tr>
<tr>
<td>Can fill the diagnostic gaps in health facilities where microscopy does not exist.</td>
<td>Will give invalid results if blood is placed in the incorrect well.</td>
</tr>
</tbody>
</table>

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### RDT Quality Control

The following is the approved list of RDT products for Uganda. These RDTs meet the international quality control standards established by the WHO.

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer</th>
<th>Catalogue No</th>
<th>Panel detection score (%)</th>
<th>Positive tests results for <em>P. falciparum</em> (Pf line) 200 parasites/μl. Number of tests positive. Lots 1 and 2 combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Response® Malaria Ag HRP2</td>
<td>Premier Medical Corporation Ltd.</td>
<td>I13FRC30</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>CareStart™ Malaria HRP2 (Pf)</td>
<td>Access Bio, Inc.</td>
<td>G0141</td>
<td>99</td>
<td>100</td>
</tr>
<tr>
<td>CareStart™ Malaria HRP2/pLDH Pf test</td>
<td>Access Bio, Inc.</td>
<td>G0181</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>Advantage P.f. Malaria Card</td>
<td>J. Mitra &amp; Co. Pvt. Ltd.</td>
<td>IR016025</td>
<td>97</td>
<td>95</td>
</tr>
<tr>
<td>SD BIOLINE Malaria Ag Pf</td>
<td>Standard Diagnostics, Inc.</td>
<td>05FK50</td>
<td>97</td>
<td>100</td>
</tr>
<tr>
<td>Core™ Malaria Pf</td>
<td>Core Diagnostics</td>
<td>MAL-190020</td>
<td>97</td>
<td>100</td>
</tr>
<tr>
<td>Paracheck® Pf-Rapid Test for <em>P. falciparum</em> Malaria Device (Ver.3)</td>
<td>Orchid Biomedical Systems</td>
<td>30301025</td>
<td>96</td>
<td>100</td>
</tr>
<tr>
<td>One Step Malaria P.F Test (cassette)</td>
<td>Blue Cross Bio-Medical (Beijing) Co., Ltd.</td>
<td>522352</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>FirstSign™ Malaria Pf</td>
<td>Unimed International Inc.</td>
<td>2100 CB-25</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Malaria Plasmodium falciparum Rapid test Device (Whole blood)</td>
<td>ACON Laboratories, Inc.</td>
<td>IMA-402</td>
<td>92</td>
<td>15</td>
</tr>
<tr>
<td>Wondfo One Step Malaria P.f Test</td>
<td>Guangzhou Wondfo Biotech Co. Ltd.</td>
<td>W37-C</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Trusty™ Malaria Antigen P.f. test</td>
<td>Artron Laboratories Inc.</td>
<td>A03-11-322</td>
<td>89</td>
<td>100</td>
</tr>
<tr>
<td>SD BIOLINE Malaria Ag P.f. (HRP2/pLDH)³</td>
<td>Standard Diagnostics Inc.</td>
<td>05FK90</td>
<td>88</td>
<td>100</td>
</tr>
<tr>
<td>ICT Diagnostics Malaria P.f.</td>
<td>ICT Diagnostics</td>
<td>ML01</td>
<td>87</td>
<td>100</td>
</tr>
<tr>
<td>BIONOTE MALARIA P.f. Ag Rapid Test Kit</td>
<td>Bionote, Inc.</td>
<td>RG19-11</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>OnSite Pf Ag Rapid Test</td>
<td>CTK Biotech, Inc.</td>
<td>R0114C</td>
<td>86</td>
<td>97</td>
</tr>
</tbody>
</table>

Results presented in the table are based on stability of a Pf test line (either Pf-HRP2 or Pf-pLDH). Results based on stability of individual test lines are presented in the Table S2 of either the Summary Rounds 1-4 document or the full report of each round. [Complete results of the WHO-FIND malaria RDT product testing programme (2012)].
Section IV

Trainer Instructions
How to Follow the Trainer Instructions

The trainer instructions are designed to:

- Provide trainers with a step-by-step guide of trainer instructions to deliver during each participatory training activity.
- Involve health providers in interactive activities to help them learn and apply new skills to manage children under-5 with fever.
- Provide consistent content and training format for all trainers to deliver a number of trainings to health providers in the various participating districts.

Every trainer should utilize effective adult learning methodologies while conducting the training. A review the Adult Learning Techniques can be found on page 43.

The Trainer Guide and accompanying training materials are in English. You may need to prepare for each activity and be prepared to translate sections into the local language as needed using terms the health providers will understand. It is important to allow your personal style and the dynamics of the group to tailor the structure of the sessions.

Training Modules

There are 6 modules in this Trainer Guide.

**Module 1—Introduction to Training**
- 1.1 Pre-Test
- 1.2 Introduction to Training
- 1.3 Introduction to Test & Treat Campaign

**Module 2—Interpersonal Communication Skills**
- 2.1 Review of IPC Skills
- 2.2 IPC Skills Practice
- 2.3 Introduction to the Job Aid for Children with Fever

**Module 3—IPC during the Assessment of a Child with Fever**
- 3.1 Morbidity and Mortality of Children in Uganda
- 3.2 Common Signs and Symptoms of Febrile Illnesses in Children Under-5
- 3.3 Medical History and Physical Exam Process
- 3.4 Practice IPC Skills when Taking a History and Examining a Child with Fever
- 3.5 Close Day 1
Module 4—Laboratory Diagnosis of Malaria
   4.1 Rationale for Testing before Treating Malaria
   4.2 Accuracy and Reliability of Malaria Tests

Module 5—IPC Skills to Communicate Malaria Testing and Treatment Recommendations
   5.1 Communicating the Need for Malaria Testing, Positive Malaria Test Results and Treatment Recommendations
   5.2 Overcoming Challenges Communicating Negative Malaria Test Results
   5.3 Communicating the Need for Malaria Testing, Negative Malaria Test Results, Treatment of Non-Malaria Fevers and Adherence to Test Results

Module 6—Putting it All Together & Close of Training
   6.1 Health Provider Competency Skills Assessment
   6.2 Review Game
   6.3 Post-Test
   6.4 Close Training

Sample Module Table

Each module is divided into several sessions. At the beginning of each module there is a table that provides an outline of the session activities.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>The purpose of the training module.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Objectives</td>
<td>What the health providers should be able to learn, know, say, or do by the end of the module.</td>
</tr>
<tr>
<td>Module Activities</td>
<td>A timetable of the various module activities.</td>
</tr>
<tr>
<td>Duration of Module</td>
<td>The approximate length of the entire module.</td>
</tr>
<tr>
<td>Materials Needed</td>
<td>The tools and resources the trainer will need to have available for all the module activities.</td>
</tr>
<tr>
<td>Trainer Preparation</td>
<td>What the trainer must do or prepare ahead of time for the module to be successful.</td>
</tr>
</tbody>
</table>
Trainer Steps

Following the module table are the instructional steps the trainer is expected to follow to facilitate the training activities. Each step is numbered and begins with a verb to indicate what the trainer should do:

- **SAY**—Information you will state aloud.
- **ASK**—Questions you will ask the plenary group. Each question is written in *italics*. These questions can be used to test the health providers’ knowledge about what they know already. After each question there is a shaded list of possible correct answers you should expect the health providers to give. After asking a question, encourage the health providers to answer the question, (even if their answers are not correct) and continue probing until you get as many correct answers as possible. Provide positive feedback for every correct answer and gently correct wrong answers. Repeat the correct answers to reinforce the content.
- **EXPLAIN**—this means that you will need to explain a concept or give more information on the topic.
- **INSTRUCT**—this means that you will be giving the health providers instructions to follow. Whenever you give instructions it is important to repeat them several times so that they are clear and understood by all.
- **FACILITATE**—this means to facilitate a plenary group discussion about a topic by allowing different participants to share responses, eliciting key information and seeding key information not provided. A good trainer manages time effectively when facilitating large group discussions.
- **SHOW**—this means that you will demonstrate how to do an activity or role play in front of the health providers so that they can see how it is done.
- **DIVIDE**—this means that you will be breaking up the training participants into small groups for a group discussion or activity.
- **INVITE**—this means that you will request the health providers to volunteer to participate in an activity.
- **GIVE**—this means that you will be giving the health providers a document such as a form or an item they will use to during an activity.

**Trainer Note:** Additional useful information or hints for the trainer.

Annex

The *Annex* contains two sections:

- **Annex A** contains copies of the *Health Provider Workbook* of the worksheets and handouts which the health providers will use during training.
- **Annex B** contains the *Trainer Materials such as forms and reports* the trainer will use to deliver the training.
Throughout the Trainer Guide you will be referred to the page number in the Annex (or other parts of the guide) where the documents can be found. Titles of training documents are written in italics.

The Job Aid

The Job Aid for Children with Fever is an interactive tool to help health providers apply the interpersonal communications skills with caregivers of children under-5 during assessment, diagnosis and treatment of fever.

The Job Aid is to be used in the health facility with caregivers by showing the caregiver the pictures on the front of each card while following the cues on the back of each card. The Job Aid follows the process of:

- Taking a patient history
- Assessment of danger signs
- Examining the child
- Communicating the need to test for malaria and the testing procedure
- Communicating positive malaria test results and treatment
- Communicating negative malaria test results
- Communicating how to care for a child with fever
**MODULE 1—INTRODUCTION to TRAINING**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>The purpose of this module is to introduce the health providers to the training and the Test &amp; Treat Campaign. Health providers will take a Pre-Test to determine their current knowledge of the training content. HPs expectations will be assessed and clarified with the training agenda and learning objectives.</th>
</tr>
</thead>
</table>
| Learning Objectives | At the end of this module, health providers will have:  
- Shared each other's backgrounds and expectations.  
- Realized what to expect during and after the training.  
- Understood the purpose and importance of the Test & Treat campaign.  
- Agreed to a set of ground rules to make the training comfortable. |
| Module Activities | Arrival and Registration  
1.1 Pre-Test (20 minutes)  
1.2 Introduction to Training (45 minutes)  
1.2.1. Icebreaker  
1.2.2. Health Provider Expectations  
1.2.3. Learning Objectives  
1.2.4. Training Agenda  
1.2.5. Ground Rules  
1.3 Introduction to Test & Treat Campaign (20 minutes) |
| Duration of Module | 1 hour and 25 minutes |
| Trainer Materials: | *Training Attendance Register. See page 102.*  
*Pre-Test answer key. See page 98.*  
*Flipchart and marking pens*  
*Masking tape* |
| Participant Materials: | *Pre-Test (1 per HP)*  
*Health Provider Trainer Workbook (1 per HP)*  
*Workbook handout 1A: Learning Objectives found on page 8.*  
*Workbook handout 1B: Training Timetable found on page 9.*  
*Pens (1 per HP)*  
*Notebooks (1 per HP)* |
| Advance Preparation | *Complete all the items on the Prepare for Training Checklist found on page 11.*  
*Review all the items of the First Day of Training Checklist found on page 12.*  
*Ensure you have all the needed materials.*  
*Read and be prepared to explain the Test & Treat Campaign found on page 4.*  
*Review the Learning Objectives found on page 8 and the 2-Day Training Timetable found on page 9.*  
*Review the Instructions for Administering Pre- and Post-Tests found on page 13.*  
*Ensure you have 1 copy of the Pre-Test for each health provider.* |
Arrival and Registration—Day 1

1. Greet the health providers (HPs) as they arrive to the training room.
2. Instruct the HPs to complete the Daily Training Attendance Register for Day 1 and take a seat.

1.1—Pre-Test (20 min)

**Trainer Note:** Do NOT distribute the Health Provider Workbook before the Pre-Test.

1. Welcome health providers (HPs) and invited guests to the training.
2. Ensure each HP has a pen and notebook.
3. EXPLAIN the purpose of the Pre-Test.
4. EXPLAIN that there may be some questions they may not be able to answer because they have not learned them yet.
5. EXPLAIN that you will be giving them a similar test at the end of training to compare scores.
6. GIVE the Pre-Test to each HP.
7. INSTRUCT the HPs to write their name and today’s date on the top of each page.
8. INSTRUCT the HPs to work alone and complete the Pre-Test.
9. Allow 15 minutes to complete.
10. Collect the Pre-Tests.

**Trainer Note:** The co-facilitator should score the Pre-Tests and complete the Test Score Sheet to determine the HPs gaps in content before training Module 2. Save the Pre-Tests. Record the scores on the Pre- and Post-Test Score Tracking Sheet found on page 109.

1.2—Introduction to Training (45 min)

1. DIVIDE the HPs into groups of 4 to 5 people and ask each group to share the following information with each other.
   - Where they are from.
   - Current job title.
   - Years of experience as a health provider.
   - Their favourite song.
   - One thing they know about interpersonal communication with patients and caregivers.
2. Allow 5 minutes for icebreaker.

3. INSTRUCT each group to add up the cumulative number of years of clinical experience they have in their group.

4. INVITE each group to share their total years of clinical experience.

5. WRITE the years of experience on a flipchart and tally the total.

6. SAY: In this room we have a cumulative XX years of clinical experience. Let’s take advantage of sharing our experiences and what we know about interpersonal communication skills and the management of children with fever.

7. INSTRUCT the same small groups to nominate a group leader and discuss what they expect to learn from the training.

8. Allow 5 minutes for discussion.

9. INVITE each group leader to briefly summarize the group’s expectations.

10. Write their responses on the flipchart.

11. GIVE each HP a copy of the Health Provider Workbook.

12. EXPLAIN the Health Provider Workbook contains handouts and worksheets for the various training activities. Suggest they write their names on them.

13. INSTRUCT the HPs to find handout 1A: Learning Objectives in their workbook. Review the learning objectives.

14. INSTRUCT the HPs to find handout 1B: Training Timetable in their workbook and briefly review what will be covered in each module.

15. Clarify any HP expectations that will not be covered during the training.

16. SAY: Ground Rules are used to help us work and learn together as a team.

17. INVITE the HPs to contribute ground rules they would like to have.

18. With each ground rule suggested, gain consensus from the plenary group before writing them on the flipchart.

19. Conclude by saying that the ground rules can be revised at any time.

20. Post the flipchart in the room for the duration of the training.
1.3—Introduction to Test & Treat Campaign (20 min)

1. **ASK** the HPs to share what they know so far about the Test & Treat Campaign and accept all correct responses.

2. **EXPLAIN** the following key content about Test & Treat Campaign and how it relates to the learning objectives for the training:
   - MOH policy requires parasite-based diagnosis of malaria by microscopy or RDTs before treating, and only treating those with a positive malaria test results with ACTs.
   - Many children are still getting anti-malarial medicines without confirmation of malaria.
   - The NMCP is supporting the campaign to educate the public and health providers to test all fever cases for malaria, rather than treating all fevers as malaria.
   - The aim of the campaign is to:
     - build trust in malaria test results among clients and public health providers;
     - increase the proportion of clients with a fever who are tested and treated appropriately;
     - encourage community members to test for malaria before treating.
   - The campaign consists of training health providers at HCl, HCIII, HCIV and regional hospitals.
   - The campaign also consists of mass media communication and messages about the new policy to the public and orientation to district leadership and VHTs.

3. **EXPLAIN** that as much as the HPs will be learning new information during this training, they will also be **unlearning** old information which can sometimes be challenging. Make the following points:
   - Healthcare is dynamic—always changing based on new scientific evidence.
   - The old paradigm was ‘treat all fevers as malaria’. That was before accurate and reliable RDTs became widely available and laboratory diagnosis by microscopy was limited to few health facilities.
   - New evidence shows that malaria is not as prevalent as it used to be and there are other childhood febrile illnesses that are not being treated because of presumptive diagnosis of malaria.

4. **SAY**: *It will be important to keep an open mind to new information in order to improve the care of children with fever.*

5. **EXPLAIN** that the target audience for this campaign is children under-5 with fever.

6. **ASK** the HPs if they have any questions and provide clarification.

---

Break for morning tea. **SAY** that the tea break is **15 minutes** long and encourage the HPs to return on time.

**Trainer Note**: Use one or more of the **Time Management Tips** for getting participants back on time from breaks found on **page 19**.
MODULE 2—INTERPERSONAL COMMUNICATION SKILLS

Purpose

The purpose of this module is to review what the health providers know about interpersonal communication (IPC) and to reinforce how and when to use IPC skills during provider / patient interactions. Health providers will be introduced to the Job Aid for Children with Fever and how it will be used to practice IPC skills during the training and in the health facility.

Learning Objectives

At the end of this module, health providers will have:

- Reviewed, identified and defined which IPC skills are needed for provider-caregiver interaction.
- Recognized the importance of using IPC skills when interacting with patients and caregivers of children under-5.
- Practiced using IPC skills in response to caregiver needs.
- Understood the purpose of the Job Aid for Children with Fever and how it can be used during interactions with caregivers of children with fever.

Module Activities

2.1 Review of IPC Skills (45 min)
2.2 IPC Skills Practice (40 min)
2.3 Introduction to the Job Aid for Children with Fever (10 min)

Duration of Module

1 hour and 35 minutes

Materials Needed

Participant Materials:

- Workbook handout 2A: The 7 Cs of Communication found on page 80.
- Workbook handout 2B: IPC Skills Discussion found on page 81.
- Workbook handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever found on page 82.
- Workbook handout 2D: IPC Skills Practice Case Scenarios found on page 85.
- Job Aid for Children with Fever (1 per HP)

Advance Preparation

- Review background information on IPC Skills found on page 28 and be prepared to explain and facilitate a discussion on the content.
- Review background information on Competencies found on page 14 and be prepared to explain the meaning of core competencies.
- Review the Core Competencies for IPC & Differential Diagnosis of Fever found on page 82 and be prepared to review the first 3 competencies.
- Review the purpose and content of the Job Aid for Children with Fever found on page 49 and be prepared to explain it.

2.1—Review of IPC Skills (45 min)

1. Welcome participants back from break. Introduce the module topic.
2. ASK: How many of you have been trained on the 7 Cs of Communication?
3. INSTRUCT the HPs to find handout 2A: The 7 Cs of Communication in their workbook and quickly review them.
4. EXPLAIN that the HPs will be working in small groups to review and discuss IPC
5. DIVIDE HPs into small groups of 3 to 4 people.

6. INSTRUCT the HPs to find handout 2B: IPC Skills Discussion worksheet in their workbook.

7. INSTRUCT HPs to discuss and complete the worksheet in their small groups and be prepared to share their responses with the large group.

8. INVITE each group to assign a group leader to record the group responses.

9. Allow 25 minutes for small group discussions.

10. FACILITATE a large group discussion of each question on the worksheet (one by one) by asking the small group leaders to share their responses.

   - What is interpersonal communication?
   - List 8 interpersonal communication skills that health providers should use when interacting with a patient or caregiver.
   - What are the benefits of practicing interpersonal communication skills when interacting with patients and caregivers?
   - What are some strategies you can use to apply good interpersonal communication skills when your time is limited?

**Trainer Note:** Do not have the group leaders stand and present all their responses at once. Instead, invite each group leader to reply to one question before going to the next question. To manage time and avoid repetition, leaders do not need to reply each question if the content has already been covered. Take turns having each leader answer first.

11. When reviewing answers to question 3, ensure the list includes all the items listed under Good IPC Skills found on page 28. Provide the content if needed.

12. When reviewing answers to question 4, ensure the Benefits of IPC listed on page 29 are included. Provide the content if needed.

### 2.2—IPC Skills Practice (40 min)

1. INSTRUCT the HPs to find handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever in their workbook.

2. Explain what core competencies are and how the HPs will learn to demonstrate all 10 competencies during the training and then apply them in their practice at the health facility.

3. EXPLAIN that during this session HPs will practice demonstrating the first 3 core competencies of interpersonal communication which health providers need to have in order to effectively communicate with patients and caregivers.
4. Remind the HPs that since the target audience of the Test & Treat Campaign is children under-5 with fever, most of the interpersonal communication skills they will demonstrate during training be with caregivers of these children. However, these same core competencies should be used with all patients.

5. Review the behaviours that can HPs should demonstrate for the first 3 competencies:
   - Puts the patient or the caregiver at ease.
   - Asks questions in a manner the caregiver understands.
   - Listens to caregivers concerns and responses.

6. EXPLAIN that the HPs will be practicing these IPC competencies in small group role plays.

7. INSTRUCT the HPs to find **handout 2D: IPC Skills Case Scenarios** in their workbook.

8. DIVIDE the HPs into small groups of 3 people each.

9. EXPLAIN the following role play instructions:
   - Each person will rotate role playing the “health provider”, the “child’s caregiver,” and the “observer” for the 3 case scenarios.
   - At the end of each role play, the “observer” will provide feedback to the “health provider” on the behaviors they observed the HP based on the competency behaviors listed in their Workbook.
   - When giving feedback, the “observer” should first explain what was done well using specific examples of observed behavior and then provide suggestions for what can be done better in the future, using positive words.

10. EXPLAIN that after they have all had a chance to role play and practice IPC skills you will invite volunteers to role play one of the case scenarios for the large group.

11. Allow 15 to 20 minutes for HPs to role play all 3 scenarios.

12. Rotate among the groups and observe the role plays and take note of which groups you will invite to demonstrate good IPC skills for the plenary group.

13. INVITE a pair of HPs to demonstrate the IPC role plays for the plenary. Provide feedback on the core competencies observed and congratulate the HPs for their participation.
2.3—Introduction to the *Job Aid for Children with Fever* (10 min)

1. **GIVE** each HP a copy of the *Job Aid for Children with Fever* and ask the HPs to look through it.

2. **EXPLAIN** that the Job Aid is an interactive tool that should be used with caregivers and patients during the patient assessment, diagnosis and treatment process.

3. **ASK** the HPs what they observe about the *Job Aid* and how they think it should be used. Accept all reasonable answers.

4. **EXPLAIN** the purpose of the *Job Aid*, and how and when it is to be used.

5. **EXPLAIN** that the HPs will be practicing using the *Job Aid* throughout the training.

**Trainer Note:** Continue to Module 3.
## MODULE 3—IPC DURING the ASSESSMENT of a CHILD WITH FEVER

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Health providers will identify the febrile illnesses responsible for mortality and morbidity of children under-5 in Uganda and discuss why differential diagnosis of fever is important, rather than presumptively diagnosing all fevers as malaria. HPs will review the medical history and physical exam process and outline the questions to ask when examining a child with fever. HPs will then apply IPC skills to take a history and conduct a physical exam in a child with fever in various role plays using cards 1, 2, and 3 of the Job Aid. In the process they will collect sufficient patient data to make an accurate diagnosis of the cause of febrile illness for each role play scenario.</th>
</tr>
</thead>
</table>
| Learning Objectives | At the end of this module, health providers will have:  
- Identified the common febrile illnesses in children under-5 in Uganda and their signs and symptoms.  
- Discussed why differential diagnosis of fever is important.  
- Reviewed the process carrying out a medical history and physical exam for children with fever.  
- Discussed the questions to ask when examining children with fever.  
- Demonstrated how to use IPC skills and the Job Aid for Children with Fever to take a medical history and examine a child with fever. |
| Module Activities | 3.1 Morbidity and Mortality of Children under-5 in Uganda (30 min)  
3.2 Common Signs and Symptoms of Febrile Illnesses in Children (40 min)  
3.3 Medical History and Physical Exam Process Review (90 min)  
3.4 Practice IPC Skills when Taking a History and Examining a Child with Fever (60 Min)  
3.5 Close Day 1 (10 min) |
| Duration of Module | 3 hours and 50 minutes |
| Trainer Materials: | Flipchart paper and 5 marking pens.  
Caregiver Scenarios for Job Aid Cards 1, 2, & 3 found on page 103. |
| Participant Materials: | Job Aid for Children with Fever  
Workbook handout 3A: Common Signs and Symptoms of Febrile Illness Worksheet (found in the HP Workbook only).  
Workbook handout 3B: Algorithm for Assessment of a Child with History of Fever found on page 86.  
Workbook handout 3C: History and Physical Exam Process found on page 87.  
Workbook handout 3D: Review of Systems Diagram found on page 90.  
Workbook handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever found on page 82. |
| Materials Needed |  
Review the technical information on Febrile Illnesses in Children in Uganda found on page 25.  
Review technical information on Assessment of the Child with Fever found on page 30.  
Review the technical information on Common Febrile Illness in Children found on page 33. |
3.1—Morbidity and Mortality of Children in Uganda (30 min)

1. **SAY:** Fever is a common and important sign of illness. In Uganda a patient with fever is often assumed to have malaria, although malaria is common, not all fevers are caused by malaria.

2. **ASK:** What is the single largest cause of death among children under five in Uganda?
   - Pneumonia

**Trainer Note:** Give praise and recognition to those that answer pneumonia.

3. **EXPLAIN** that the *Maternal, Newborn and Child Survival Uganda 2012 Report* found that more children under-5 die of pneumonia in Uganda than any other illness. Pneumonia is responsible for an estimated 22,000 childhood deaths in Uganda and around 2 million episodes of sickness every year.

4. **EXPLAIN** that in 2011 pneumonia was responsible for 18% mortality rate as compared to 13% mortality rate from malaria in children under-5 in Uganda.

5. **ASK** the HPs to name the clinical symptoms for pneumonia and malaria and identify which symptoms they both have in common.
   - Fever
   - Nausea and Vomiting
   - Weakness and lethargy
   - Body aches
   - Fast breathing
   - In severe cases, chest in-drawing

6. **ASK:** If both illnesses have similar clinical symptoms, how do you know if a child has pneumonia or malaria?
   - Look for other symptoms of pneumonia such as rapid breathing, cough and nasal flaring.
   - Perform diagnostic tests such as microscopy and RDT for malaria, and oxygen saturation and chest x-ray for pneumonia.
7. Divide HPs into small groups of 4 to 5 people each.

8. Give each group a piece of flipchart paper and a marking pen.

9. EXPLAIN that each group will have **4 minutes** to list the most common febrile illnesses caused by any infectious agent (e.g. bacteria, virus, parasite, fungus) in children under-5 in Uganda.

10. Watch the clock and call time to stop writing.

11. INSTRUCT each group to underline the 5 febrile illnesses with the highest **morbidity** in children under-5 in Uganda.

12. Allow **2 minutes** and call time to stop writing.

13. INVITE the groups to post their flipcharts.

14. INVITE all the HPs to stand and view each flipchart.

15. INSTRUCT the HPs to find the common illnesses each group listed and underlined.

16. INVITE the HPs to take their seat and facilitate a brief discussion about their observations.

17. EXPLAIN that for the purposes of this training the febrile illnesses with the highest morbidity in children under-5 they will be focusing on will be:

   - Pneumonia
   - Malaria
   - Meningitis
   - Measles
   - Gastroenteritis
   - Otitis Media (ear infection)
   - Urinary Tract Infection
   - Pharyngitis and Tonsillitis (sore throat)
   - Typhoid Fever
   - Chicken Pox

### 3.2—Common Signs and Symptoms of Febrile Illnesses in Children Under-5 (40 min)

1. EXPLAIN that during this session the HPs will review the clinical symptoms of febrile illness in children under-5 in Uganda.

2. ASK the HPs why it is important to review the clinical symptoms of febrile illness.
   - To recognize the importance of differential diagnosis of fever rather than presumptively diagnosing all fevers as malaria.
3. DIVIDE the HPs into 5 groups. (It does not matter how many people are in each group, as long as there are 5 groups).

4. INSTRUCT the HPs to find **handout 3A: The Common Signs and Symptoms of Febrile Illness Worksheet** in their workbook.

5. EXPLAIN that each group will work together to complete the **first column for Signs and Symptoms to LOOK for—in conjunction with fever for danger signs & signs of severe illnesses**.

6. EXPLAIN that they will complete the next column of the worksheet, *What to Ask about Signs and Symptoms*, in the next session.

7. Allow approximately **5-8 minutes** for the small group activity.

8. Gather the attention of the plenary. Review the groups’ responses to signs and symptoms of danger signs and severe illnesses. Correct any misinformation.

   - Respiratory distress and Chest in-drawing
     - Lung crepitations (crackles, rales) heard with a stethoscope
     - Cyanosis (blue nail beds)
     - Oxygen saturation \(<95\%$
   - Not able to drink, eat or breastfeed
   - Vomiting everything
   - Convulsions
   - Altered mental state, prostration or extreme weakness
     - Unconscious, drowsiness or confusion
     - Extreme lethargy, unable to sit or stand
   - Severe Anemia
     - Palmar pallor (palms are white)
   - Severe Dehydration
     - Skin pinch test of more than 2 seconds
     - Rapid and deep breathing - faster than normal
     - Fast, weak pulse low blood pressure
     - Lethargy or unconsciousness
     - Cramping of the arms and legs

9. Assign **2 different febrile illnesses** to each group.

10. INSTRUCT the small groups work together to complete the **first column, Signs and Symptoms to LOOK for**, for the 2 febrile illnesses they were assigned.

11. Allow 10-15 minutes for the small group activity.

12. INVITE each group to present the signs and symptoms for their 2 febrile illnesses.

13. Correct any incorrect information. (Refer to the *Common Signs & Symptoms and Treatment of Childhood of Febrile Illness* handout, which you will be distributing later).
14. Facilitate a discussion when some of the symptoms are controversial.

15. ASK: Which febrile illnesses have overlapping symptoms with malaria?
   • Most of them.

16. ASK: How do you know a child has malaria?
   • Evidence of parasites in the blood either through microscopy or RDT.

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3.3—Medical History and Physical Exam Process Review (90 min)

1. Welcome the HPs back from lunch and thank those who returned on time.

2. INSTRUCT the HPs to find handout 3B: Algorithm for Assessment of a Child with History of Fever in their workbook.

3. Review each step of the algorithm.

4. INVITE the HPs to open the Job Aid for Children with Fever and instruct them to review the pictures and read the content on the back of cards 1, 2 and 3.

5. EXPLAIN that each card has suggested IPC skills for what to “SAY” and suggestions for clinical assessment for what to “ASK” and “DO.”

6. ASK: How many of you practice these interpersonal communication skills on a regular basis when assessing a child with fever?

7. ASK: Why is it important to get a good history and examine a child with fever before making a diagnosis?
   • To find clues which suggest a specific clinical diagnosis.
   • To determine the characteristics of the fever.
   • The cause of fever in a child may be subtle.
   • Illnesses can have overlapping or similar signs and symptoms.
   • To understand whether the child has been exposed to infections.
   • To know whether the caregiver has treated the fever.

8. INSTRUCT the HPs to find handout 3C: History and Physical Exam Process in their workbook.

9. EXPLAIN that the History and Physical Exam Process explains in detail what is outlined in the algorithm and it focuses only on the assessment of children under-5 with fever.

10. EXPLAIN that step 1 focuses on assessment of danger signs and signs of severe
Trainer Instructions: MODULE THREE

11. INSTRUCT the HPs to read to themselves the list of assessment questions and how to examine a child for danger signs and severe illness.

12. EXPLAIN that steps 2-5 focus on the types of questions to ask when obtaining a medical history for a child with fever.

13. INSTRUCT the HPs to read to themselves the list of assessment questions under steps 2-5.

14. Review the questions for assessing characteristics of fever for Step 2.

15. ASK: Why is it important to ask about characteristics of fever?

- Fever in local terms can be used to describe more than elevation in temperature, such as general body pain or feeling unwell.
- Fevers due to viral illness will go away in a few days.
- Malaria is typically an acute febrile illness. If a child has a fever which persists for more than 7 days, consider more severe illnesses such as typhoid fever or measles.
- Chills and rigors are associated mostly with urinary tract infections and other bacterial infections. Children under-5 with malaria rarely have chills and rigors.

16. EXPLAIN that steps 2-5 of the History and Physical Exam Process is the clinical process HPs should use to when taking a history; however because it is clinical, it is not worded in a language that most patients and caregivers understand.

17. ASK: What are some examples of how you would ask a patient or caregiver the following questions about the characteristics of fever in a manner they will understand?

- When did the fever start?
- How long has it lasted?
- Is the fever associated with other symptoms?
- Is there a pattern to the fever? Is it intermittent or constant?
- Has the child had chills or rigors?

18. EXPLAIN that steps 6-15 focus of the review of systems of a physical exam. INSTRUCT the HPs to read to themselves the list of what to examine under each system for steps 6-15.

19. Allow a few minutes and ask if they have any questions.

Trainer Note: Some of the Physical Exam steps, such as listening to breath sounds and heart sounds or palpating the abdomen, can only be done by trained health providers and those who have access to stethoscopes and otoscopes. Since the health providers in the training will be from different cadres and health facility levels, INSTRUCT those who do not know how to do certain exam procedures to focus on what they can SEE and TOUCH.

20. INSTRUCT the HPs to find handout 3D: Review of Systems Diagram for
**Differential Diagnosis of Fever** in their workbook.

21. EXPLAIN how the diagram is colour coded for each system and contains symptoms with potential febrile illnesses associated with each symptom.

22. EXPLAIN that the HPs will now practice writing assessment questions for the signs and symptoms they wrote on the *Common Signs and Symptoms of Childhood Febrile Illnesses Signs Worksheet*.

23. INSTRUCT the HPs to get into the same small groups they were in the previous session.

24. INSTRUCT the small groups to again find **handout 3A: Common Signs and Symptoms of Febrile Illness Worksheet** in their workbook.

25. EXPLAIN how to complete the next column, *Questions to ASK about the Signs and Symptoms* for both danger signs and the 2 illnesses they were assigned earlier.

26. EXPLAIN that the purpose of the exercise is to write the assessment questions they will ask caregivers in a language the caregiver will understand.

27. Remind HPs that assessment questions are used to determine the presence of symptoms and signs as well as the characteristics of symptoms such as timing, duration, frequency, exposure, color, drainage and behavior.

28. Allow 15 minutes for the worksheet activity.

29. Rotate around the training room and provide assistance as needed.

30. **ASK:** *Based on the signs and symptoms of danger signs and severe illness you have listed what are some questions you can ask the caregiver about danger signs?*

   - How long has the child had difficulty breathing?
   - Is the child able to drink or breastfeed?
   - Describe what happens when you offer your child something to drink.
   - Does the child vomit everything?
   - Has the child had convulsions with this current illness?
   - Does the child seem unusually sleepy?

31. Invite the small groups to share the questions they have written for their 2 assigned illness.

32. Conclude the session by stating that they will now be practicing how to conduct a differential diagnosis of fever using IPC skills and the *Job Aid*. 
3.4—Practice IPC Skills when Taking a History and Examining a Child with Fever (60 min)

1. INSTRUCT the HPs to once again find handout 2C: Core Competencies for IPC in their workbook.

2. INSTRUCT the HPs to read all 5 core competencies for Patient Assessment.

3. INVITE the HPs to again find cards 1, 2 and 3 of the Job Aid.

4. GIVE a brief demonstration of how to use cards 1 and 3 for a child without danger signs.

5. DIVIDE the HPs into new small groups of 3 people each.

6. EXPLAIN that they will again each take turns role playing the “health provider”; the “caregiver”; and the “observer” for 3 different scenarios.

7. EXPLAIN that there are 4 objectives for each role play:
   - Use IPC skills to assess the child with fever.
   - Use the cards 1, 2 and 3 from the Job Aid when communicating with the caregiver.
   - Demonstrate the behaviors for all 5 core competencies for Patient Assessment.
   - Complete a patient history and physical exam and determine what you suspect the cause of the child’s fever is based on the information the “caregiver” provides.

8. EXPLAIN that only the “caregivers” will know the child’s signs and symptoms and what the cause of fever is. It will be up to the “health providers” to use good IPC skills during the medical history and physical exam to determine what they suspect is the cause of fever is.

9. EXPLAIN that the “observer” will observe the “health provider” to ensure they follow the Job Aid and demonstrate the core competencies for Patient Assessment. At the end of each role play the “observer” will give brief feedback on what they observed was done well and what needs improvement.

10. INSTRUCT the small groups to decide who will be playing the “caregiver” first and INVITE them to come to the front of the room to get the first patient scenario and diagnosis.

**Trainer Note:** Ensure you have made 7 to 8 copies of the Caregiver Scenarios found on page 103 and cut them into strips so that you can distribute the scenarios to the “Caregivers” to read.

11. INSTRUCT the small groups that when they have completed the role play the next “caregiver” should come to get the next patient scenario and cause of fever.

12. Rotate around the room to observe the role plays. Ensure the HPs are using the Job Aids.

13. Debrief the session by asking, what the HPs found worked well and what they found challenging during the role plays.

14. Refer the HPs back to handout 3B: Algorithm for the Assessment of a Child with a History of Fever.
15. **ASK:** How do you know that the children in the role play scenarios did not have malaria?

- You don’t know. You need to test for malaria to rule it out.
- Some children can have malaria concomitant with another non-malaria febrile illness.
- All children with fever should be tested for malaria.

### 3.5—Close Day 1 (15 min)

1. **INSTRUCT** the HPs to stand one at a time and share one thing they learned today that they did not know when they entered the training this morning.

2. Review the following key messages from Day 1.

   - Interpersonal communication skills such as putting the caregiver at ease, appropriate questioning and active listening are core competencies health providers should practice daily.
   - Using IPC skills to obtain a medical history and conduct a physical exam in children with fever helps to gather information for a differential diagnosis.
   - Building and maintaining trusting relationships with caregivers promotes health behaviour change such as adherence to malaria test results.
   - Not all fevers are malaria. Many illness cause fever in children. A careful assessment is important to be able to provide the correct treatment.

3. Review the planned agenda for Day 2.

4. Remind the health providers of the ground rule to arrive on time. End Day 1
MODULE 4—LABORATORY DIAGNOSIS OF MALARIA

Purpose

The purpose of this module is to review the rationale for the national malaria control policy for diagnosis and treatment of malaria, and the importance of testing before treating and adhering to test results. HPs will discuss the accuracy and reliability and quality control of RDTs as well as the benefits and limitations of RDTs and microscopy. HPs will review how to interpret malaria test results and discuss the implications for non-adherence to negative malaria test results.

Learning Objectives

At the end of this module, health providers will have:

- Discussed the rationale and importance of testing before treating malaria and other febrile illnesses.
- Described how RDTs work, the limitations of the test, when to use the test, and how the results can be trusted.
- Recognized the implications of non-adherence to negative malaria tests.
- Developed strategies to communicate negative malaria test results to caregivers and patients to encourage adherence.

Module Activities

Recap Day 1 (10 min)

4.1 Rationale for Testing before Treating Malaria (50 min)

4.2 Accuracy and Reliability of Malaria Tests (60 min)

Duration of Module

2 hours

Materials Needed

Trainer Materials:

- Training Attendance Register.

Participant Materials:

- Workbook handout 4A: Rationale Test before Treat Discussion handout found on page 91.
- Workbook handout 4B: Interpreting RDT Results found on page 93.
- Workbook handout 4C: General Guidelines to Ensure Reliability of RDT Results found on page 93.

Advance Preparation

- Review the technical information on Rationale for Testing for Malaria before Treating on page 26 and be prepared to facilitate a discussion on the content.
- Review the technical information on Laboratory Tests for Malaria, beginning on page 39 and be prepared to explain How RDTs Work.

Arrival and Registration—Day 2

1. Greet the health providers as they arrive to the training room.
2. Instruct the HPs to sign the Daily Training Attendance Register for Day 2 and take a seat.

Recap Day 1 (10 min)

1. INVITE one health provider to volunteer to briefly review what was covered during Day 1 of training.
4.1—Rationale for Testing before Treating Malaria (45 min)

1. **ASK:** Can anyone define the NMCP policy for testing for malaria before treating?
   - Prompt parasitological confirmation by microscopy or RDTs for all patients suspected of malaria and before treatment for malaria is started.
   - Testing all fevers with parasite-based diagnosis of malaria by microscopy or RDTs to determine the cause of fever.
   - Only treating those with positive test results with ACTs.
   - When not to do an RDT test

2. Divide the HPs into small groups of 5 to 6 people each.

3. INSTRUCT each group to assign a group leader to lead the group discussion and take notes.

4. INSTRUCT the HPs to find handout 4A Test before Treat Rationale Discussion in their workbook.

5. INSTRUCT the HPs to read it quietly to themselves and then discuss in the small groups their answers to questions listed at the bottom of the handout.

6. Allow enough time for small group discussion and then facilitate a plenary discussion to review the group responses to the questions.

7. Ensure all the benefits of adhering to the Test before Treat policy listed on page 27 are mentioned.

4.2—Accuracy and Reliability of Malaria Tests (60 min)

1. **ASK:** What are the two methods of testing for malaria in Uganda?
   - Microscopy and rapid diagnostic tests (RDTs).

2. **ASK:** Why is microscopy called the “gold standard?”
   - A trained microscopist can see malaria parasites in the blood by examining a blood smear under the microscope.
   - A trained microscopist can count the number of parasites in a blood smear sample to determine the density of parasitemia.
   - A trained microscopist can differentiate between the various species of Plasmodium parasites.

3. EXPLAIN that when microscopy test for malaria is available, the results should be trusted.

4. EXPLAIN the different methods for how microscopy results are reported in Uganda.
and how to interpret the meaning of parasite density. See page 40.

5. Remind HPs that 99% of malaria infections in Uganda are caused *P. falciparum*, therefore specification is not vital part of malaria diagnosis and treatment as it would be in other countries with more species.

6. **EXPLAIN** that when microscopy is not available, health providers should use RDTs to test for malaria.

7. **ASK:** How many of you know how to perform an RDT?

8. **ASK:** How may of you perform RDTs regularly at your health facility?

**Trainer Note:** Based on the HPs responses to questions 17, 18 and 19 on the Pre-Test, consider a refresher training on how to conduct an RDT as a follow-up CME.

9. **ASK:** What are some benefits of using RDTs to test for malaria?
   - Accurate and highly sensitive.
   - Simple to use.
   - Gives results within 15 to 20 minutes.
   - Can be used outside the formal laboratory environment.
   - Does not require specialized training or other laboratory equipment.

10. **EXPLAIN** the following information about RDTs:
    - RDTs have been studied in Uganda and when used appropriately, performed correctly and the results are read correctly, they are **very accurate**.
    - RDTs go through a strict quality control process by the manufacturers. The NMCP has a list of approved RDTs in Uganda that have met WHO standards for quality control and currently only supplies health facilities with RDTs from the approved list. There have been some RDTs that were distributed in the past that did not meet quality standards.
    - RDTs can be damaged during transport and storage. The NMCP is currently establishing a system for public and private health providers to notify the NMCP of batches of RDTs that repeatedly have invalid results.

11. **INVITE** an HP to briefly explain how RDTs work. Ensure the following information is covered correctly:
    - Malaria parasites produce specific proteins called antigens.
    - RDTs have specific antibodies that will bind to parasite antigens.
    - When the blood of a person infected with malaria is placed on the RDT strip and the red blood cells are lysed with the buffer, the malaria antigens will be released.
    - The antibodies on the RDT strip will bind with the antigen and will cause a colour change on the test line.
    - If the person is not infected with malaria they will not have parasite antigens in the blood and the RDT result will be negative.
12. EXPLAIN that in Uganda, studies have shown that RDTs have comparable accuracy to microscopy, with 97% sensitivity and 95% specificity.

13. ASK: What does 95% sensitivity mean?
   - Sensitivity for diagnostics is the proportion of patients with the disease who have a positive result using the test under evaluation.
   - Sensitivity is between 0% (bad performance) and 100% (optimal performance).
   - Therefore, if an RDT has 97% sensitivity, this means that out of 100 patients with true malaria, the test will correctly identify 97 as positive for malaria and 3 patients with true malaria will be missed.

14. EXPLAIN that this can happen if level of parasitemia is below the level of detection. In this case the child’s symptoms will be either mild or not significant to cause illness and the cause of the child’s fever should be evaluated further.

15. ASK: What does 95% specificity mean?
   - Specificity for diagnostics is the proportion of patients without the disease who have a negative result using the test under evaluation.
   - Specificity is between 0% (bad performance) and 100% (optimal performance).
   - Therefore, if a RDT has 95% specificity, the test will correctly identify 95 patients as negative for malaria.
   - Five patients who do not have malaria will be incorrectly diagnosed as positive for malaria (false positive).

16. INSTRUCT the HPS to find handout 4B: Interpreting RDT Results in their workbook. Review each result.

17. Remind HPs that a control line must be present for the result to be valid.

18. SAY: If the RDTs test is performed correctly, according to manufacturer’s recommendations, the test results are very accurate and should be trusted.

19. SAY: When an RDT is performed correctly, a negative RDT means the child does not have malaria and the cause of the child’s fever should be evaluated further.

20. EXPLAIN that RDTs continue to register positive results up to 14 days post treatment with ACTs. Therefore, if a patient is not infected with malaria and has taken ACTs before coming to the health facility, their RDT will be negative. On the other hand, if the patient has taken ACTs, and truly has malaria, the test will be positive (not negative as some providers believe).

21. EXPLAIN that it is very important to use a timer, watch, or mobile phone to read the RDT results at exactly the time indicated by the manufacturer. Guessing the time or reading the results too late can give false results.

22. INSTRUCT the HPs to find handout 4C: General Guidelines to Ensure Reliability of RDT Results in their workbook. Review each guideline.

23. End the session by reminding HPs that both microscopy and RDTs are accurate and reliable tests for malaria and the results should be trusted.
MODULE 5—IPC SKILLS to COMMUNICATE MALARIA TESTING and TREATMENT RECOMMENDATIONS

**Purpose**

The purpose of this module is to apply the content learned in Modules 2 and 4. HPs will role play using IPC skills from cards, 4, 5, 6, and 7 of the Job Aid to communicate positive and negative malaria test results to caregivers and treatment recommendations for malaria and non-malaria fever. HPs will discuss how to overcome challenges of communicating negative malaria test results and treatment decisions to patients and caregivers.

**Learning Objectives**

At the end of this module, health providers will have:
- Demonstrated using IPC skills with the Job Aid for Children with Fever to:
  - explain the need for a malaria test and the importance of testing before treating.
  - communicate positive malaria test results and treatment recommendations for malaria.
  - communicate negative malaria test results, diagnosis of the cause of fever, and treatment recommendations for non-malaria fever.

**Module Activities**

5.1. Communicating the Need for Malaria Testing, Positive Malaria Test Results and Treatment Recommendations (45 min)

5.2. Overcoming Challenges to Communicating Negative Malaria Test Results (45 min)

5.3. Communicating the Need for Malaria Testing, Negative Malaria Test Results, Adherence to Test Results and Treatment of Non-Malaria Fevers (45 min)

**Duration of Module**

2 hours and 15 min

**Materials Needed**

- Participant Materials:
  - Job Aid for Children with Fever
  - Workbook handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever found on page 82.
  - Handout 5A: Common Signs & Symptoms and Treatment of Childhood of Febrile Illness.

**Advance Preparation**

- Review the core competencies for Diagnosis and Treatment.
- Ensure you have enough copies of the handout 5A: Common Signs & Symptoms and Treatment of Childhood of Febrile Illness to give to each HP.

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5.1—Communicating the Need for Malaria Testing, Positive Malaria Test Results, and Treatment Recommendations (45 min)

1. Instruct the HPs to once again find handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever in their workbook.

2. Review all 5 core competencies and behaviors for Diagnosis and Treatment.

   - Communicates information about diagnostic procedures and test results in a manner the caregiver understands.
   - Communicates the child’s diagnosis at a level the caregiver can understand.
• Uses the *Job Aid for Children with Fever* correctly to communicate diagnostic procedures and results.

• Communicates information about treatment recommendations in a manner the caregiver will understand and follow.

• Uses the *Job Aid for Children with Fever* correctly to communicate treatment recommendations for malaria and non-malaria fever.

3. GIVE each HP a copy of the **handout 5A: Common Signs & Symptoms and Treatment of Childhood of Febrile Illness**.

4. EXPLAIN that the *Job Aid* contains the first line treatment recommendations for a child with uncomplicated malaria positive, but does not include the treatment recommendations for non-malaria fevers. Therefore, this handout can be used as a reference for recommended treatments of non-malaria fevers based on the *2012 Clinical Guidelines for Uganda*.

5. EXPLAIN that the handout also contains all the common signs and symptoms for the childhood febrile illnesses they reviewed yesterday, and the questions to ask.

6. INVITE the HPs to once again find cards 4, 5, and 7 of the *Job Aid*. Review each card.

7. EXPLAIN that the HPs will now practice how to communicate the need for malaria testing and test results and treatment recommendations for a child with fever and positive malaria test results.

8. DIVIDE the HPs into new small groups of 3 people each.

9. EXPLAIN that they will again each take turns role playing the “health provider”; the “caregiver”; and the “observer” for the same scenario:

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**A child with fever and positive malaria test results.**

10. EXPLAIN the 5 objectives for this role play:

• Use IPC skills to communicate the need for malaria testing.

• Use IPC skills to communicate positive malaria test results.

• Use IPC skills to communicate treatment recommendations for malaria.

• Use the cards 4, 5, and 7 from the *Job Aid* when communicating with the caregiver.

• Demonstrate the behaviors for all 5 core competencies for *Diagnosis and Treatment*.

11. Rotate around the room to observe the role plays. Ensure the HPs are using the *Job Aids*.

**Trainer Note:** Invite the HPs to let you know when all 3 role plays are completed and transition to the next session when all have completed.
5.2—Overcoming Challenges Communicating Negative Malaria Test Results (45 min)

1. INSTRUCT the HPs to return to the handout 3B: *Algorithm for Assessment of a Child with History Fever* in their workbook.

2. Review the steps in the algorithm for what to do after a negative RDT result.

3. INSTRUCT the HPs to open their *Job Aid* to cards 5 and 6.

4. Review the pictures and the content on the back of each card.

5. EXPLAIN to the HPs that when a malaria test is positive, treating the child is easy. It also confirms the suspected diagnosis of malaria for patients and health providers. However, when the test result is negative, it can pose several challenges.

6. DIVIDE the HPs into groups of 4 people each.

7. GIVE the following instructions each group:
   - List the challenges of giving a patient or caregiver a negative test result for malaria.
   - Discuss what can be done to overcome each challenge in order to ensure adherence to negative test results.
   - Prepare a drama skit for the following scenario:

     The LC5 comes to the health facility with his young child who has a fever. The LC5 insists the child has malaria and demands you treat his child for malaria. You explain that you will need to examine the child and do an RDT test to confirm if the child has malaria. The RDT test is negative. Use IPC skills to explain the test results and your presumptive diagnosis and/or treatment recommendations to the LC5?

8. Allow 20 minutes.

9. Invite the HPs to share the outcomes of their discussion and facilitate a brief discussion on the solutions for helping caregivers adhere to negative test results.

10. INVITE one group to demonstrate their drama for the plenary.

5.3—Communicating the Need for Malaria Testing, Negative Malaria Test Results, Adherence to Test Results and Treatment of Non-Malaria Fevers (45 min)

1. EXPLAIN that the HPs will now practice how to communicate the need for malaria testing and test results and treatment recommendations for a child with fever and negative malaria test results.

2. EXPLAIN that they will remain in their same groups and again each take turns role playing the “health provider”; the “caregiver”; and the “observer” for the following 3 non-malaria fever scenarios:
3. Remind the HPs to refer to the **handout 5A: Common Signs & Symptoms and Treatment of Childhood of Febrile Illness** when communicating the recommended treatment.

4. EXPLAIN the 5 objectives for each role play:

   - Use IPC skills to communicate the need for malaria testing.
   - Use IPC skills to communicate negative malaria test results.
   - Use IPC skills to communicate cause of fever and treatment recommendations for non-malaria fevers.
   - Use IPC skills to stress the adherence to negative test results.
   - Use the cards 4, 6, and 7 from the *Job Aid* when communicating with the caregiver.
   - Demonstrate the behaviors for all 5 core competencies for *Diagnosis and Treatment*.

5. Rotate around the room to observe the role plays. Ensure the HPs are using the *Job Aids*.

6. Debrief the session by asking, what the HPs found worked well and what they found challenging during the role plays.

Break for lunch. EXPLAIN that the lunch is **60 minutes** long and encourage the HPs to return on time.
MODULE 6—PUTTING it ALL TOGETHER & CLOSE of TRAINING

**Purpose**

The purpose of this module is to apply all the key content learned during the 2-day training through a comprehensive role play practice. Health providers will conduct peer feedback using the Core Competencies for IPC & Differential Diagnosis of Fever. During this module HPs will also play a review game to reinforce the key content they learned during the training before taking the Post-Test. HPs will evaluate the training and those who have attended both days of training fully will be awarded a Certificate of Attendance.

**Learning Objectives**

At the end of this module, health providers will have:

- Demonstrated using IPC skills with the Job Aid for Children with Fever to correctly communicate to patients and caregivers during the assessment, diagnosis and treatment of a child with fever.
- Reviewed key objectives of the training.
- Completed the Post-Test.
- Evaluated the training.
- Received Certificates of Attendance

**Module Activities**

6.1 Health Provider Competency Assessment (90 min)
6.2 Review Game (20 min)
6.3 Post-Test (20 min)
6.4 Close Training (20 min)

**Duration of Module**

2 hours and 30 min

**Materials Needed**

**Trainer Materials:**
- Paper ball.
- Post-Test answer key found on page 104.
- Completed and signed Certificates of Attendance (1 per HP).

**Participant Materials:**
- Workbook handout 2C: Core Competencies for IPC & Differential Diagnosis of Fever found on page 82.
- Post-Test (1 per HP).
- Workbook handout 6A: Health Provider Training Evaluation Form found on page 95.

**Advance Preparation**

- Practice the demonstration role play with your co-facilitator.
- Make a large ball out of flipchart paper.
- Ensure there are enough Post-Tests for each HP.
- Review the Instructions for Administering Pre- and Post-Tests found on page 13.
- Complete the Certificates of Attendance with the health provider’s name, the date of training, the location of the training. Sign the Certificates.

### 6.1—Health Provider Competency Assessment (90 min)

1. EXPLAIN to the HPs that it is now time to put together everything the HPs have learned and practiced during the training.
2. **EXPLAIN** that you will first be demonstrating how to apply all 10 core competencies with your co-facilitator. Give the following explanation:

- Your co-facilitator will role play the “caregiver” of a child with fever, no danger signs and a **positive** RDT result.
- You will role play the “health provider” demonstrating IPC skills for all 10 core competencies for assessment, diagnosis and treatment.
- The HPs should observe the role play for IPC skills.

**Trainer Note:** Do not take more than 5 minutes for the role play. Practice this role play ahead of time, so that correct IPC skills can be demonstrated.

3. **EXPLAIN** that HPs will now practice role playing all 10 core competencies for IPC.

4. **DIVIDE** the HPs into new groups of 4 people each.

5. **EXPLAIN** the following role play instructions to the HPs:

- Each person in each group will role play the “health provider” and demonstrate IPC skills for all 10 core competencies for assessment, diagnosis and treatment.
- Each group will practice 4 role plays for a child with fever, no danger signs and a **negative** RDT result.
- It will be up to the “caregiver” to decide what non-malaria febrile illness the child has, and to give the “health provider” information about signs and symptoms when probed/asked.
- There should be a different febrile illness for each role play.
- It will be up to the “health provider” to determine what diagnosis they suspect using good IPC skills to assess signs and symptoms.
- The “health providers” should use the *Job Aid* throughout the assessment, diagnosis and treatment process.
- Each role play should not take more than 10 minutes.
- There will be 2 “observers” for each role play.
- The “observers” will use the list of **Core Competencies for Interpersonal Communication and Differential Diagnosis of Childhood Fever** to assess the “health provider” proficiency for all 10 core competencies.
- At the end of each role play, each “observer” will take 1-2 minutes to give feedback to the “health provider” on what they observed was done well and suggestions for what can be done better. Observers should use specific examples when giving feedback.

Rotate around the room and observe the role plays. Note the HPs strengths and weaknesses.

**Trainer Note:** While observing the role plays, use the descriptions of proficiency levels found on page 15. Make note of the HPs who demonstrate an **unsatisfactory level**; they will need additional supervision during the supervision visits. Make note of the HPs who
demonstrate an advanced level; they can be recommended as mentors.

6.2—Review Game (20 min)

1. INVITE the HPs to stand in a large circle. Hold the paper ball in your hand.

2. SAY: We are going to play a game. You will throw this paper ball to each other. When you catch the ball, you will say:
   - 1 thing you learned about interpersonal communication with caregivers.
   - 1 thing you learned about the rationale for testing children with fever for malaria before treating.
   - 1 thing you learned about differential diagnosis of children with fever.
   - Then throw the ball to another person who will do the same.
   - You cannot repeat what somebody has already said.

3. Start by throwing the ball to the first health provider.

4. After everyone has had a turn, congratulate the health providers for their participation.

5. INVITE the health providers to return to their seats.

6.3—Post-Test (20 min)

**Trainer Note:** The Pre- and Post-Test include the exact same questions; however the order of the questions and answers on the Post-Test are different.

1. Ask the HPs to put away their Workbook and Job Aid.

2. GIVE each HP a Post-Test.

3. INSTRUCT the HPS to write their name and today's date on the top of the page.

4. INSTRUCT the health providers to work alone and complete the Post-Test.

5. Allow 10 to 15 minutes.

6. Collect the Post-Tests.

**Trainer Note:** Score the tests after the training. Compare the Pre-Test scores to the Post-test scores for each health provider. It is not necessary to share the test results with the health providers. Record the Pre- and Post-Test scores on the Scoring Tracking Sheet. Identify where gaps still remain and use this information to recommend future CMEs for the various health provider cadres. Include the average percent improvement on the Training Report. Submit all the tests and the Score Sheet with the Training Report.
### 6.4—Close Training (20 min)

1. INSTRUCT the HPs to find **handout 6A: Health Provider Training Evaluation** in their workbook.
2. INSTRUCT the HPs to complete the evaluation form anonymously.

**Trainer Note:** You may want to provide a chair or space on a table where HPs can place their completed evaluations.

3. Gather the group for the closing ceremony.
4. SAY a few brief words about what the health providers have accomplished during the training and the importance of the Test & Treat Campaign.
5. Congratulate the HPs for their hard work and achievement.
6. Call out each HPs name one-by-one and award the *Certificates of Attendance*.
7. End the training and thank the health providers for their participation.

**Trainer Note:** Make a copy of the *Training Attendance Register*; summarize the training evaluations and complete the Training Report.
Section V

Annex A
Health Provider Workbook
Handout 2A—The 7 Cs of Communication

1. Complete

For health providers to be complete in their communication they should convey the full and essential information to patients and caregivers needed for decision making. The health provider should try not to overwhelm the caregiver with too much information and should take into consideration the caregiver’s level of understanding and emotional state and adjust the message accordingly.

2. Concise

To be concise means to communicate information with limited words. It means to provide the essential information without too much elaboration. Sometimes giving too much information to patients and caregivers can be confusing.

3. Considerate

To be considerate means to have empathy for the patient or caregiver. It means taking into consideration the caregiver’s view points, background, emotions, and education level. A considerate health provider modifies his/her words to suit the needs of the caregiver while still making the message complete. Qualities of a considerate health provider include showing interest in the patient and caregiver and using positive words. A considerate communicator is appreciative of the other person.

4. Clear

To communicate with clarity means knowing exactly what to communicate in a step by-step fashion. It means giving one message at a time rather than rambling or jumping from one idea to the other and back again. It also means not going off topic.

5. Concrete

Concrete communication means being precise, specific, and factual rather than general and vague.

6. Courteous

A health provider who is courteous shows he/she respects the patient or the caregiver. Ways to demonstrate courtesy are to be sincere, polite, to listen actively, and to be non-judgemental.

7. Correct

When a health provider communicates information to a patient or caregiver, the information needs to be accurate and current. A health provider who gives incorrect or outdated information will lose the trust and respect of his/her patients.
Handout 2B—IPC Skills Discussion

Discuss the answers the following questions in your small groups.

1. What is interpersonal communication?

2. List 8 interpersonal communication skills that health providers should use when interacting with a patient or caregiver.

3. What are the benefits of practicing interpersonal communication skills when interacting with patients and caregivers?

4. What are some strategies you can use to apply good interpersonal communication skills when your time is limited?
## Handout 2C—Core Competencies for Interpersonal Communication & Differential Diagnosis of Childhood Fever

### Patient Assessment

<table>
<thead>
<tr>
<th>1. Puts the child and the caregiver at ease:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Greet the caregiver and the child courteously.</td>
</tr>
<tr>
<td>• Makes eye contact and is pleasant.</td>
</tr>
<tr>
<td>• Provides a space for privacy and confidentiality and offers the caregiver a place to sit. If possible, removes any barriers of communication such as a desk or table between the provider and caregiver.</td>
</tr>
<tr>
<td>• Determines the caregiver’s preferred language.</td>
</tr>
<tr>
<td>• Obtains the caregiver’s name, the child’s name and residence.</td>
</tr>
<tr>
<td>• Introduces self and role at the health facility.</td>
</tr>
<tr>
<td>• Interacts with the child. If the child is crying or irritable, tries to calm or distract the child.</td>
</tr>
<tr>
<td>• Thanks the caregiver for bringing the child to the health facility.</td>
</tr>
<tr>
<td>• Identifies the reason for the caregiver’s visit by asking an appropriate opening question. (e.g., What brings you to the health facility today? What is the reason for your visit today?)</td>
</tr>
<tr>
<td>• Shows empathy verbally or non-verbally by recognizing the caregiver’s concern over the outcome of their sick child.</td>
</tr>
<tr>
<td>• Encourages the caregiver to express her/his feelings.</td>
</tr>
<tr>
<td>• Demonstrates respect and interest in the caregiver’s concerns.</td>
</tr>
<tr>
<td>• Gives praise the caregiver for recognizing the child’s symptoms early and for bringing the child to the health facility for care.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Asks medical history questions in a manner the caregiver understands:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explains to the caregiver that he/she is going to ask questions about the child’s illness.</td>
</tr>
<tr>
<td>• Uses simple non-medical words the caregiver understands. Sometimes uses colloquial or slang terms that are easier to understand.</td>
</tr>
<tr>
<td>• Begins by asking open-ended questions that allow the caregiver to describe and reveal information. (E.g., What more can you tell me about your child’s cough? Tell me more about your child’s symptoms.)</td>
</tr>
<tr>
<td>• Rephrases the question in another way if the caregiver does not understand the question. (E.g. When did the cough start? How many days and nights has the child had a cough?)</td>
</tr>
<tr>
<td>• Asks probing questions based on specific points the caregiver has made to gather more information. (E.g., Has the child had this illness before? Tell me more about your child’s rash; did the rash appear with other symptoms?)</td>
</tr>
<tr>
<td>• Asks sufficient questions to elicit a complete medical history. (E.g. Is there anything else that you are worried about? Have you already given the child any treatment?)</td>
</tr>
<tr>
<td>• Asks about symptoms of alternative diagnoses that have similar signs and symptoms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Listens to the caregiver’s concerns and responses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Allows time for the caregiver to respond to questions.</td>
</tr>
<tr>
<td>• Allows the caregiver to tell their story and complete statements without interruption.</td>
</tr>
<tr>
<td>• Clarifies statements that are unclear by asking the caregiver to explain what they meant.</td>
</tr>
<tr>
<td>• Periodically summarizes and paraphrases what the caregiver has said to confirm understanding.</td>
</tr>
</tbody>
</table>
- Observes the caregiver’s non-verbal cues (body language, facial expression, rhythm of speech) and confirms what she/he observes.
- Accepts the caregiver’s views and feelings in a non-judgmental manner.
- Leans towards the caregiver when she/he is talking and makes eye contact.
- Shows the caregiver they are listening and encourages the caregiver to express themselves freely by nodding or by saying words such ‘yes’, ‘OK’, or ‘mmhmm’.

### 4. Communicates information about exam procedures in a manner the caregiver understands:
- Explains that he/she will be examining the child and asks permission to undress the child.
- Encourages the caregiver to ask questions.

### 5. Uses the *Job Aid for Children with Fever* correctly to assess the cause of the child’s fever:
- Shows the caregiver the pictures and refers to the cues on the back of each card.
- Follows the sequence of cards in the correct order:
  - Takes the patient history
  - Assesses for all danger signs and signs of severe illness
  - Conducts the physical exam

### Diagnosis

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Communicates information about diagnostic procedures and test results in a manner the caregiver understands:</td>
</tr>
<tr>
<td></td>
<td>Provides clear information on what procedures or laboratory tests will be conducted.</td>
</tr>
<tr>
<td></td>
<td>Explains why the tests are needed.</td>
</tr>
<tr>
<td></td>
<td>Explains what the child might experience and how long the procedure or test will take.</td>
</tr>
<tr>
<td></td>
<td>Explains the meaning of laboratory and diagnostic test results.</td>
</tr>
</tbody>
</table>

### 7. Communicates the child’s diagnosis at a level the caregiver can understand:
- Explains what he/she thinks is the cause of the child’s fever at a level the caregiver can understand.
- Explains why he/she suspects the child has the stated diagnosis.
- Stresses the importance of adhering to negative test results.
- Elicits the caregiver’s beliefs, reaction or concerns about the diagnosis.

### 8. Uses the *Job Aid for Children with Fever* correctly to communicate diagnostic procedures and results:
- Shows the caregiver the pictures and refers to the cues on the back of each card.
- Follows the sequence of cards in the correct order to communicate malaria diagnostic testing and results:
  - Test for malaria
  - Positive malaria test results
  - Negative malaria test results
- Explains why a negative malaria test result means the child does not have malaria.
- Explains which non-malaria febrile illness he/she thinks the child has and why.
## Treatment

<table>
<thead>
<tr>
<th>9. Communicates information about treatment recommendations in a manner the caregiver will understand and follow.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provides information on the recommended treatment.</td>
</tr>
<tr>
<td>o The name of the treatment, what it is for and why it is needed.</td>
</tr>
<tr>
<td>o How the treatment is to be taken. The number of tablets to be swallowed or crushed and mixed with water.</td>
</tr>
<tr>
<td>o The number of times the dose should be taken daily and for how long.</td>
</tr>
<tr>
<td>• Counsels the patient on the importance of adherence to treatment recommendations.</td>
</tr>
<tr>
<td>• Encourages the caregiver to ask questions.</td>
</tr>
<tr>
<td>• Asks the caregiver to repeat back information about the diagnosis and treatment to confirm it was understood correctly.</td>
</tr>
<tr>
<td>• Elicits the caregiver’s willingness to accept and follow the recommended treatment.</td>
</tr>
<tr>
<td>• Communicates when to come back if the child does not improve or worsens.</td>
</tr>
<tr>
<td>• Communicates when to return for a follow-up to check if the child is improving. (Children with pneumonia should return for follow-up in 2 days).</td>
</tr>
<tr>
<td>• Gives information to the caregiver about how to prevent the illness in the future. (e.g. <strong>Sleep under LLIN, or breastfeed exclusively for the first 6 months</strong>).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Uses the <em>Job Aid for Children with Fever</em> correctly to communicate treatment recommendations for malaria and non-malaria fever.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shows the caregiver the pictures and refers to the cues on the back of each card.</td>
</tr>
<tr>
<td>• Follows the sequence of cards in the correct order to communicate treatment of malaria and management of fever.</td>
</tr>
<tr>
<td>• Follows the sequence of cards in the correct order to communicate the treatment recommendations for non-malaria fever and management of fever.</td>
</tr>
</tbody>
</table>
Handout 2D—IPC Skills Case Scenarios

Case Scenario One
A new mother comes to the health facility with her 2 month old infant who has been sick with fever and vomiting for the past 24 hours. The mother appears young and frightened. This is the first time her child has been sick and the first time she has come to this health facility.

Put this young mother at ease so that she can develop trust in you.

Case Scenario Two
An older woman visits the health facility with her 4 year old grandson. After greeting and introducing yourself to her, you ask her the reason for her visit. She explains her grandson has not been feeling well for 2 days because it is the season of mangoes. The grandmother also appears to be upset and later shares that she is not happy about how long she has had to wait.

Obtain additional information from the caregiver about the child’s symptoms and listen to her concerns.

Case Scenario Three
A mother brings her 3 year old child to the health facility and states the child is having difficulty breathing. On exam you observe the child is very lethargic with a Blantyre coma scale of 1 and has chest in-drawing. You need to explain to the mother that her child is very sick and needs immediate attention at the referral hospital. The mother is crying and obviously worried about the outcome of her child’s health. She does not seem to listen to your instructions that her child needs immediate attention.

Put the mother at ease so that she understands what she needs to do.
Handout 3B—Algorithm for Assessment of a Child with History of Fever

1. Take temperature, assess for characteristics of fever and assess for Danger Signs and Severe Illness
   - No Danger Signs
     - Assess for symptoms associated with fever (History)
       - Obtain vital signs, examine systems involved (PE)
         - Suspect malaria only
           - Test for Malaria
             - NEG: NOT Malaria
               - Treat malaria with ACT
               - Treat other illness according to guidelines
               - Manage fever
             - POS: Malaria
               - Treat with ACT
               - Manage fever
         - Suspect other causes of fever based on positive history and exam findings
           - Test for Malaria
             - NEG: NOT Malaria
               - Test for other illnesses
               - Treat non-malaria illness according to guidelines
               - Manage fever
             - POS: Malaria
               - Treat with ACT
               - Manage fever
   - Danger Signs or Severe Illness present
     - Determine cause of illness and treat immediately
     - Give pre-referral rectal artesunate and antibiotic and refer immediately
Handout 3C—History and Physical Exam Process for a Child with Fever

1. Check for any immediate life threatening danger signs or the presence of symptoms and signs of severe illness:
   - Look for severe respiratory distress and chest in-drawing.
     - Assess for cyanosis.
     - Look for nasal flaring and chest in-drawing.
     - Listen for any unusual sounds such as rhonchi, crepitation, or wheezes.
   - Assess whether the child is able to drink or breastfeed.
   - Is the child vomiting everything?
   - Has the child had convulsions or fits within the last two days or at present.
   - Is the child lethargic, drowsy, unconscious or confused?
   - Is the child able to stand or sit without support? Is the child extremely weak or floppy?
   - Does the child appear pale or have severe palmar pallor?
   - Is the child severely dehydrated? Lethargic or unconscious and:
     - Sunken eyes
     - Not able to drink
     - Skin pinch goes back very slowly (>2 seconds)

   If danger signs or signs of severe illness are present:
   - Determine cause of illness and treat immediately.
   or
   - Give pre-referral treatment and refer immediately.

2. Ask about characteristics of the fever
   - When did the fever start?
   - How long has it lasted?  If more than 7 days, has the fever been present every day?
   - Is the fever associated with other symptoms?
   - Is there a pattern to the fever? Is it intermittent or constant?
   - Has the child had chills or rigors?

3. Ask about the presence of related symptoms
   - Has the child had cough or difficulty breathing? For how long?
   - Does the child have an appetite, nausea, vomiting, abdominal pain, or diarrhea?
   - Does the child have dysuria or painful micturition, crying on micturition and/or urinary frequency?
4. Ask about child’s recent activities
   - Has the child been weak? For how long?
   - Has the child been irritable? For how long? Is the child consolable?
   - Has the child's activity significantly changed during the illness?
   - Where have they been? (Travel up-country?)
   - Has the child been in contact with any sick people or animals?

5. Ask about the child’s past medical history and any prior treatments
   - What other diseases has the child had before?
   - Do you know the child’s HIV serostatus?
   - Does the child have any chronic diseases such as sickle cell disease?
   - What has been done to treat this illness?
   - What other medications have been taken?
   - Does the child have any known allergies to medications?
   - What immunizations has the child received? Do you have the child’s immunization record?

Examine the Child

6. General Appearance
   - Observe the child’s mood. Is the child lethargic, agitated or irritable?
   - What is the quality of the child’s cry? Is it abnormal, high pitched, or weak in effort?

7. Measure and record the axillary temperature, vital signs, and weight
   - Does the patient have fever?
   - What is the respiratory rate?
   - What is the pulse rate?
   - What is the child’s weight? Is it normal for the child’s age?

8. Skin
   - Look for localized or generalized skin rashes (sign of measles, meningitis, chicken pox).
   - Evaluate for any tenderness, swelling, infected skin lesions, or abscesses.
9. **Head and Neck**
   - Observe the skin color and turgor.
   - Evaluate for neck stiffness (sign of meningitis).
   - Look for a bulging fontanel in children less than 18 months (sign of meningitis).
   - Assess for enlargement or tenderness of lymph nodes.

10. **Eyes, Ears, Nose and Throat**
    - Look for redness or drainage from the eyes (sign of measles).
    - Look for yellowing of the eyes—jaundice (sign of liver infection).
    - Look for inflamed throat or tonsils (sign of pharyngitis and tonsillitis).
    - Assess the mouth for ulcers or lesions (sign of measles or viral infections).
    - Check for dryness of the tongue or mouth (sign of dehydration).
    - Check the ears for redness, inflammation of the tympanic membrane and discharge (sign of otitis media).

11. **Respiratory**
    - Look for nasal flaring and rapid breathing (sign of pneumonia).
    - Listen for any unusual sounds such as rhonchi, crepitation, stridor, or wheezes.

12. **Cardiovascular**
    - Listen for extra heart sounds, murmurs, rubs, or gallops (sign of endocarditis or pericarditis).

13. **Abdomen**
    - Skin pinch test.
    - Evaluate for enlargement of spleen or liver.
    - Assess for tenderness to palpation.
    - Evaluate for palpable masses.

14. **Musculoskeletal**
    - Evaluate for pain and swelling.
    - Evaluate range of motion and reflexes.
    - Evaluate any pain and/or muscle weakness.
Handout 3D—Review of Systems Differential Diagnosis of Fever

**Headache**
- Meningitis
- Malaria
- Typhoid
- Ear infection

**Convulsions**
- Meningitis
- Cerebral malaria
- Very high fevers

**Ear pain & discharge**
- Otitis media

**Eye changes**
- Measles (redness, discharge, cloudy)
- Malaria (jaundice)
- Sunken eyes (dehydration)

**Cough**
- Pneumonia
- Measles
- Pharyngitis
- Tuberculosis

**Difficult or fast breathing**
- Pneumonia
- Malaria
- Measles
- Sepsis

**Head & Neck**
- Ear pain & discharge
- Eye changes

**Skin**
- Rash
  - Measles
  - Meningitis
  - Chicken Pox
- Palmar pallor
  - Malaria
  - Anaemia

**Respiratory**
- Cough
- Difficult or fast breathing

**Abdomen**
- Abdominal pain, nausea, vomiting, diarrhoea
  - Gastroenteritis
  - Malaria
  - Typhoid
  - UTI
  - Measles

**Fever**
- Malaria and meningitis have rapid onset fever
- Typhoid fever rises in steps
- Chicken pox fever is mild

**Weakness & lethargy**
- Malaria
- Pneumonia
- Dehydration
- Typhoid
- UTI
Handout 4A—Rationale for Test before Treat Discussion

In order to control malaria and reduce childhood mortality, it is important to give prompt and effective antimalarial treatment to any patient who truly has malaria. A major challenge to diagnosis of malaria is that it typically presents with non-specific symptoms similar to other common febrile illnesses. In sub-Saharan Africa most fevers are not due to malaria, and a significant proportion of mortality is from other causes. Additionally, new evidence has revealed that malaria may not be as prevalent as it used to be due to the many prevention efforts, including: indoor residual spraying (IRS), intermittent preventive treatment during pregnancy (IPTp), and increased promotion of long lasting insecticide treated mosquito nets (LLIN).

If we give antimalarial drugs to patients who do not have malaria parasites in their blood, we have failed to give them the correct treatment. The burden of misdiagnosis of fever in Uganda is significant; 83% of sick children are treated presumptively for malaria instead of for the actual cause of their fevers (UMIS 2009). The consequences of treating patients based on a presumptive diagnosis of malaria are significant:

1. Patients who are given presumptive antimalarial treatment for non-malarial disease have poor outcomes.
   - Bacterial, viral and other febrile illnesses cannot be distinguished from malaria without diagnostic testing – e.g. respiratory infections, sepsis, meningitis.
   - Non-malarial febrile illnesses have high mortalities in Africa; mortality increases with delays caused by wrong diagnoses and inappropriate treatment.
   - More children die from pneumonia than malaria in Uganda.
   - New evidence indicates that the vast majority of systemic infections and acute respiratory infections in children are due to viruses.

2. Waste of large quantities of scarce and expensive ACTs contributes to stock outs of drugs which should be targeted to treat patients who truly have malaria.

3. Development and spread of ACT resistant parasites leading to ACTs no longer being an available and effective treatment for malaria.
   - At present, there are few affordable new drugs to replace artemisinin derivatives if resistance develops to this class of drugs. WHO recognises the possibility of artemisinin resistance as a “global emergency” that may seriously threaten efforts to control and eliminate malaria.

4. Increased risk of adverse drug reactions due to unnecessary antimalarial treatments.

5. Increased health care costs. Artemisinin based drugs are expensive, despite subsidies. Misdiagnosis and over-diagnosis of malaria drain resources at the household level, affecting the poorest families.

6. Erosion of patient confidence and trust in the health services.

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31 Heidi Hopkins, MD, MPH Malaria case management: from presumptive treatment to definitive diagnosis. MACIS meeting, April 2009.
Small Group Discussion Questions for Test before Treat

1. What are the consequences of giving artemisinin-based antimalarials to children who have been tested and do not have malaria?

2. What are the potential consequences of parasitic resistance to ACTs in Uganda?

3. How do drug stock outs of ACTs affect children with confirmed malaria when drugs are not available at the health facilities?

4. List 3 benefits of adhering to the Test before Treat policy.
Handout 4B—Interpreting RDT Results

1. Red line in the test window and red line in control window = **Positive**

2. The test is **positive** even if the red line in the test window is very faint.

3. No line in the test window and red line in control window = **Negative**

4. Red line in the test window and no line in control window = **Invalid**

5. No line in the test window and no line in control window = **Invalid**
Handout 4C—General Guidelines to Ensure Reliability of RDT Results

- Read the manufacturer’s instructions for performing the RDT. Note the number of minutes you should wait before reading the RDT results as it can vary by manufacturer.

- Ensure you have a timer such as a clock, watch, or mobile phone to use to time when the RDT results can read.

- Note the lot number and expiry date; a kit should **not** be used beyond the expiry date.

- Ensure correct storage conditions are in place, as stated by the manufacturer.

- Unless otherwise recommended, RDT kits should be stored at room temperature. If the test kit was stored in a refrigerator, it should be brought to room temperature approximately 30 minutes before use.

- If a desiccant is included in the package, the kit should not be used if the desiccant has changed colour.

- Damaged kits should be discarded.

- Use test kits immediately after opening.

- Reagents or buffers from one kit should **not** be used with those from another kit.

- Tests should be performed exactly as described in the manufacturer’s instructions (if available).
Handout 6A—Health Provider Training Evaluation Form

Location of Training: _____________________________________________
Date: ___________________________________________________________
Trainer: _________________________________________________________

Please answer all questions as completely as possible. Your feedback is vital to help us improve the training. Please tick according to your personal rating.

1. I can use interpersonal communication skills with caregivers when conducting a medical history and physical exam.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

2. I can use interpersonal communication skills with caregivers when communicating the need for malaria testing.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

3. I can use interpersonal communication skills with caregivers when communicating malaria test results and diagnosis of the cause of fever.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

4. I can use interpersonal communication skills with caregivers when explaining treatment recommendations for positive malaria test results.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

5. I can use interpersonal communication skills with caregivers when explaining negative malaria test results and adherence to test results.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

6. I can use interpersonal communication skills with caregivers when communicating instructions for the management of fever.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

7. I can use interpersonal communication skills with caregivers when explaining treatment recommendations for non-malaria febrile illness.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

8. I can use the Job Aid for Children with Fever to communicate accurate information and counsel patients and caregivers of children under five with fever.
   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree
9. I can explain the rationale for the NMCP policy to test all fever cases for malaria before treating for malaria or other febrile illnesses.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

10. I trust malaria test results and will treat malaria based on positive test results rather than presumptive diagnosis.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

11. I can explain the implications of non-adherence to negative malaria tests.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

12. I can recognize signs and symptoms of common febrile illnesses in children under-5.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

13. I can interpret and adhere to malaria test results.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

14. I can diagnose other causes of fever in children under-5 when malaria tests are negative.

   - 5: Strongly Agree
   - 4: Agree
   - 3: Neutral
   - 2: Disagree
   - 1: Strongly Disagree

15. What part of the training did you find most useful?

16. What did you like best about this training?

17. What did you like least about this training?

18. What was easy for you to learn?

19. What did you find difficult to learn in this training?

20. How could this training be improved?

21. Do you have any other comments about the training?
Section VI

Annex B

Trainer Materials
Pre-Test (answer key)

1. Practicing good interpersonal communication is necessary to build trust with patients and caregivers and encourage patients to adhere to treatment recommendations.
   - a. True
   - b. False

2. Which of the following is NOT an example of good interpersonal communication skills?
   - a. Putting the patient or the caregiver at ease to build rapport and trust and show respect.
   - b. Listening actively to patients and caregivers concerns and responses.
   - c. Using medical words or jargon when communicating with patients or caregivers.
   - d. Communicating the diagnosis, treatment information and instructions into language the patient and caregiver understands.

3. Which of the following behaviours are examples that a person is listening?
   - a. Looking at the person you are communicating with.
   - b. Showing the other person you understand what they are saying by nodding, smiling or saying you understand.
   - c. Asking questions if you do not understand.
   - d. Interrupting.
   - e. Restating or summarizing what you think the other person said by repeating what you heard in your own words.
   - f. a, b and c
   - g. a, b, c, and e

4. Which of the following are qualities of a good communicator?
   - a. Approachable
   - b. Able to create rapport
   - c. Shows interest
   - d. Asks questions for clarification
   - e. Paraphrases what they heard the person say
   - f. a, c, and d
   - g. a, b, c, d, and e

5. Patients and caregivers who interact with health providers who show interest, patience and respect are more likely to:
   - a. Trust the health provider.
   - b. Believe in the health provider’s advice.
   - c. Adhere to treatment recommendations.
   - d. b and c
   - e. a, b, and c

6. Which is an example of an open ended question?
   - a. Does your child have a rash?
   - b. Has your child had the fever for more than 7 days?
   - c. What can you tell me about your child’s rash?
   - d. Does the rash itch?

7. Which of the following is a benefit of using interpersonal communication skills with patients and caregivers?
   - b. Encourages patients to adhere to diagnostic and treatment decisions.
   - c. Builds trust in the provider and the health system.
   - d. Encourages patients to return for follow-up visits.
8. What is the purpose of taking a medical history and conducting a physical exam in a child with fever?
   a. To rule out malaria.
   b. To gather information to identify the cause of fever.
   c. It is not necessary to do medical history or physical exam on a patient with fever.

9. Which of the following questions would you ask a caregiver to determine if the child might have dehydration?
   a. Does the child have a rash?
   b. When was the last time your child urinated?
   c. Has the child had a cough?
   d. Has your child been vaccinated for measles?

10. Which of the following are common signs and symptoms of pneumonia in children?
    a. Fast breathing
    b. Fever
    c. Rash
    d. Stridor (high pitched wheezing sound)
    e. Nasal flaring
    f. a, d and e
    g. a, b, d, and e

11. Which of the following are signs and symptoms of urinary tract infection in children?
    a. Urinary frequency or dysuria
    b. Incontinence in previously continent child
    c. Foul smelling urine
    d. Dehydration
    e. Fever
    f. a, b, c and e
    g. a, b, c and d

12. Which of the following are signs and symptoms of meningitis in children?
    a. Neck stiffness
    b. Fever
    c. Convulsions
    d. Cough
    e. a, b, and c
    f. a, b, and d

13. How is malaria diagnosed in children?
    a. The presence of malaria parasites in the blood through diagnostic testing by microscopy.
    b. The patient has a fever and symptoms of malaria.
    c. The presence of malaria parasites in the blood through diagnostic testing by RDT.
    d. A patient with fever, symptoms of malaria and presence of malaria parasites in the blood through diagnostic testing by microscopy.
    e. A patient with fever, symptoms of malaria and the presence of malaria parasites in the blood through diagnostic testing by microscopy or RDT.

14. Patients who are suspected of having malaria should be tested using parasitological diagnosis (RDT or microscopy) before prescribing treatment.
    a. True
    b. False
15. Which of the following statements regarding RDTs is FALSE?
   a. If a person is infected with malaria they will have parasitic antigens in their blood and the RDT result will be positive if the
   b. If a person is NOT infected with malaria, there will be no parasitic antigens in the blood and the RDT result will be negative.
   c. Only microscopy can accurately detect the presence of parasitic antigens.
   d. When RDTs are performed correctly and the results are read correctly, they are very accurate.

16. Which of the following can affect the results of an RDT test?
   a. Not following the manufacturer’s steps for conducting the RDT.
   b. Exposure of the RDT kit to high temperatures and humidity.
   c. Using an expired RDT packet.
   d. Putting too much or too little blood in the blood well.
   e. Putting too much buffer or the incorrect buffer in the buffer well.
   f. a, b and c
   g. a, b, c, d, and e

17. What is the RDT result?
   a. Positive
   b. Negative
   c. Invalid

18. What is the RDT result?
   a. Positive
   b. Negative
   c. Invalid

19. What is the RDT result?
   a. Positive
   b. Negative
   c. Invalid
20. What are the consequences of treating malaria based on presumptive diagnosis, or treating negative malaria test results with antimalarials?
   a. Development and spread of ACT resistant parasites leading to ACTs no longer being an available and effective treatment for malaria
   b. Wastes medicines
   c. Increased drug stock-outs of needed ACTs to treat those who really have malaria
   d. Other life-threatening febrile illnesses with symptoms similar to malaria are not recognized and treated
   e. a, c and d
   f. b, c and d
   g. a, b, c, and d

21. It is possible that a patient presenting with fever may have malaria and another febrile illness.
   a. True
   b. False

22. A child presents with fever for the past 7 days, weakness, rash, and cough. What is the most likely diagnosis?
   a. Urinary tract infection
   b. Measles
   c. Malaria
   d. Pneumonia

23. Which illness is the single largest cause of death among children under-5 in Uganda?
   a. Malaria
   b. Pneumonia
   c. HIV/AIDS
   d. Diarrhoea

24. Fever is a common symptom of many illnesses; therefore not all fevers are due to malaria.
   a. True
   b. False

25. Differential diagnosis is a review of the patient's medical history, signs and symptoms, and laboratory test results to determine the cause of illness in comparison to illnesses with similar symptoms.
   a. True
   b. False

Each question is worth 4 points. 25 correct answers = 100%  Divide the total number of correct answers by 25 to determine the % score. E.g. 23/25 = 92%

Determining the Knowledge Gap by Topic Area:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Range of Questions</th>
<th>Number of incorrect answers = Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Communication</td>
<td>1 through 7</td>
<td>3 or more</td>
</tr>
<tr>
<td>Assessment of fever</td>
<td>8 through 12</td>
<td>2 or more</td>
</tr>
<tr>
<td>Diagnosis of malaria</td>
<td>13 through 20</td>
<td>3 or more</td>
</tr>
<tr>
<td>Differential Diagnosis of fever</td>
<td>21 through 25</td>
<td>2 or more</td>
</tr>
</tbody>
</table>
Sample Training Attendance Register

Sample Training Certificate
Caregiver Scenarios for Job Aid Cards 1, 2, & 3

**Caregiver Scenario 1**
- You are the mother of a 4 year old girl named Gladys.
- Gladys has had fever for a week. She also has had a cough and a runny nose.
- When the health provider examines Gladys and looks at her chest, you are reminded that she has also had a rash. You don’t know how long Gladys has had the rash.
- Gladys has not had much appetite but she has been drinking.
- She does not have energy to play with her younger siblings.
- Gladys has not been vaccinated for measles.
- She does not have diarrhoea or difficulty breathing.
- You insist that Gladys has malaria and you want the health provider to give you medicine for malaria.

*The suspected cause of Gladys’ fever is measles.*

**Caregiver Scenario 2**
- You are a young mother of a 10 month old boy named Godfrey.
- Godfrey has had cough and fever for several days.
- You gave him antimalarial medicine 2 days ago but he has not gotten better.
- Today, Godfrey started having difficulty breathing.
- He is breathing very fast and his stomach sucks in when he takes a breath in, he is sucking very hard to get air.
- He does not want to drink anything.
- He is very weak and is not able to sit without support.
- He has not had any convulsions.
- He does not have diarrhoea.
- You are very worried and crying.
- You are afraid that he will die.

*Godfrey has a Danger Sign. The suspected cause of his fever is severe pneumonia. He needs further testing and immediate treatment with antibiotics at the regional hospital.*

**Caregiver Scenario 3**
- You are the older sister of a 2 year old girl named Lillian.
- Lillian has had an intermittent fever for more than 3 days.
- She has had lose stools for the past 10 days.
- She has over 5 watery stools per day.
- Some of the stools are bloody.
- Lillian does not have an appetite.
- She is thirsty and had been crying and irritable.

*The suspected cause of Lillian’s fever is dysentery accompanied by moderate dehydration.*
Post-Test (answer key)

1. Which of the following is NOT an example of good interpersonal communication skills?
   a. Listening actively to patients and caregivers concerns and responses.
   b. Using medical words or jargon when communicating with patients or caregivers.
   c. Communicating the diagnosis, treatment information and instructions into language the patient and caregiver understands.
   d. Putting the patient or the caregiver at ease to build rapport and trust and show respect.

2. Practicing good interpersonal communication is necessary to build trust with patients and caregivers and encourage patients to adhere to treatment recommendations.
   a. True  
   b. False

3. Which of the following behaviours are examples that a person is listening?
   a. Showing the other person you understand what they are saying by nodding, smiling or saying you understand.
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   f. a, b and c
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   a. Approachable
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   g. a, b, c, d, and e

6. Which of the following is a benefit of using interpersonal communication skills with patients and caregivers?
   a. Encourages patients to adhere to diagnostic and treatment decisions.
   b. Improves patient assessment and differential diagnosis.
   c. Builds trust in the provider and the health system.
   d. Encourages patients to return for follow-up visits.
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21. It is possible that a patient presenting with fever may have malaria and another febrile illness.
   a. True
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22. Which illness is the single largest cause of death among children under-5 in Uganda?
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<td>2 or more</td>
</tr>
</tbody>
</table>
Sample Test Score Tracking Sheet

<table>
<thead>
<tr>
<th>Health Provider Name</th>
<th>Name of Health Facility</th>
<th>Health Provider Title / Cadre</th>
<th>Pre-Test Score %</th>
<th>Post-test Score %</th>
<th>% Difference</th>
<th>Pre-Test Gap</th>
<th>Post-Test Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lillian Nakato</td>
<td>Kiboga HCIII</td>
<td>Nurse</td>
<td>50%</td>
<td>85%</td>
<td>35%</td>
<td>IPC and Diagnosis of malaria</td>
<td>None</td>
</tr>
</tbody>
</table>

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 
16. 
17.
### Final Evaluation Summary Template

**Training Date:** __________________________  **Location:** __________________________

**Number of Health Providers:** __________________________  **Number of completed Evaluation Forms:** __________________________

**Sample for 20 participants:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can describe the purpose and goal of the Test &amp; Treat Campaign.</td>
<td>16</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td>15%</td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
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<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I can use interpersonal communication skills with caregivers when conducting a medical history and physical exam.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>2.</td>
<td>I can use interpersonal communication skills with caregivers when communicating the need for malaria testing.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>3.</td>
<td>I can use interpersonal communication skills with caregivers when communicating malaria test results and diagnosis of the cause of fever.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>4.</td>
<td>I can use interpersonal communication skills with caregivers when explaining treatment recommendations for positive malaria test results.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>5.</td>
<td>I can use interpersonal communication skills with caregivers when explaining negative malaria test results and adherence to test results.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>6.</td>
<td>I can use interpersonal communication skills with caregivers when communicating instructions for the management of fever.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>7.</td>
<td>I can use interpersonal communication skills with caregivers when explaining treatment recommendations for non-malaria febrile illness.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>No.</td>
<td>Question</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Neutral</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>---------</td>
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</tr>
<tr>
<td>8.</td>
<td>I can use the <em>Job Aid for Children with Fever</em> to communicate accurate information and counsel patients and caregivers of children under five with fever.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>9.</td>
<td>I can explain the rationale for the NMCP policy to test all fever cases for malaria before treating for malaria or other febrile illnesses.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>10.</td>
<td>I trust malaria test results and will treat malaria based on positive test results rather than presumptive diagnosis.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>11.</td>
<td>I can explain the implications of non-adherence to negative malaria tests.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>12.</td>
<td>I can recognize signs and symptoms of commons febrile illnesses in children under-5.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>13.</td>
<td>I can interpret and adhere to malaria test results.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>14.</td>
<td>I can diagnose other causes of fever in children under-5 when malaria tests are negative.</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

15. Part of the training the health providers found **most useful**:
16. What the health providers **liked best** about the training:
17. What the health providers **liked least** about the training:
18. What the health providers found **easy** to learn:
19. What the health providers found **difficult to learn**:
20. Suggestions for **improving training**:
21. **Additional comments** about the training:
# Training Report Template

**Trainer name(s):**

**Dates of training:** from: ___________ to: ___________

**Location of training:**

**Total number of health providers attended:** ___________

- Female: ___________
- Male: ___________
- Medical Officers: ___________
- Nurses: ___________
- Other: ___________

**Copy of Attendance Register attached:** □ YES □ NO

**Copy of Test Scoring Sheet attached:** □ YES □ NO

**Copy of Final Evaluation Summary attached:** □ YES □ NO

**List of names of health providers awarded Certificates of Attendance attached:** □ YES □ NO

**Number of Certificates of Attendance awarded:** ___________

**Observed health provider strengths:**

**Observed health provider weaknesses:**

**Average Pre-Test Scores:** ___________%  
**Average Post-Test Scores:** ___________%  
**Average percent improvement between test scores:** ___________%

**Average gap areas identified from the Pre-Test:**

- [ ] IPC
- [ ] Assessment of fever
- [ ] Diagnosis of malaria
- [ ] Differential diagnosis of fever

**Average gap areas identified from the Post-Test:**

- [ ] IPC
- [ ] Assessment of fever
- [ ] Diagnosis of malaria
- [ ] Differential diagnosis of fever

**Recommended CME Topics:**

**Training objectives were met:**

- [ ] All  
- [ ] Most  
- [ ] Half  
- [ ] Few  
- [ ] None

**Training was conducted according to the Trainer Guide:**

- [ ] All  
- [ ] Most  
- [ ] Half  
- [ ] Few  
- [ ] None

**There was active participation and involvement by how many of the participants:**

- [ ] All  
- [ ] Most  
- [ ] Half  
- [ ] Few  
- [ ] None

**There was sufficient time to complete the training activities each day:**

- [ ] All  
- [ ] Most  
- [ ] Half  
- [ ] Few  
- [ ] None
### List 3 major achievements:
1. 
2. 
3. 

### Challenges encountered during training:
*training materials, finances, transport, etc.*

### Recommendations for future trainings:

### Action Plan: List 2 action steps you plan to implement next training.

1. What will be done?  
   Who will do it?  
   By when?

2. What will be done?  
   Who will do it?  
   By when?

Report completed by: ________________________________

Trainer Signature: ________________________________

Date of report: ________________________________