Guideline

on

Mobile Used in Malaria Surveillance

for

Malaria Control and Elimination, Myanmar

BY

URC-ADB Malaria Project

January 2018
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Acronyms

ADB  Asia Development Bank
DMS  Data Management System
MOHS Ministry of Health and Sports.
mDMS mobile Data Management System
NHL  National Health Laboratory
NMCP National Malaria Control Program
SMS  Short Message Service.
SOP  Standard Operation Procedure
TOT  Training of Trainers
URC  University Research Co., LLC
VBDC Vector Borne Disease Control
Executive Summary

Regional Capacity Development Technical Assistant for malaria and communicable diseases control, work stream one “Malaria Surveillance and Laboratory Quality Assurance Project is funded by ADB and implemented by URC from May 2016 to November 2017. Six month No cost extension was agreed by MOHS, ADB and URC till May 2018.

According to the Myanmar National Strategic Plan, intensifying malaria control and accelerating progress toward malaria elimination (2016-2020), in the past decade, Myanmar has made significantly progress in reducing malaria morbidity and mortality. The number of malaria deaths has dropped steadily year by year from 1,707 in 2005 and just 37 in 2015 (over 98% reduction over 10 years) reflecting major improvements in access to early diagnosis and appropriate treatment.

The incidence of reported malaria has dropped by about 49% since 2012 (from 8.09 in 2012 to 4.16 in 2015 per 1,000 population). The goal of the previous National Strategic Plan (2010-2016) was to reduce malaria morbidity and mortality by at least 60% by 2016 relative to 2017 figures. By 2015 morbidity and mortality were down by 65% (in 2007 there were 520,887 cases and in 2015 there were 182,452 cases) and 97% (in 2007 there were 1,261 deaths and in 2015 there were 37 deaths) respectively relative to 2007.

The National Strategic Plan for intensifying malaria control and accelerating progress towards malaria elimination are to eliminate less endemic area while accelerating control efforts in more endemic area to reduce cases to a low level from 2016 to 2020. Post 2020, it is expected that the proportion of areas targeted for elimination phase will expand progressively. *P. falciparum* will be eliminated by 2025 and by 2030 Myanmar will be malaria free. We will implement mainly on malaria surveillance and laboratory quality assurance for the malaria elimination in Myanmar according to National Strategic Plan. For malaria surveillance, our project will be implemented for the unique malaria diagnosis and treatment Data Management System according to the NMCP’s identification at the pilot townships. Our objectives are to arrive the malaria data in time to the data center and real time notification of the parasite positive cases from each and every reporting units including the volunteers by using mobile. We hope to create together with NMCP for unique mobile application for all implementing partners and NMCP under leadership of MOHS.
Project implementing with the unique mobile Data Management System (mDMS) and Updated SOP on malaria microscopy and Manual on laboratory QA at the (10) Projected Townships from Mon state and Sagaing Divisional VBDC. Real time notification will be sent by phone call, SMS and Viber depend on the availability of mobile signal and monthly malaria data will be filled in mobile application in mDMS.

Monthly malaria data from the hard to transport area can sent by the Viber to the township and State/Region responsible persons of the mDMS for the monthly in time reporting at the beginning of mobile application.

We will send real time notification of the parasite positive cases by the SMS format (Annex-4) or photo of real time notification format (Annex-5) filled with the information of the parasite positive case by the BHS or volunteers by Viber. Then, data will be collected by data focal person of township and State/Region VBDC. The existing paper based data reporting will be continued. On job training will be conducted at the time of supervision monitoring. Refresher training will be conducted February 2017.

### Vision, Goal and Objectives

**Vision**

A Malaria Free Myanmar by 2030

**Goals**

To implement malaria surveillance and laboratory quality assurance for the malaria elimination according to National Strategic Plan with updated SOP on malaria microscopy and Manual on laboratory QA and mDMS (mobile Data Management System) for malaria surveillance.
Objective

1. To create mobile used in malaria surveillance by SMS and Viber for the timely reporting of the monthly malaria data and real time notification of malaria parasite positive cases.
2. To conduct training on mDMS at the Central, State/Region, Township and Volunteer level for malaria elimination by in time reporting of real time notification and monthly malaria data.
3. To conduct immediate and prompt response to the real time notification of malaria parasite positive case by the related VBDC and information sharing about the imported cases to the related VBDC for the appropriate control measure.
4. To update SOP guideline for the malaria microscopy and laboratory quality assurance for capacity building of laboratory technician to get the intensifying malaria control and accelerating progress towards malaria elimination.
5. To support the laboratory facilities for the training of good laboratory practice and good malaria microscopy.
How to start up Android Mobile Device (Redmi 4X)

- Open the package and remove cover.

- And press Power Button about 3 to 5 seconds to start up the device. Then the screen will appear as in picture.

- And then wait a moment till the screen appears as follow and your mobile device was successfully getting started.
Check Date & Time.

Go setting -- > Addition Setting -- > Date & Time.

And then check Region.

Go setting → Additional settings → Region → select Rangoon GMT+06:30
How to activate MPT SIM card in mobile device

Please beware that your new MPT SIM card needs to activate in order to use the service.

Please confirm that your mobile device was Power Off.

Firstly, to activate your MPT SIM card, you need to insert SIM card to SIM slot in mobile device.

And then press Power button about 3-5 seconds to start mobile device.

When the power is ON, please wait for a while and make a phone call first to activate your SIM card.

And then, top up your phone with one of MPT top up cards.

You will receive an SMS message confirming your SIM card activation and informing your phone number.

After receiving SMS message, your MPT SIM card is successfully activated.
How to set up internet connection in mobile

မိုင်းနားတွင် Internet Connection စတင်သွင်စေရန် အချက်အလက်

1. ဆိုလိုသောလိုအပ်ချက်မှာ “Settings” မှသား “SIM cards & mobile networks” တွင် စီမံကိန်းတစ်ခု

1. Tap on “Setting” icon and enter to “SIM cards & mobile networks”.

![Setting icon and SIM cards & mobile networks screen](image_url)
2. For the next step, choose to “Sim card settings” and prepare to configure “Access Point Names”.

ဗိုက်ဗားတွင် "Sim card settings" သိရိုက်ချက်၏ "SIM 1" မှ ချက်ချင်သော "Access Point Name" ကို ထည့်ပါ။

2. For the next step, choose to “Sim card settings” and prepare to configure “Access Point Names”.
3. And then, please tap “New APN” icon under APNs.

4. The screen will appear as follows and tap on “Name”, “APN” and put as “mptnet” and then press “OK” button.
5. Please, confirm to fill mptnet in both “Name” and “APN”, and press the “more button”. And select “save” button. Then go back and select “mptnet” and finally internet connection set up is finish.
6. Pull down the notification bar and tap on “Mobile data” icon. “H+” or “3G” or “E” will appear beside mobile signal. It show that your phone is connected to Internet.

7. In order to prevent unnecessary use of data/Money, please switch off “Mobile Data” after sending reports by using mobile device.
How to install Viber application in Android Mobile

Android ဖောင် Viber application ။ Install ၌ပ်စွာပါး

1. Download Viber application after opening Google Play Store application.

2. After clicking the downloaded file, it appears in the figure. Tab "Install".
3. Click "Open" after installation.

4. Click "Continue".
5. Select "Myanmar (+95)" in Your Country blank.
Click "Continue" after putting your phone number in below blank.

6. Verify your phone number and click "OK" after correcting the number.
7. Please wait without clicking during "Wait for activation".

8. Finish installation when the following figure appears.
How to send the photo with Viber

Firstly check whether Viber application is already installed in your mobile. Please open network connection first to use Viber application. Then, open Viber application.

(1) CHATS means accounts of currently sending message through Viber.

(2) CONTACTS shows remarkable accounts which numbers are noted in contact. Click CONTACTS.
(1) All means phone number lists noted in your mobile.

(2) Viber means contact list of your Viber account. You can send to the mobile which have Viber account in your Viber contact list. You can touch the Viber and then choose the contact who you want to send.
Click on the photo which you want to send. Green right mark (√) appears on the photo that you want to select as shown in number. After choosing the photo, press “send” button.

Add description means description and type of the photo you sent. You can label explanation of the photo. Then click right mark (√).
Then, the photo was already sent. You can check photo was “delivered” successfully or not. You can check to “seen” if the photo was seen by your contact that you sent the photo.
How to send real time notification report by SMS
(SMS ျဖင့္ Report ပု႔နည္း)

1. နိုင်ငံရေးဌားရှင်းဗျူဟာ SMS ဖုံးပုံစံမှာ Note application ကို ၎င်းတွင်
   1. Open “Note Application” to send SMS for malaria parasite positive case.

   ပြဲ ဖုံးပုံစံမှာ SMS ဖုံးပုံစံမှာ Note application ကို ၎င်းတွင်
   2. Then, open “malaria parasite positive case reporting SMS sample format”.

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3. After opening of “malaria parasite positive case reporting SMS sample format”, press a few second to the message and then press/touch “Select all” and “Copy” in serial order.

4. To send message, open the messaging icon.
5. The mobile screen appear that shown in picture when you press the Text message. “malaria parasite positive case reporting SMS sample format” will appear in the "Text Message" when you click the "Paste".

6. Then, fill the “malaria parasite positive case reporting SMS sample format” according to the SOP. (Page – 27)
7. Choose the contact persons with human icon after filling the relevant information.

8. After choosing the contact persons, press “OK” button.
9. After checking the contact persons selected and click arrow button to send SMS.
Instructions to fill SMS Reporting Format (BHS & VMW)

1. To fill up in each selected blank by (+) for (1) Male ( )/ Female ( ), (2) pf ( ) pv( ) mix( ), (3) Simple Malaria ( ) Severe Malaria ( ), (4) Indigenous ( ), Imported ( ). No need to fill (+) if there is negative for malaria parasite.

2. To fill up detail in each blank of (1) Name of Malaria Positive Patient ( ), (2) Age ( ), (3) Address detailed ( ), (4) Occupation ( ), (5) The place visited within two week/ one month ( ), (6) Onset of fever ( ).

3. Address detailed is very important for the transmission and follow up. Need to conduct suitable response for prevention and control, if there is local transmission. Need to inform to the related health center and related VBDC for the necessary response and arrangement if there is imported from other areas.

4. Malaria is very much related with occupation like mining, forest related work, aggregation work and dam. So, please, ask thoroughly and fill completely

5. Travelling history is also important to identify the transmission whether it is local or imported.
Steps of real time notification with SMS reporting for malaria parasite positive case

**Steps of real time notification with SMS reporting for malaria parasite positive case**

**SMS ဣာ Report အနုပညာ**

1. Copy the sample format of SMS for malaria parasite positive case from Note of your mobile.

2. Press the sample format of SMS for malaria parasite positive case by tip of the finger to appear the "Select all, Cut, Copy" notification.

3. Then click the "Select all and Copy" step by step.

4. Press the "Text Message" box with the tip of the finger to appear "Paste" notification.

5. Sample message of SMS for malaria parasite positive case will appear in the "Text Message" when you click the "Paste".

6. Then, fill the sample message of SMS for malaria parasite positive case according to the SOP and select the contact persons via the human symbol icon. Then, send the message by the send arrow head.
How to geo-tag in Google map for Malaria Parasite positive case

GPS must be opened to use the application. Then, clip to open “My GPS Coordinates” indicated by red arrow. “My GPS Coordinates” can use in offline.

“My GPS Coordinates” အတွက် အတိုးထောင် GPS နှင့်များထောင်သည်များသော အတွက် အတိုးထောင်သည်များဖြစ်သည်။

Then, wait a moment to appear Latitude and Longitude outside the roof.

သို့မဟုတ် Latitude and Longitue အနေအထိမ်း သို့မဟုတ်အထိမ်း အချိန်ဖြစ်ပါသည်။
Need to select message icon indicated by red arrow to send SMS or Viber after getting latitude and longitude.

latitude and longitude မှာ SMS (သို့) Viber အသုံးပြုရန် ရှိတစ်ခါအထိ
ထည့်သွင်းသူ လိုအပ်သည်။

Select and send data and location by using Viber or Message.

သို့ပေးသူ Viber ဆိုင်ရာမှာ SMS
အသုံးပြုရန် ရှိတစ်ခါအထိ ထည့်သွင်းသူ Viber
ကို သုံးစွဲသူပေးသူမှာ လိုအပ်သည်။
Write the patient information like Name, Age, Sex, Address and Parasite positive result under the location information that appear in the message box. Then, press the icon indicated by black arrow to send SMS.

Message Box အတြင္း တည္ေနဒ ေအ ု္တြင္ လ န အမည္၊ အသု္၊ ုွ း၊ မ၊ လရျ္စ ႏိုလင္ ့ ျရိးေတြ႕အေ ္မွ းရိ ဒရိ ု္ထည့္ျပ။ သရိ္႔မလသ းၿျီး ္စ္မည္။ ၄င္းေန ု္ မလ း ျထ းေသ send button ိရႏိုလရျ္ ခင္း ္င့္ လ န ၏ တည္ေနဒ ႏိုလင့္ လ န မလတ္တမ္း ေျးျရိ္႔ ခင္း ျးစီးျပၿျီ။
Annexes

Annex-1: Malaria Data flow in mobile used in malaria surveillance

Remarks –

1. Black arrow and line for routine data reporting and blue arrow and line for two ways of the real time notification from reporting units and responses from VBDCs. Dotted line is copy of data flow to respective levels.

2. Township, state and regional VBDCs are responsible for the Case Investigation and Responses.

3. Need to inform to the related VBDC for the imported cases.

4. During the piloting, there will be coordination activities on data collection by URC-ADB project staffs from Central, Mon State and Sagaing Region.
**Remark:** All registered mobile numbers (VMWs, BHS, data focal persons and private providers) will send data directly to the central server, only authorized persons will be able to review the data.
Annex-3: System Tree for Mobile use in Malaria Surveillance at Township level

Continuous black colour arrows indicate data sources (VMW, BHS and other) will send malaria data or information to the township data focal persons and dotted black colour arrows indicate data source sent as copy to their relevant persons.

Double arrow indicates report and response between township and State/Region VBDC.

VMWs, BHS and other implementing partners send their malaria data and real time notification by using mobile to the township VBDC and then copy to State/Region VBDC and partners. Mobile sim card will go along with the smart phone distribution.
### Annex-4: Reporting Format for SMS (BHS & VMW)

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient’s Name</td>
<td>( )</td>
</tr>
<tr>
<td>Age</td>
<td>( )</td>
</tr>
<tr>
<td>Sex</td>
<td>( )</td>
</tr>
<tr>
<td>Address detailed</td>
<td>( )</td>
</tr>
<tr>
<td>Occupation</td>
<td>( )</td>
</tr>
<tr>
<td>Travelling history</td>
<td>( )</td>
</tr>
<tr>
<td>Onset of Fever</td>
<td>( )</td>
</tr>
<tr>
<td>RDT result</td>
<td>Pf ( ), Pv ( ), Mixed ( )</td>
</tr>
<tr>
<td>Simple/Severe Malaria</td>
<td>( )</td>
</tr>
<tr>
<td>Comments</td>
<td>Local transmission ( ), Imported ( )</td>
</tr>
</tbody>
</table>

### Reporting Format for SMS in Myanmar (BHS & VMW)

Name of Malaria Positive Patient ( ), Age ( ), Male ( )/ Female ( ), Address detailed ( ), Occupation ( ), The place visited within two week/ one month ( ), Onset of fever ( ), pf ( ), pv ( ), mix ( ), Simple Malaria ( ), Severe Malaria ( ), Indigenous ( ), Imported ( )
Annex-5: Record of Real Time Notification by SMS for malaria parasite positive case

<table>
<thead>
<tr>
<th>No. of report</th>
<th>/ 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of reporting</td>
<td>/ 2018</td>
</tr>
<tr>
<td>Time of reporting</td>
<td>AM/ PM</td>
</tr>
</tbody>
</table>

**Patient's Name** (လုံးေတြ႕လ) -

**Age** (အသာ) -

**Sex** (ဗု/မ) -

**Address detailed** (လက်စားေတြ႕လ) -

**Occupation** (လုံးေတြ႕လ) -

**Travelling history** (ခရိးအောင်း) -

**Onset of Fever** (ွဲသည့်ပဲ) -

**Severe Malaria** (ျငးထန္ငလုံး) ( ) or **Simple Malaria** (သ မန္ငလုံး) ( )

**Lab: result** (ဓပတ္ခြ) - Pf ( ), Pv ( ), Mixed ( )

**Comments** (ထင္ မင္ခွု္) - Local transmission / ေသတြင္းု းစု္ ( ), Imported အ ခးမလု းစု္ ( )

**Name of BHS/ Volunteer** (အမည္) .................................

**Village** (ဒြ) ..................................................

**Name of HC** (ဌန) ..................................................

**Mobile** (ိန္းနံျပတ္) ..................................................

**Township** (မရ ႕နခ္) ..................................................

**State/ Region** (ျည္/တရိင္) ..................................................