



World Health
Organization



EWARS in a box

Mobile user guide



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Organization**

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EWARS in a box: mobile user guide

ISBN 978-92-4-006674-8 (electronic version)

ISBN 978-92-4-006675-5 (print version)

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Suggested citation. EWARS in a box: mobile user guide. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

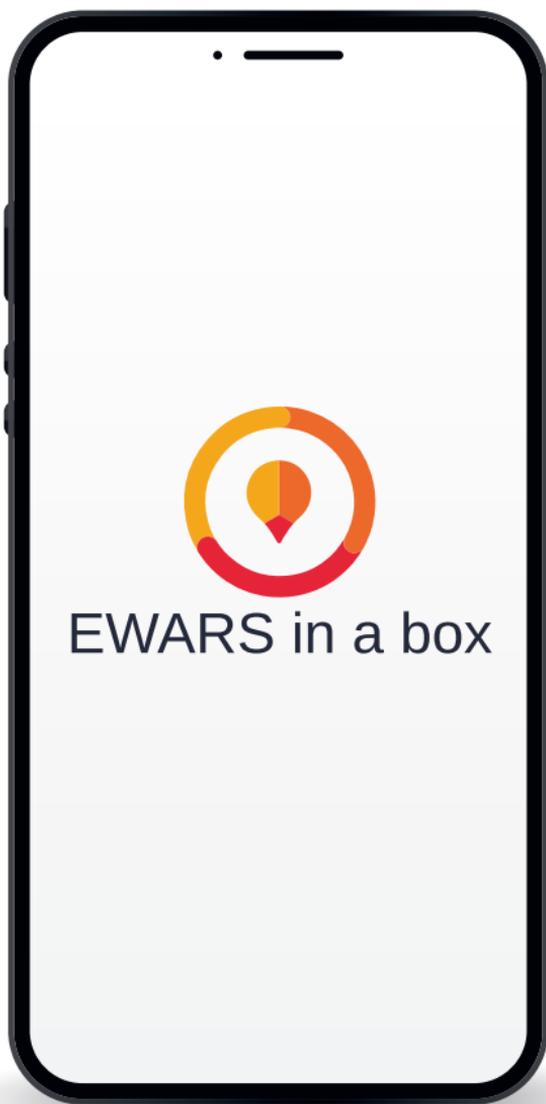
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Acknowledgements

This Mobile user guidance is aimed at supporting implementation of EWARS in a box, WHO's electronic early warning, alert and response system in emergencies. This guidance fulfills a long felt need to have an easy to use resource with step-by-step instructions in establishing EWARS in a box, facilitating field epidemiologists, surveillance officers and emergency responders.

This document was developed by the epidemiologists of the EWARS in a box team; Dr Niluka Wijekoon Kannangarage and Dr Yuka Jinnai, under the Department of Health Emergency Interventions (HEI) of the WHO Health Emergencies Programme at WHO headquarters. Valuable contributions were received from Mr Kevin Crampton from the Information Management and Technology (IMT) of HQ Business Operations (BOS) as well.

Special thanks go to colleagues at WHO regional offices and WHO country offices where EWARS in a box is implemented, as their experiences and insights have shaped the guidance to be a valuable learning resource.





Overview

EWARS in a box is designed to support early warning, alert, and response even in the most difficult and remote emergency environments.

The **EWARS in a box** kit contains manuals, mobile phones, and laptops to capture and submit key data, thereby facilitating multi-faceted, in-depth analysis and monitoring/tracking. The kit can be rapidly configured and deployed within 48 hours of any emergency being declared.

EWARS Mobile is the mobile application (app) for EWARS in a box. The EWARS app is available on the Android operating system and can run on any Android phone or tablet, whether or not it is supplied as part of the EWARS kit. The app is simple and easy to use and designed with frontline users in mind.

The EWARS Mobile app is primarily used for reporting data – from primary health facilities, field hospitals, mobile clinics or the community. Reporting can be based on a set of priority diseases or conditions (indicator-based surveillance) or on events of public health importance (events-based surveillance). In either case, EWARS Mobile supports interactive alert management between reporting locations and surveillance offices or teams, making sure that alerts are verified, risk assessed and characterized and that outcomes are determined.





EWARS in a box supports both aggregated and case-based data reporting. Case-based data (whether case-investigation forms or line lists) can be integrated with the laboratory via unique identifiers.

EWARS Mobile facilitates data collection in online mode and syncs with Global EWARS.

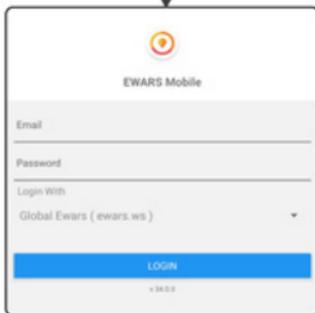
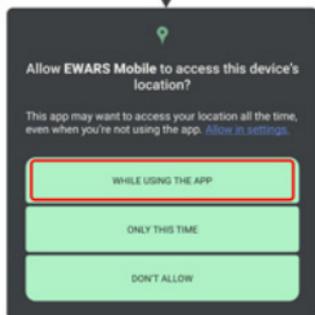
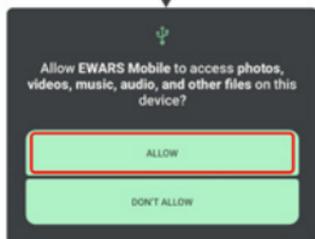
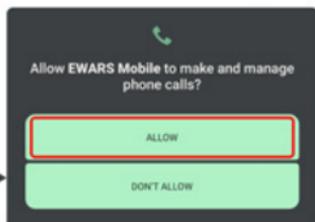
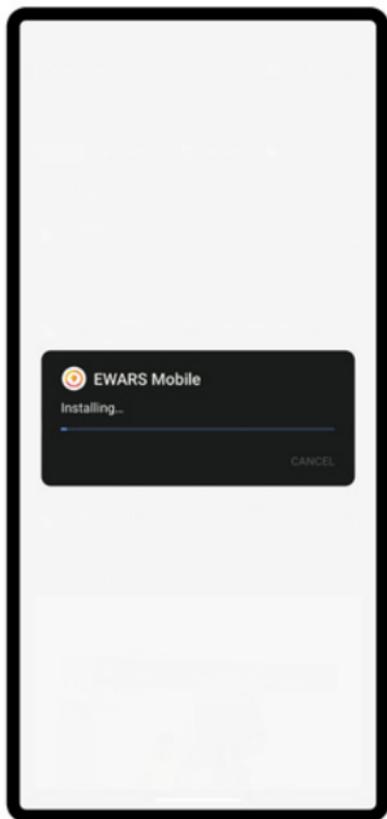
However, when there is not a reliable internet connection or when in offline mode, data can be collected through the EWARS Mobile app and later synced with Global EWARS once a connection is available.

Before you can log in to EWARS Mobile, you must have an EWARS in a box account.

The EWARS Mobile app supports entering data using electronic forms, and interactive alert management when there is a reliable internet connection.

The EWARS Mobile app provides access to the following modules of EWARS, as discussed in this guide:

- ▶ **Forms**
- ▶ **Record Management**
- ▶ **Alert Logs**
- ▶ **About**
- ▶ **Profile**
- ▶ **Settings**
- ▶ **Sync**



Installation

Note:

Installation requires a reliable internet connection irrespective of the SIM.

How to install the EWARS Mobile app?

Technical requirements:

- ▶ An Android phone or tablet with Android OS version 6.0 Marshmallow or higher.
- ▶ An Internet connection is required for application download. Alternatively, a data cable may be used to download a stored mobile apk file.

Step 1: Download the EWARS Mobile app on the phone or tablet

- ▶ Open the link below in the mobile browser, the app will be downloaded:
https://ewars.ws/ewars_v2_0.apk

Step 2: Allow app installation from an unknown source

- ▶ Navigate to your phone's **'Settings'** menu and then to **'Security & Privacy'** settings. Tap on **'Install unknown apps.'** Enable the toggle button for File Manager.

Note:

The “allow installing the app from an unknown source” option may appear differently depending on the Android OS version and model of the mobile phone being used. Enable the options as per your mobile phone.

Step 3: Installing the EWARS Mobile app

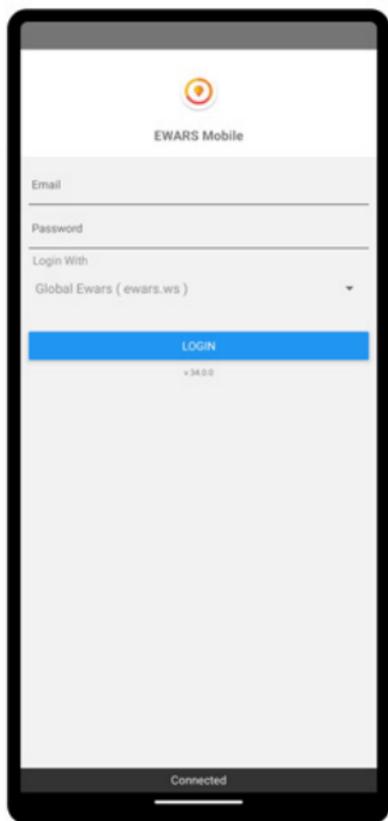
- ▶ Tap on the **EWARS in a box Mobile Application**



EWARS Mobile icon > Tap to install and follow the on-screen instructions.

Note:

If you do not have an internet connection, you can install the EWARS Mobile app manually. To do this, use a cable to connect your phone to a device on which the .apk file has been downloaded and install the file to your phone.



Login

Before you can log in to the EWARS Mobile app, you must have a valid EWARS account and login details.

You will receive your individual login credentials from the account administrator or create your account credentials from the web application.

To log into your account, follow the instructions below.

- ▶ To launch the app, tap on the **EWARS** Mobile app



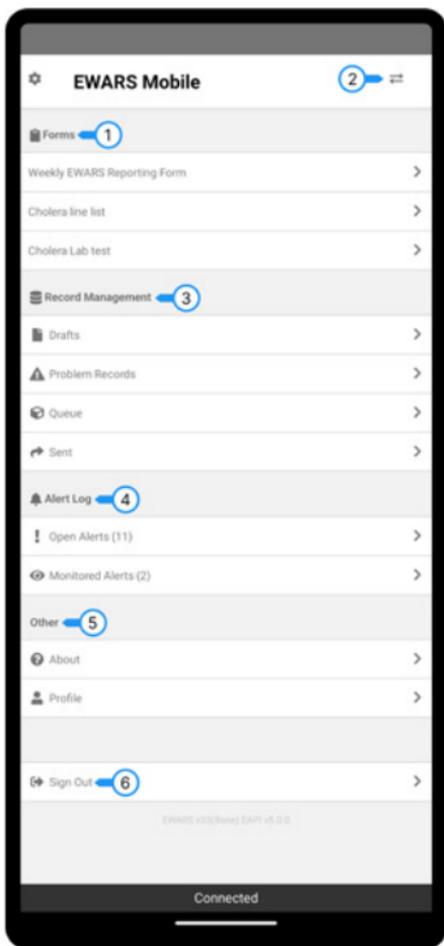
EWARS Mobile icon on the home screen of your smartphone.

- ▶ Enter the **Email ID** > Enter the **Password** > Keep the login option as 'Global EWARS Server' [**Default option**]
- ▶ Tap on **LOGIN**

Note:

To log in to EWARS Mobile, you need to have an internet connection. Once you have logged in to EWARS Mobile, you do not need to log out of the application again. Please leave it signed in at all times.

Home



1) Forms: lists all the reporting forms available to the mobile user. Users have options of submitting completed reporting form 1) online, 2) via SMS 3) via a hotspot (offline) depending on the type of EWARS implementation at the setting.

2) Sync: synchronizes reports and other configuration data with the server. It is recommended that users synchronize the mobile daily or weekly in order to receive updates to the app and settings. **Caution: once the expiry time is reached, the phone screen will lock.** You will be redirected to the sync screen. Once you synchronize, the phone will automatically be unlocked.

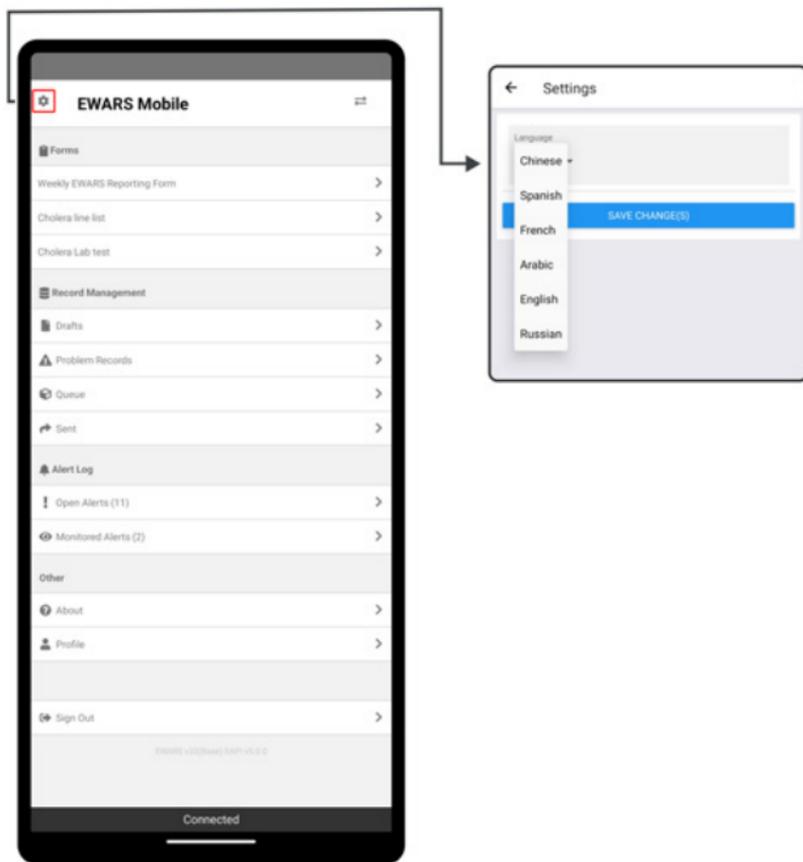
3) Record Management: organizes and manages all reports you have started to work on as drafts, problem records, queued to be sent and sent.

4) Alert Log: organizes and manages all alerts you are responsible for managing, as open or monitored alerts. You can perform the alert workflow for an alert and also get the details related to the alert, such as **'alert name'**, **'location'**, **'date'**, and so on.

5) Other: details of your reporting profile and mobile app can be found here. Tap on **'About'** to see the version of the app, updates, and contact details for the EWARS team. If updates are available, updates should be performed as a priority. Your mobile **'profile'** will show the name of the reporting location, email address, and organization under which you are registered.

6) Sign out: Tap here to sign out. **Caution: once you sign out from the application, you will require an internet connection to log in again.** It is recommended to stay signed in at all times.

Settings



EWARS provides multi-language support. The default language in the EWARS Mobile app is **English**. You can change the language from the list provided under **'Settings'**.

How to set the language

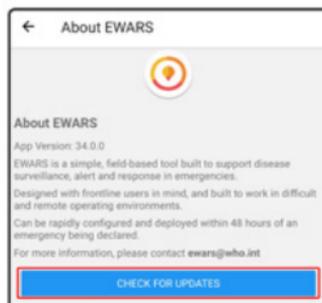
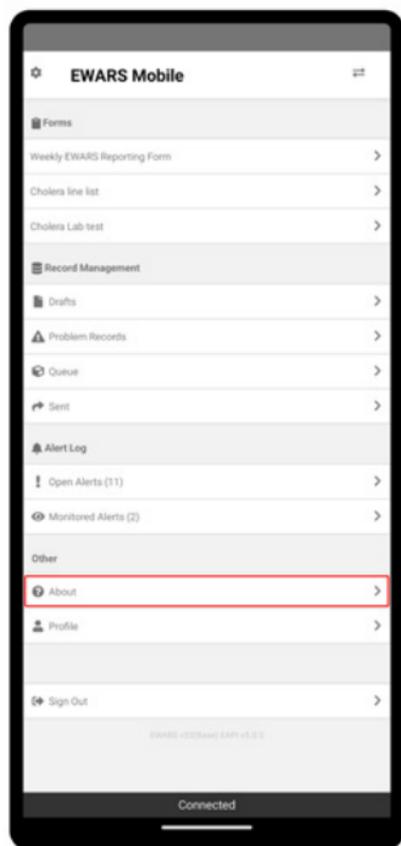
To select your preferred language:

- ▶ Tap on the **'Settings'**  icon visible on the top left of the home screen; the settings screen will appear.
- ▶ Select the language from the drop-down menu. For example, **'French'**.
- ▶ Tap on **SAVE CHANGE(S)**

TIP!

If you do not see your preferred language in the drop-down menu, please contact the account administrator.

About



Tap on **'About'** to see details of the EWARS Mobile application, such as the version of the app, updates, and EWARS contact details.

How to view details about the app?

- ▶ Tap on **?** **About** to view the app version, contact information, and other details about the EWARS Application.

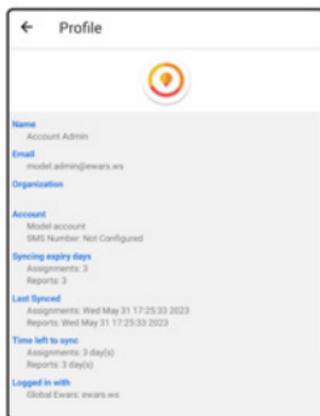
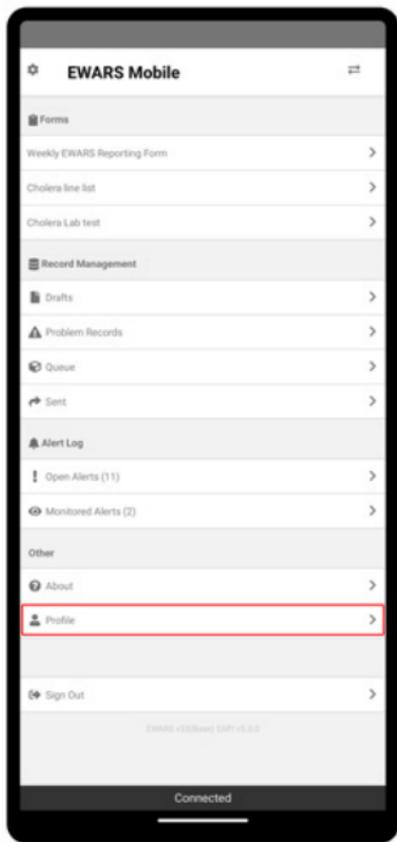
How to install new updates?

To install new updates:

- ▶ Tap on **CHECK FOR UPDATES** you will see a dialog box.
- ▶ Tap on **'Install'**, new updates will be installed.

TIP!

It is recommended that you check frequently – such as weekly or fortnightly – for new updates and install any that are available. New updates often contain important security changes to keep your device safe.



Profile

Each mobile user has a unique profile so that the EWARS in a box system can identify each distinct user. A profile is set by the account administrator when the login details are created. Your mobile profile will show the name of the reporting location, email address, and the organization under which you are registered.

TIP!

The system displays the name and email address received from the EWARS administrator. You must not change your login details.

How to view your profile?

To view your profile,

On the home screen, tap on  **Profile**; the profile screen will appear.

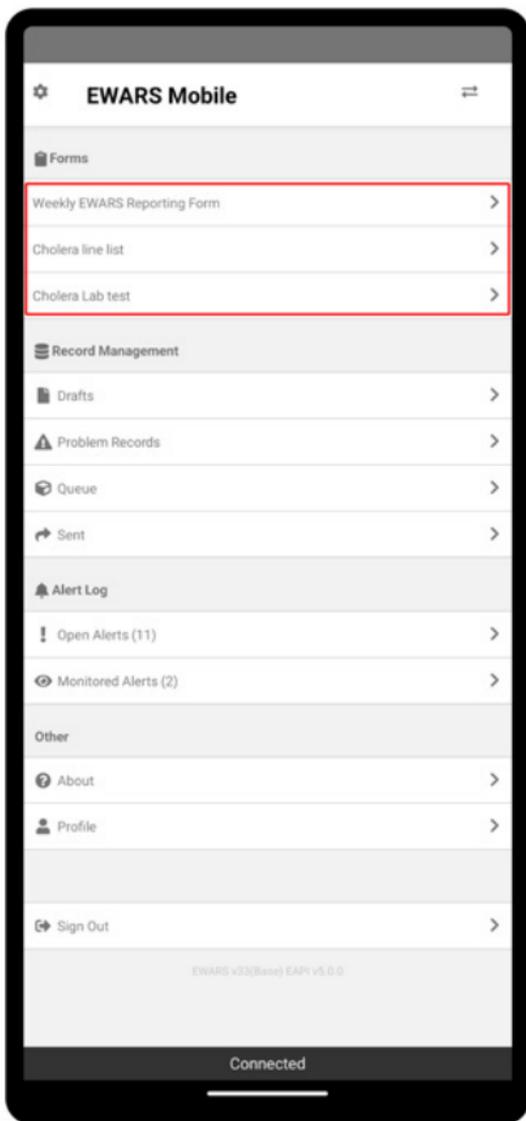
The profile screen displays the following information:

- ▶ **Name:** displays the name of the user.
- ▶ **Email:** displays the login email address.
- ▶ **Organization:** displays the organization under which you are registered.
- ▶ **Account:** displays the EWARS country account and the SMS number for reporting, if applicable.
- ▶ **Expiry Days:** the maximum number of days you can work in offline mode before syncing

your data. This is usually set by the account administrator. If the expiry time is reached, the EWARS screen will lock and you will be directed to the sync screen. You will not be able to use the application again until you have performed a sync.

- ▶ **Last Synced:** displays the date, day, and time of your last sync of assignments and reports. This action is required to align the offline and online data in the system.
- ▶ **Time left to Sync:** displays the number of days left to sync before the expiry date. Once the expiry day is reached, it becomes mandatory to sync your account and the screen will lock until a sync is performed.
- ▶ **Logged in with:** displays the server information you are connected to.
- ▶ **Forced Sync:** once users exceed the Expiry Days without syncing the data, they get this information to forcefully sync the data. This appears only after the expiration of the sync interval.

Forms



Electronic forms collect data from your location. The number of forms you have may vary according to your context.

Under  **Forms** you will see the list of reporting forms assigned to your account. Forms are configured in EWARS Web and cannot be modified in EWARS Mobile.

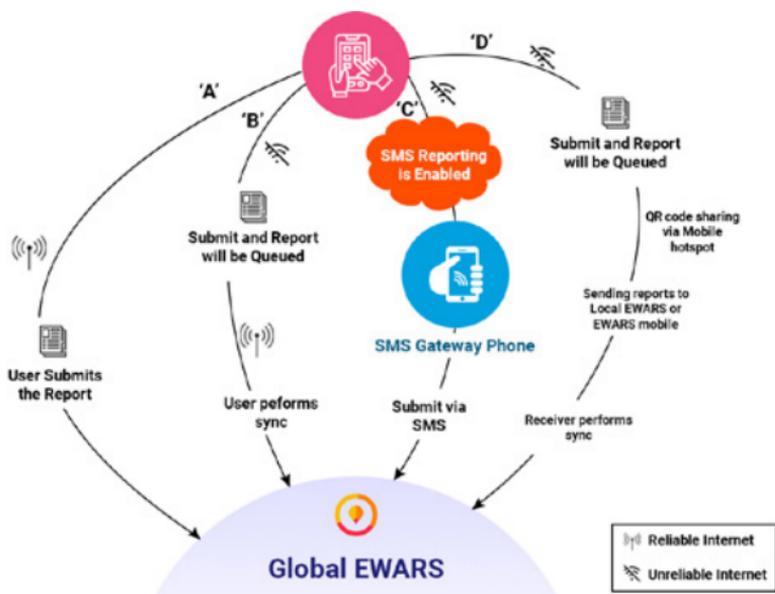
Completed reports are submitted over an internet connection. Alternatively, in settings where connectivity is poor, completed reports can be sent by SMS or offline.

Note:

'Records' and 'Reports' are used interchangeably in this topic.

TIP!

If you cannot find the form you want, contact the account administrator to get it assigned to your account.



Select, fill and submit a form

Forms can be submitted under different conditions as shown below:

Scenario A: When there is reliable internet connectivity, reporting users in the field can submit the report directly to Global EWARS.

Scenario B: When there is unreliable internet connectivity, submitted reports will be queued. To submit the report, the reporting user(s) will have to sync the queued reports to Global EWARS through an internet connection when or where one is available.

To submit the report, the reporting user(s) will have to sync the queued reports to Global EWARS through an internet connection when or where one is available.

Scenario C: Using SMS when there is no internet connectivity. In remote areas, in conflict-affected areas or in areas with poor infrastructure support, reporting users can submit reports by SMS.

In order to submit reports by SMS:

- ▶ Your EWARS Mobile should be part of an EWARS SMS reporting team. This facility is enabled by the account administrator; if not, please contact the account administrator.
- ▶ Your mobile phone must have a SIM card inserted.
- ▶ It should have an ACTIVE SMS plan.

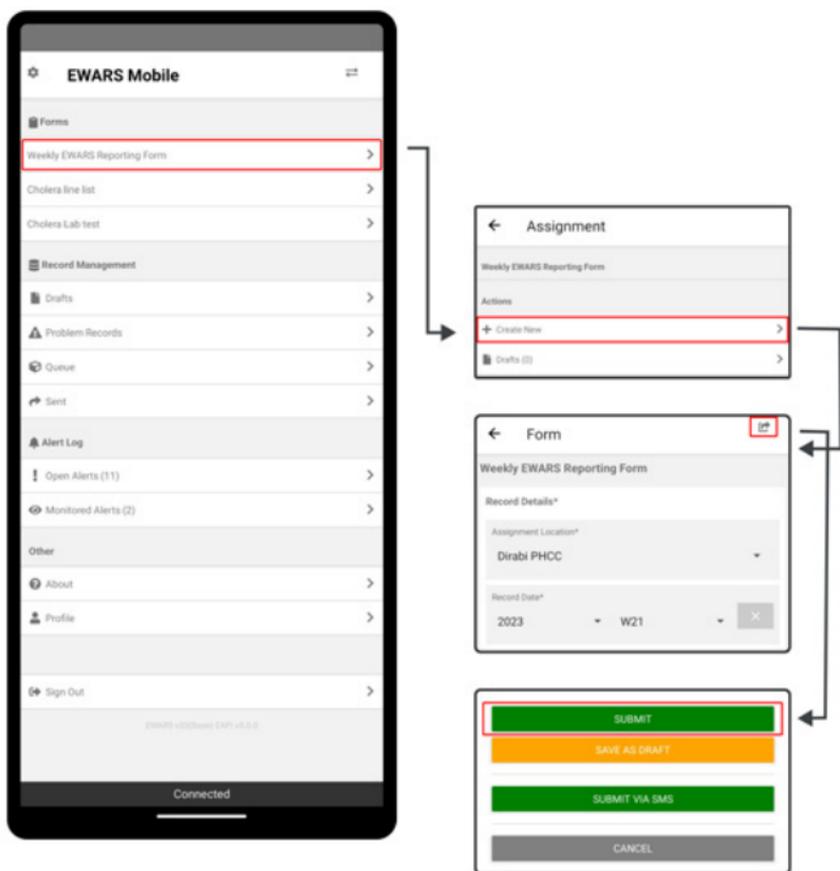
Scenario D: Using QR code when there is no internet connectivity. In remote areas, in conflict-affected areas or in areas with poor infrastructure support, reporting users can submit their queued reports in offline mode by QR code sharing with a) Local EWARS, also referred to as EWARS stand-alone or b) EWARS mobile.

Later, Local EWARS or EWARS Mobile will perform a sync to submit the reports to Global EWARS. See the topics **Sync with Local EWARS** or **Sync with EWARS Mobile**.

Scenario A: When there is reliable internet connectivity

- ▶ reporting users in the field can submit the report directly to Global EWARS.

Your EWARS in a box account administrator will inform you about the type of reporting forms, sub-forms and main forms, and frequency of completion, at the time of



your enrollment as a reporting user. If you try to submit the record for a previously submitted date/week, the system will alert you and the new form will not be submitted.

Submit the main form

To submit a main form related to your context, follow the steps below.

Step 1: Select the main form

- ▶ Tap on the form you want from the list under  **Forms**. For example, 'Weekly EWARS Reporting Form'.

Step 2: Complete the main-form fields

- ▶ Tap on **+ Create New** > Fill out the field values.

Note:

Assignment location and report date are mandatory fields. If these fields are not completed, you will see a warning message during submission stating, 'There are errors in the form.' Each mandatory field has a validation message in red.

Step 3: Submit the main form

- ▶ Tap on , and select the **'Submit'** option; the form is submitted to Global EWARS.

Submit a sub-form

Sub-forms are linked to the main form (parent form) and enable you to add additional information to the main form reports.

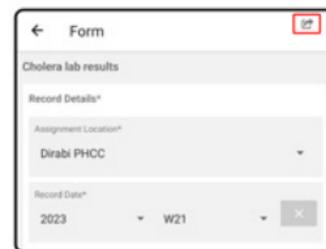
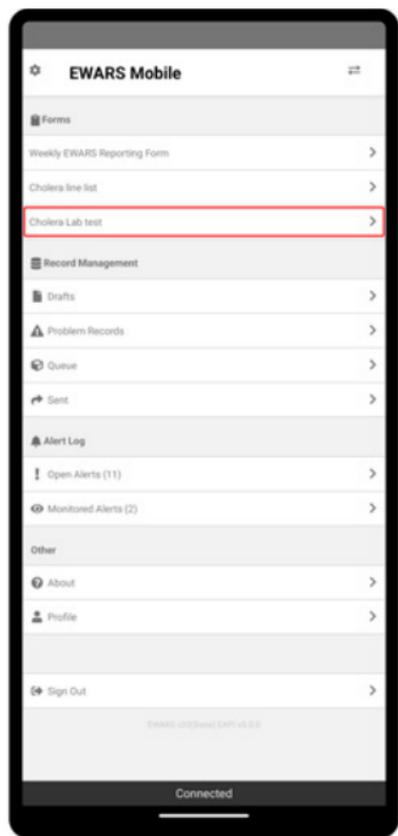
For example, during an outbreak, cases can be captured through a line list, which is the main form, and a lab report form can act as a sub-form for each record in the line list. Once the sub-form is updated, the main form section is automatically updated. Sub-forms are usually used for case-based data reporting. If you are creating a new sub-form, you will see a list of cases in the parent form (main form). Follow the below steps to submit a sub-form related to your context.

Step 1: Select a sub-form

- ▶ Tap on the form you want from the list under  **Forms**. For example, the Weekly EWARS Reporting Form.

Step 2: Complete the sub-form fields

- ▶ Tap on **+ Create New**



Each sub-form is linked to the main form via a unique ID. Therefore, completion of a sub-form means completing an existing form with identifiable key variables such as Name, Unique ID, age, and sex.

If the form is a **sub-form**, tap on **SEARCH GLOBALLY** > select the '**parent record**' > fill out the field values of the sub-form record.

Step 3: Submit the sub-form

- ▶ Tap on , and select the '**Submit**' option; the sub-form is submitted to Global EWARS.

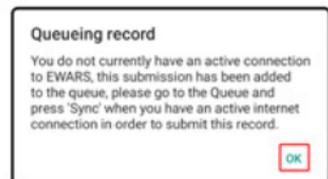
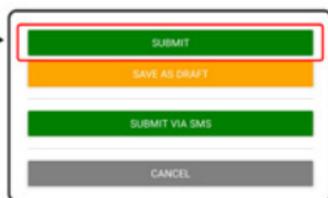
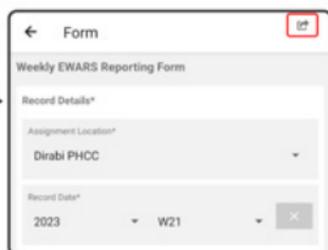
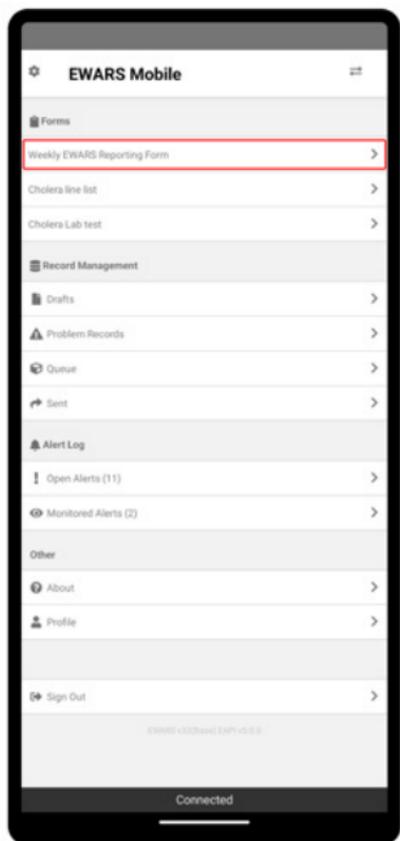
Scenario B: When there is unreliable internet connectivity

- ▶ submitted reports will be queued.

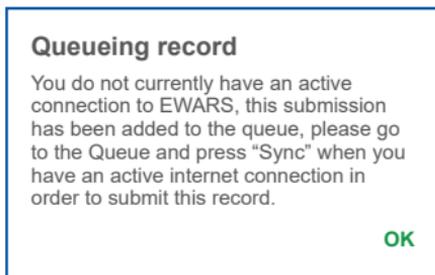
To submit the report, the reporting user(s) will later have to sync the queued reports to Global EWARS through an internet connection when or where one is available.

Step 1: Fill in and submit the form

- ▶ Tap on the **form** you want from the list under  **Forms**. For example, 'Weekly EWARS Reporting Form'.
- ▶ Tap on **+ Create New** > Fill in the form details.



- ▶ Tap on  icon > Tap on **SUBMIT**. If there is no internet connection, the form will be added to the queued record and the system will display the following pop-up message:

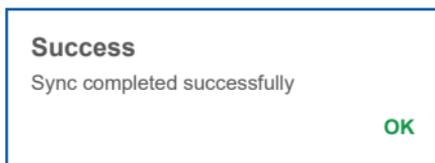


Once an internet connection is available, perform the sync as shown in step 2 to submit the queued reports.

Step 2: Sync the queued forms

- ▶ Tap on any of the reports listed under '**Forms**'. For example, 'Weekly EWARS Reporting Data' > Tap on '**Queued**'; you will see a list of all the forms that are in the queue.
- ▶ Tap on **Sync**.

When the sync is successful you will see the following pop-up message:





- ▶ Tap on 'OK'. All the forms will be synced to Global EWARS.

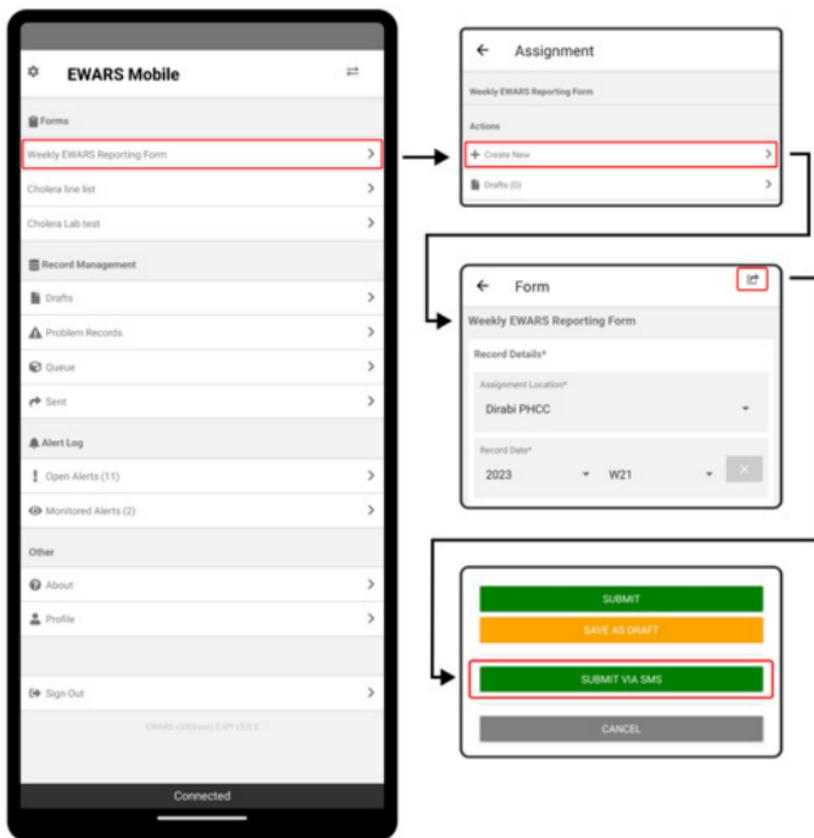
Scenario C: Using SMS when internet connectivity is unreliable

When internet connectivity is unreliable and reporting users are unable to visit locations where they can sync queued reports, reporting users will submit via SMS using an SMS Gateway. SMS reporting must be enabled by the administrator.

- ▶ Under  **Forms**, tap on any form, for example, 'Weekly EWARS reporting data'.
- ▶ Tap on **+ Create New** > Fill in the form details
- ▶ Tap on  icon > Tap on **SUBMIT VIA SMS**. If SMS reporting is enabled for you, the form will be submitted and a notification will appear saying 'Report submitted via SMS successfully'.

Note:

Configuration of SMS reporting is performed by the administrator. If you are supposed to be in an SMS reporting team, but your account admin has not added you to the team, you will receive the following pop-up message. You will then need to ask the account admin to enable SMS reporting.



Alert

SMS number is not configured for this user! Please contact account admin.

OK

Scenario D: Using QR codes when there is no internet connectivity

In remote areas reporting user(s) can submit their queued reports in offline mode by sharing a QR code with Local EWARS or EWARS Mobile. Later, the Local EWARS or EWARS Mobile will submit it to Global EWARS by performing a sync. See the topics **Sync with Local EWARS** and **Sync with EWARS Mobile**.

Manage a draft report

Under the  icon, you can perform the following activities:

- 1) Save a form as a draft, edit and submit it
- 2) Delete a draft-record

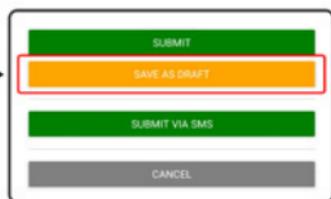
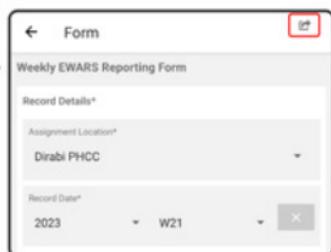
Save a form as a draft, edit and submit it

You can save a form as a draft when you do not have the complete information to fill in, or when you need to edit the same form later once you have information.

To save a form as a draft, follow the steps below.

Step 1: Fill in a form and save as a draft

- ▶ Under  **Forms**, tap on the form you want. For example, 'Weekly EWARS Reporting data'.



- ▶ Tap on **+ Create New** > Fill in the form details.
- ▶ Tap on  icon > Tap on **SAVE AS DRAFT**; the form will be saved as a draft.

Step 2: Edit the draft

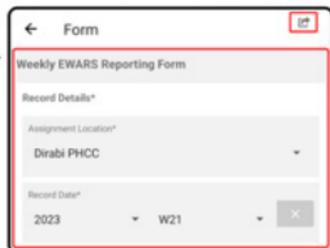
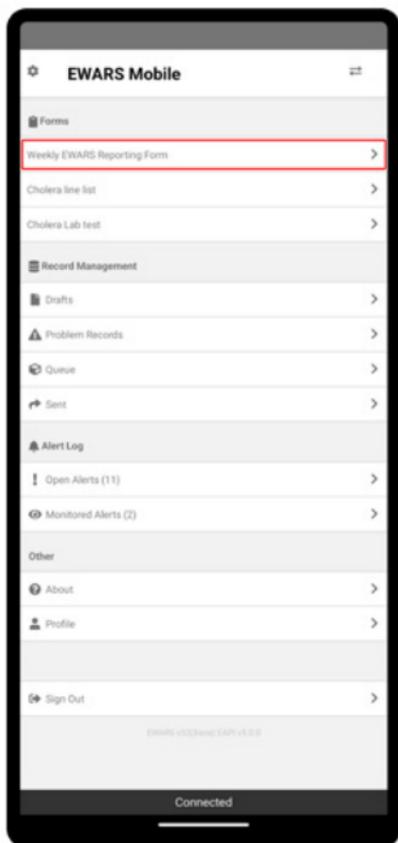
- ▶ Under  **Forms**, tap on the form you want to complete. For example, 'Weekly EWARS Reporting Form' > Tap on '**Drafts**' > Edit or complete the form.

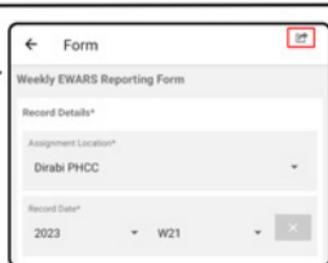
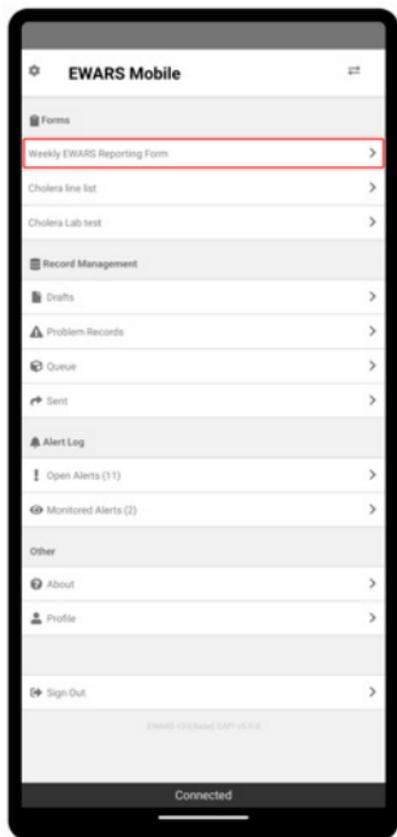
Step 3: Submit the edited draft

- ▶ Tap on  icon
- ▶ Tap on **SUBMIT**; if there is an internet connection, the form will be submitted and a notification will appear indicating '**record submitted successfully**'.

Note:

If you try to submit the form when the internet connection is unreliable, the form will be queued.





Delete a draft report

You can delete a draft record if it is not required or if it is added accidentally.

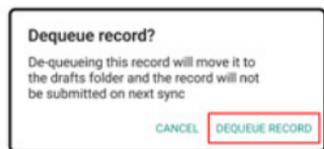
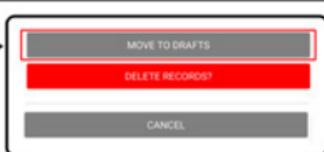
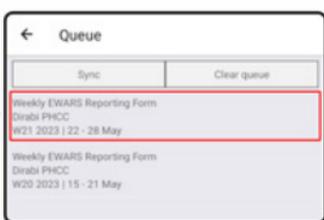
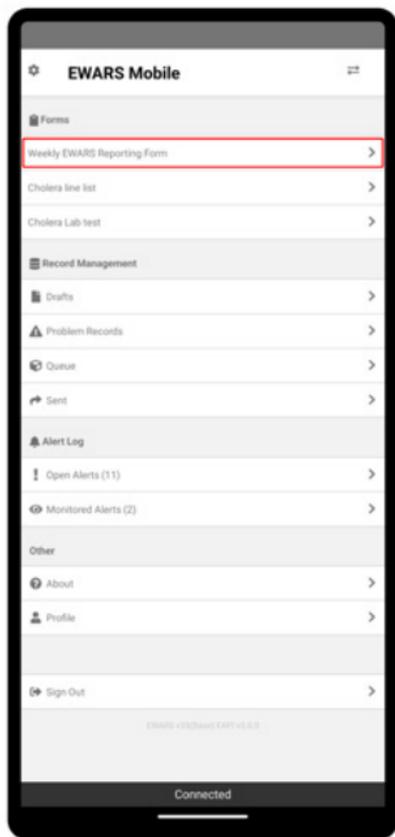
To delete a draft report, follow the steps below:

- ▶ Under  **Forms**, tap on the form you want. For example, **'Weekly EWARS Reporting data'** > Tap on **'Drafts'**; all the drafts of that report will appear > Tap on any one record, for example, **'Weekly EWARS reporting form'**, and record options will open.
- ▶ Tap on  icon
- ▶ Tap on the **DELETE** icon; a confirmation will appear > Tap on **'Delete'**, the draft record will be deleted.

Manage queued reports

When a form is submitted while there is no internet connection, the form is saved in a queue. You can perform the following key activities with queued reports.

- 1) Sync the queued reports for submission to Global EWARS
- 2) Move the queued form records to drafts ("dequeue record")
- 3) Delete all reports from queue.



Sync a queued report

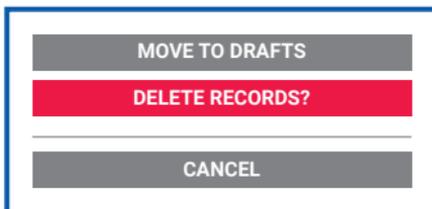
When a form is submitted while there is no internet connection, the form is queued. Later, when an internet connection is available, you will need to perform a sync in order to submit the form to Global EWARS. For more details, see Scenario B, When there is unreliable internet connectivity.

Move a queued report to draft

If a queued form is incomplete or needs changes then you can move it back to drafts.

Follow the steps below:

- ▶ Under **Forms**, tap on the form you want.
For example, 'Weekly EWARS Reporting data'
> Under '**Data**', tap on '**Queued**'; all the queued reports will appear > Tap on any one report for example, 'Weekly EWARS reporting form', and the options for the record will open:



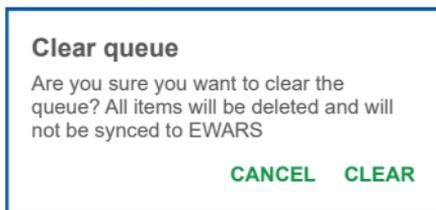
- ▶ Tap on **'Move to Drafts'**; a confirmation box will appear > Tap on **'Dequeue Record'**, the report will be moved back into drafts.

Delete all reports from the queue

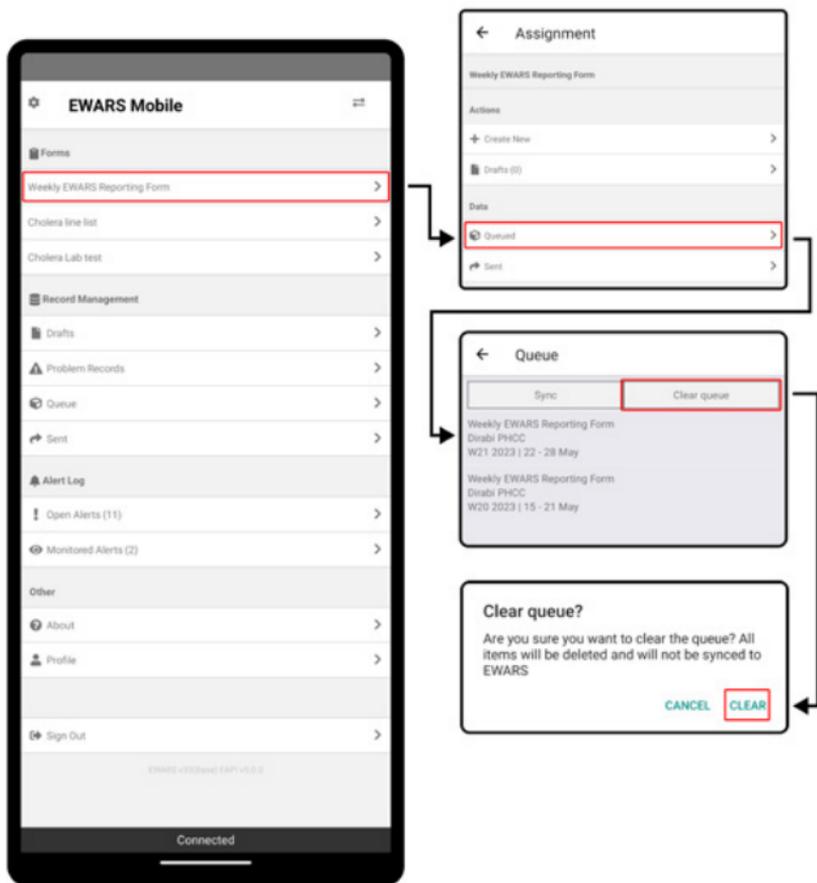
If you want to delete all the queued reports and empty the queue completely, you can follow the steps below to clear the queue.

CLEAR QUEUE

- ▶ Under  **Forms**, tap on the form you want.
For example, 'Weekly EWARS Reporting data'
> Under **'Data'**, tap on **'Queued'**; all the queued forms will appear.
- ▶ Tap on **'Clear queue'**; the following pop-up message will appear:



- ▶ Tap on **'Clear'**.



Caution: Reports will be deleted permanently and will not be synced to Global EWARS.

Manage sent logs

The sent log includes the list of all the submitted reports. You can view the logs of the reports and also remove them when they are no longer required. You cannot reopen submitted reports by tapping on them.

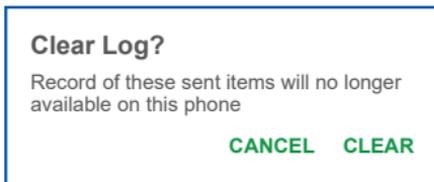
Viewing the submitted report logs

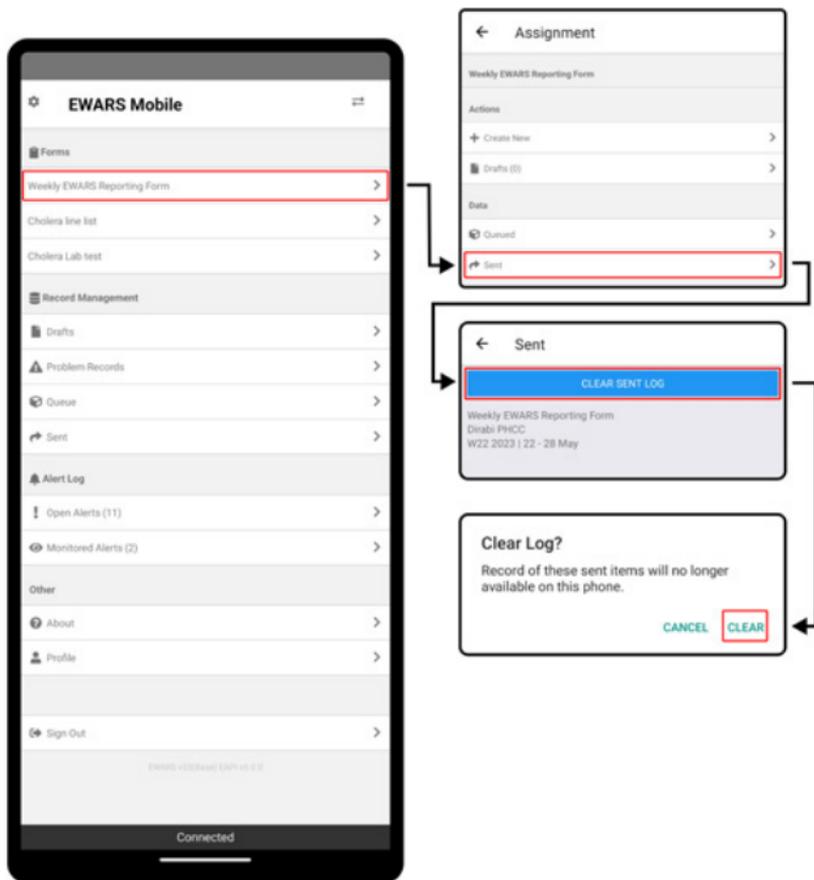
- ▶ Tap on any of the forms under **'Forms'**; for example, 'Weekly EWARS Reporting Form' > Tap on **'Sent'**; all the submitted form logs will be listed.

Remove all the forms and clear the sent log

Follow the steps below to clear the sent log:

- ▶ Tap on any of the forms under **'Forms'**. For example, 'Weekly EWARS Reporting Form.' > Tap on **'Sent'**; all the submitted forms will be listed > Tap on **CLEAR SENT LOG**, the following pop-up will appear:





- ▶ Tap on **'Clear'**; all the submitted forms will be removed from the sent log.

Record management

'Record Management' organizes, displays and manages all the reports you have started to work on as drafts, problem records and queued reports. Record Management includes:

1. Drafts
2. Problem Records
3. Queue
4. Sent Log

These activities are the same as described in the topic 'Forms'. However, whereas under 'Forms', 'Drafts' will show the drafts of a respective form –for example, Weekly EWARS Reporting Form – whereas in the case of record management, accessing 'Drafts' for example will show drafts of all the forms.

Manage drafts

Under 'Manage drafts' you can view all the drafts related to different forms. Select any draft to perform the following actions on them.

1. Edit and submit the draft
2. Save as draft again
3. Delete the draft

Manage a problem report

Problem reports occur as a result of the duplication of reports or changes in their configuration during offline reporting. This problem is largely encountered if you have offline reporting in your setting.

That is, a reporting user submits the report with a specific week/date and location to Global EWARS. If a reporting user accidentally submits the same report with the same week/date and location when offline and then tries to sync, the report is a duplication, and it is added to the problem record.

For example, the 'Weekly EWARS Reporting Form' of Bilunula PHCC is submitted successfully to the Global EWARS in week 48 (W48). Another user also submitted the same form in W48, also at Bilunula PHCC, while they were offline, and so it was queued. Once the internet connection was restored, the user tried to sync the report but received the following pop-up message. The report was listed under 'Problem Records'.

Problem Records

Some reports could not be synced,
please see Problem Records for more
information

OK

Note:

A record also gets added to 'Problem Records' if the admin has changed the configuration of the form, deleted the form, or has performed data validation on it.

To resolve the problem record:

- ▶ Under 'Record Management', tap on 'Problem Record'.
- ▶ Tap on the record that you wish to resolve. For example, 'Weekly EWARS Reporting Form'. You will see a red line under the record name that says, 'A record already exists for this location and date.'
- ▶ Edit the form to resolve duplication.
- ▶ Tap on ; submitting options will open.
- ▶ Tap on **SUBMIT**; the form will be submitted.

Manage a queued report

If the internet connection is unreliable at the time of submission, the form will be queued. Once an internet connection is available, **you will need to perform a sync so that the queued reports are submitted.**

If you do not want to sync the queued reports, you can **delete them** from the queue. You can also **move them back into drafts** if you think the queued form record is incomplete or requires some modification.

Under 'Record Management', you can view all the queued reports that can be accessed as given below.

- ▶ Under '**Record Management**,' tap on '**Queue**'; you will see the list of all the queued reports. Select the required one and perform the action. It can be synced to be submitted or moved back into drafts for doing changes or deleted if it is no longer required.

The function of queued reports in Record Management is similar to the function of queued reports in Forms. See the topics: **Sync a queued report**, **Move a queued report to draft** and **Delete all reports from the queue**.

Note:

Submitted forms cannot be corrected in EWARS mobile. If you would like to make any corrections to a submitted form, contact the account admin.

Manage sent logs

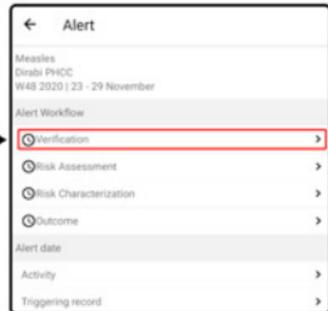
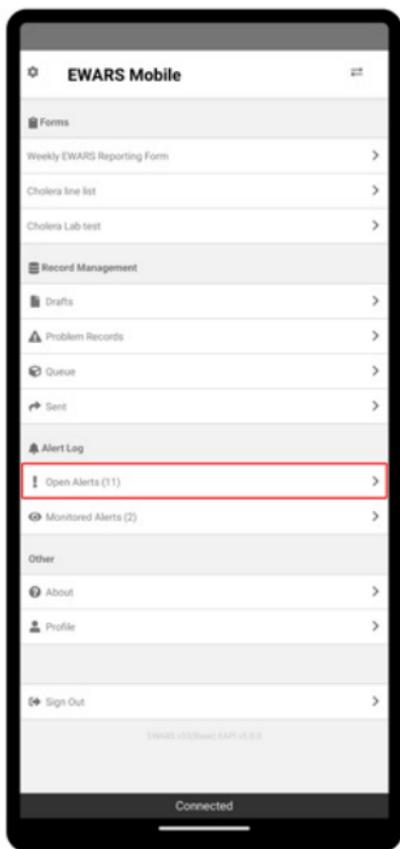
The sent log includes the list of all the submitted reports.

All submitted report logs can be accessed as follows:

- ▶ Under **'Record Management'**, tap on **'Sent Log'** and you will see the list of all the sent logs.

You can perform activities on the sent logs as explained above under the topic **'Forms'** in the topic **Manage sent logs**.

Alert log



The 'Alert Log' organizes and manages the alerts you should follow for verification, risk assessment and beyond. All alerts that concern your account will be in your alert log.

Alert Management is an interactive, dynamic process that involves the clinician, community and the surveillance team at the central level. **Information that users input from their EWARS Mobile devices under alert management is shared by the system in real time, and therefore requires verification.** These inputs can be viewed by the next level of surveillance officers for a coordinated rapid response.

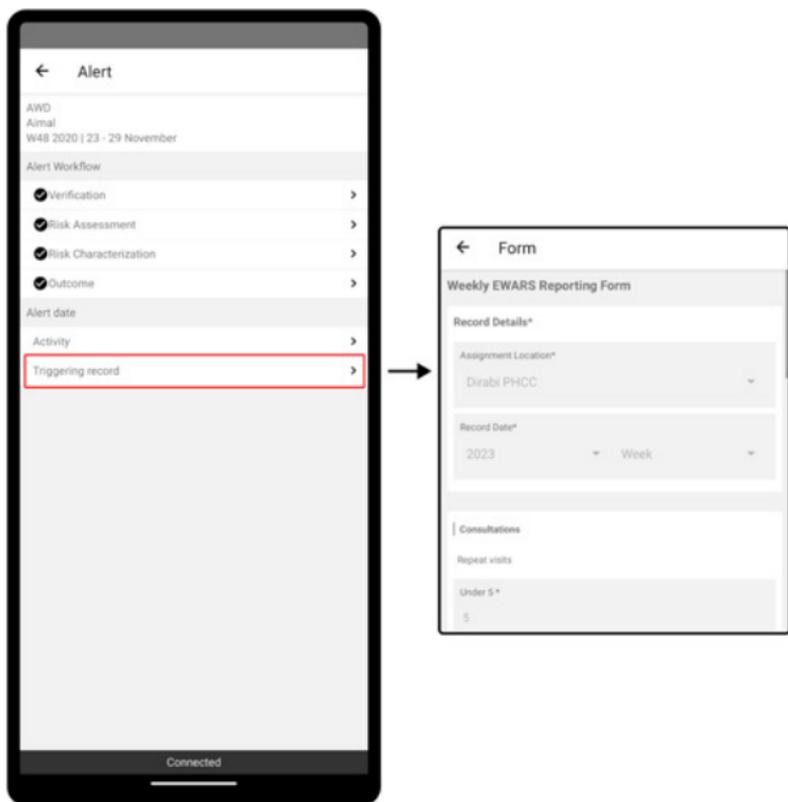
This dynamic activity requires an active data connection. If you are an SMS reporting user, you will not see alerts on your mobile.

There are two types of alerts:

- 1) **Open Alerts** – new alerts which require your follow-up.
- 2) **Monitored Alerts** – alerts that have already been followed up.

TIP!

Alert management helps detect outbreaks. All alerts triggered in the system should be managed rapidly in a systematic manner.



Manage open alerts !

To manage open alerts, follow the steps below.

View an open alert

- ▶ Under **Alert Log**, tap on **'Open Alerts'**; a list of triggered alerts will be displayed along with location and date.

- ▶ Tap on any alert; for example, 'Cholera Bilnula PHCC 2021-09-12'.
- ▶ The alert screen will appear, where you can view the following:
 - **Name, location** and **date** of alert
 - **Alert workflow** – displays the stage that the alert is currently at in the workflow.
 - **Activity** – shows the activity related to the alert
 - **Triggering record** – opens the report which caused the alert to be generated.

View the report that triggered the alert

- ▶ Tap on the alert; for example, 'Bilnula PHCC 2021-09-12' under Cholera.
- ▶ Under **Alert Log**, tap on '**Open Alerts**'; a list of triggered alerts will be displayed along with location and date.
- ▶ Tap on **Triggering record**; the submitted report responsible for triggering the alert can be viewed.

Alert Workflow Process



Verification notes

- Has the event been reported by an official source (for example, local health-care centre or clinic, public health authorities, animal health workers)?
- Has the event been reported by multiple independent sources (for example, residents, news media, health-care workers, animal health status)?
- Does the event description include details about time, place and people involved (for example, six people are sick and two died three days after a ending a local celebration on in community X)?
- Is the clinical presentation of the cases described (for example, a cluster of seven people admitted to hospital with atypical pneumonia, of whom two have died)?
- Has a similar event been reported previously (for example, with a similar presentation, affecting a similar population and geographical area, over the same time period)?

Perform alert workflow

Performing alert workflow comprises four major stages:

- 1. Verification**
- 2. Risk Assessment**



3. Risk Characterization

4. Outcome

To perform each stage of the alert workflow, follow the steps below.

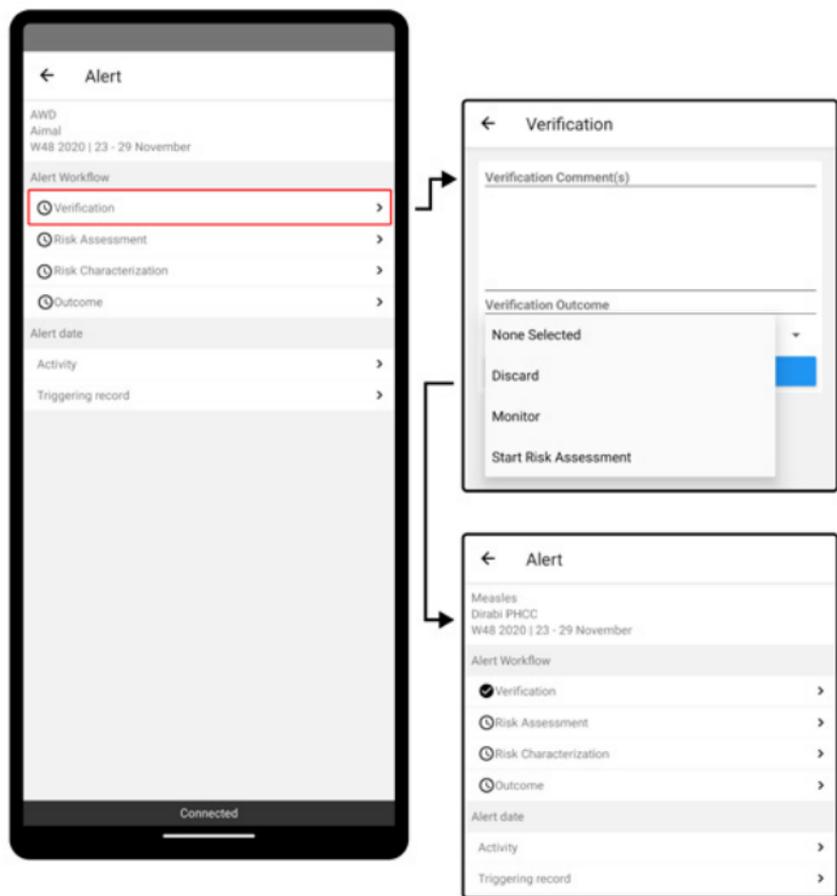
Note:

You do not have to complete all the steps of the workflow in one go. You can return to it after a lapse of time. For example, while you perform other actions in EWARS. Alert workflow can be performed by any stakeholder or team member related to this alert management.

1) Alert verification

TIP!

Suspected diseases, conditions, or rumours reported to EWARS can be the result of human error, mistakes, false information or poor clinical judgement. Therefore, the first step in alert management is to confirm that triggered alerts are true and of public health importance.



Once an alert is triggered, the first step is to verify it. Verification of the alert determines whether an alert is genuine or not.

Alert verification should be performed in communication with the clinician, community health worker/volunteer or surveillance officer of the relevant alert.

To verify the alert:

- ▶ Tap on the alert. For example, 'Bilnula PHCC 2021-09-12' under Cholera. The alert screen will appear.
- ▶ Tap on  **Verification**; a verification screen will appear.
- ▶ Add a comment under '**Verification Comment(s)**' and select the verification outcome from the drop-down list as follows (Mandatory).
- ▶ Select the 'Verification Outcome' from the drop-down list:
 - Select **Discard** when the alert is verified as a false alert or refers to a disease or hazard that is not applicable to immediate public health action. Once discarded, the alert will be closed, and no further action is required.
 - Select **Monitor** when you do not have enough information for the alert to be verified; this indicates that the definitive outcome of an alert verification is still pending.
 - Select **Start Risk Assessment** when the alert is verified as genuine. The alert will be escalated to the risk assessment stage, and the alert must be **risk assessed** to understand the potential impact it may have on public health.

Note:

You cannot start risk assessment until you update the verification outcome to 'Start Risk Assessment'.

- ▶ Tap on **SUBMIT VERIFICATION**.

Note:

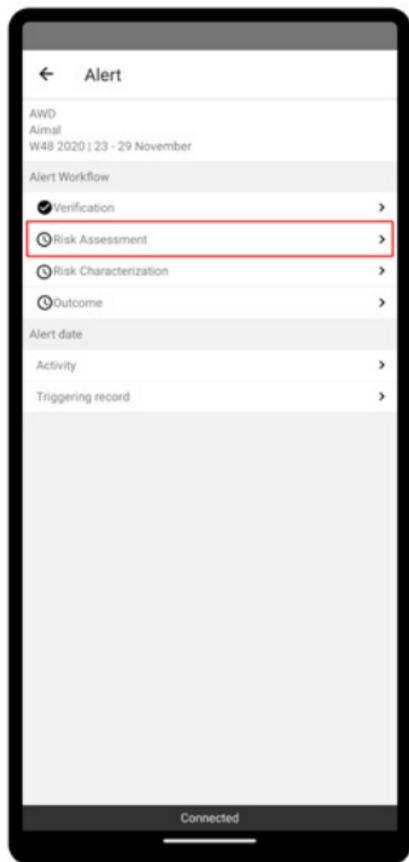
Rapidity of alert verification is a key performance measure of a good surveillance system. All triggered alerts should be verified within 48 hours.

2) Risk Assessment

All verified alerts should be risk assessed to characterize their public health impact. The risk will be assessed in the light of 'Hazard', 'Exposure', and 'Context'. Risk assessment should be conducted in communication with clinicians, surveillance officers and the laboratory network of the location.

To assess the risk of an alert,

- ▶ Tap on  **Risk Assessment**; a risk assessment screen will appear.



← Risk Assessment

Event

Cholera ▾

Hazard Assessment

cholera rapid diagnostic test is positive, stool sample is sent for culture confirmation test. The patient showed clinical signs compatible with cholera, rice-water stools and severe dehydration

Exposure Assessment

the patient is a food handler in the communal kitchen of the internally displaced persons (IDP) camp. Three family members are already showing similar symptoms: diarrhoea and signs of dehydration. The camp population has not been vaccinated for Cholera in the recent past

Context Assessment

the camp is overcrowded with very poor water and sanitation facilities", "no hygiene kits are available for distribution", "households do not have safe water for drinking"

SUBMIT ASSESSMENT

← Alert

AWD
Aimal
W48 2020 | 23 - 29 November

Alert Workflow

- ✓ Verification >
- ✓ Risk Assessment >
- ⊙ Risk Characterization >
- ⊙ Outcome >

Alert date

Activity >

Triggering record >

- ▶ Select the likely event or disease from the drop-down menu.
- ▶ Enter '**Hazard Assessment**' (mandatory):

Hazard assessment includes:

- identifying the hazard(s) that could be causing the event
- reviewing key information about the potential hazard(s) (i.e. characterizing the hazard)
- ranking potential hazards when more than one is considered a possible cause of the event (equivalent to a differential diagnosis in clinical medicine).

If confirmatory laboratory tests, rapid diagnostic tests or other supplementary tests have been conducted, enter the information here. Enter clinical or other epidemiological features.

For example, “cholera rapid diagnostic test is positive, stool sample is sent for culture confirmation test. The patient showed clinical signs compatible with cholera, rice-water stools and severe dehydration”.

- ▶ Enter '**Exposure Assessment**' (mandatory): enter exposure information, such as how many individuals and populations are probably exposed to this hazard.

The key output of the assessment is an estimate of the:

- number of people or group known or likely to have been exposed.
- number of exposed people or groups who are likely to be susceptible (i.e capable of getting a disease because they not immune)

For example, “the patient is a food handler in the communal kitchen of the internally displaced persons (IDP) camp. Three family members are already showing similar symptoms: diarrhoea and signs of dehydration. The camp population has not been vaccinated for Cholera in the recent past.”

- ▶ Enter **Context Assessment** (mandatory): describe the context that may affect either the transmission potential or the overall impact of the event.

Context assessment addresses the following questions:

- What are the factors associated with the environment, health status, behaviours, social or cultural practices, health infrastructure and legal and policy frameworks that increase a population’s vulnerability?

For example, “the camp is overcrowded with very poor water and sanitation facilities”, “no hygiene kits are available for distribution”, “households do not have safe water for drinking.”

Note:

All the fields must be filled in before the assessment can be submitted. Otherwise, an error message will appear.

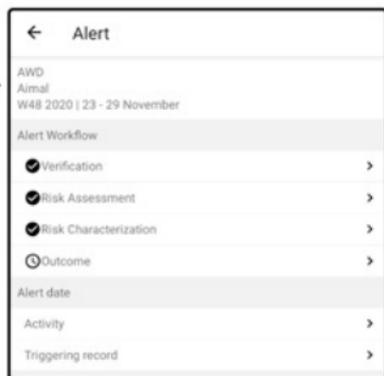
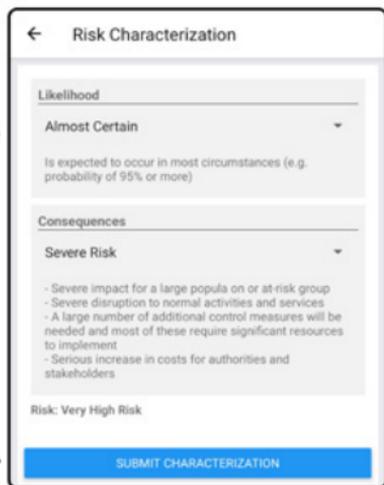
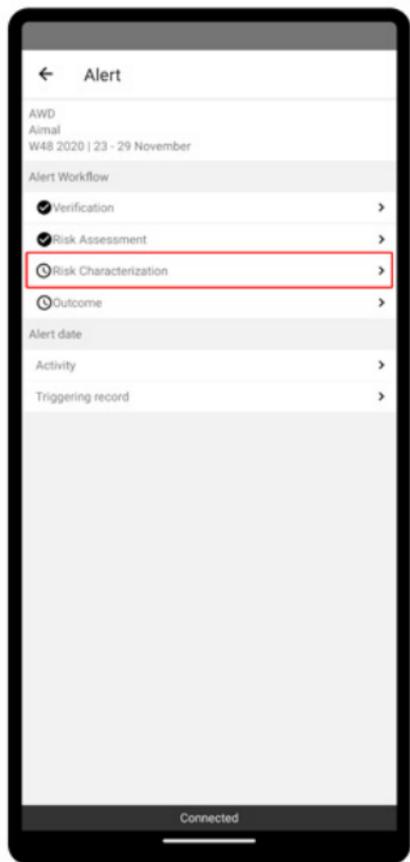
- ▶ Tap on **SUBMIT ASSESSMENT**.

3) Risk characterization

After the risk assessment has been completed, the next step is to assign a level of risk to the alert. The graphic below will help you to decide the level of risk. The level of risk assigned will determine the urgency and scale of the response. When there are multiple risks, it will also help prioritize resources based on risk levels.

TIP!

Risk characterization means the assignment of a level of risk to the event according to the likelihood of it occurring and the resulting public health consequences.



To characterize the risk of the alert,

- ▶ Tap on **Risk Characterization** ; the risk characterization screen will appear.
- ▶ Select the likelihood (probability of occurrence) of the risk on the basis of the risk matrix shown.
- ▶ Select the consequence of the risk from the drop-down list. The matrix below provides the basis for deciding risk levels.

Risk Matrix

Select likelihood and potential consequences of the hazard/event in the grid below

	Almost Certain					
	Highly Likely					
	Likely					
	Unlikely					
	Very Unlikely					
	Minimal	Minor	Moderate	Major	Severe	
Likelihood						Consequences

Risk levels

Low Risk

Managed in accordance with standard intervention protocols, routine control program and regulations (for example, surveillance using routine surveillance systems).

Moderate Risk

The roles and responsibility of the response must be specified. Specific surveillance or control measures required (for example, enhanced surveillance supplementary vaccination campaigns).

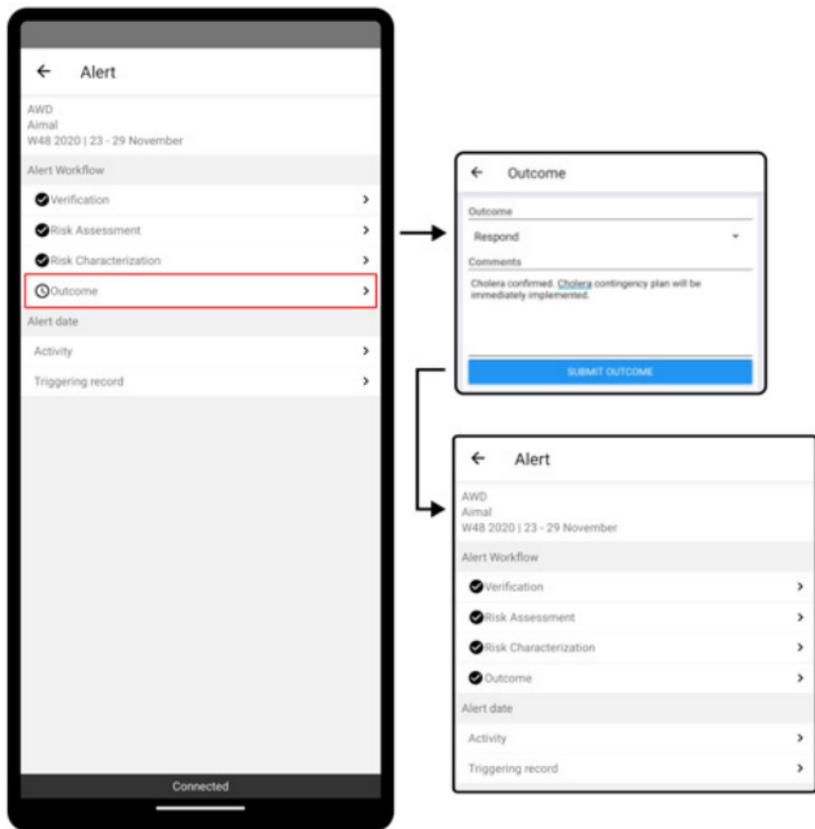
High Risk

Special attention from management is needed; may be necessary to put in place command and control structures, a series of additional control measures will be needed, some of which may have significant consequences.

Very High Risk

An immediate response is required even if the event is reported outside normal business hours. Immediate attention from the required senior management (for example, the command and control structure should be put in place within a few hours); the implementation of control measures with serious consequences very likely.

▶ Tap on **SUBMIT CHARACTERIZATION**.



4) Enter outcome

After a risk has been characterized, you can now assign a risk outcome as shown below. To enter the outcome of the alert:

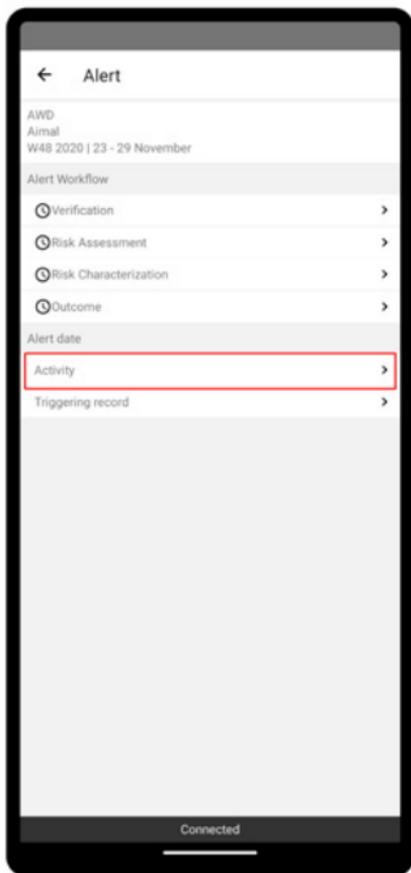
- ▶ Tap on **🕒 Outcome** ; the outcome screen will appear.
- ▶ Select an outcome for the alert from the drop-down list.

- Select **'Respond'** when the risk assessment determines immediate public health action is required. For example, if cholera is confirmed, the cholera contingency plan will be immediately implemented.
- Select **'Discard'** when the risk assessment determines immediate public health action is not applicable. For example, all lab test results are negative for specific pathogens, or clinical signs are attributed to accidental poisoning. Once discarded, the alert will be closed, and no further action is needed.
- Select **Monitor** when the risk assessment is not yet determined. For example, still awaiting culture confirmation of cholera.
- ▶ Enter the comment, if any, and tap on **SUBMIT OUTCOME**.

Note:

If you select **'Monitor'** as an outcome, then the alert is added under monitored alerts. If **'Discard'** is selected, the alert status will be changed to inactive. And if **'Respond'** is selected, then an immediate public health action is required.

- ▶ Once you complete the process – except in the case of **'monitor'** – all alerts will be switched from the **'open alerts'** list to the **'closed alerts'** list.



View alert activity

To view the alert activity:

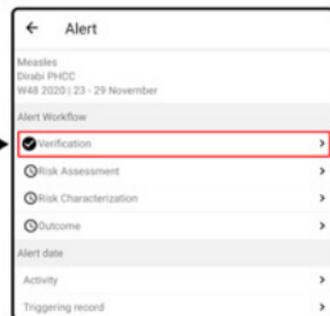
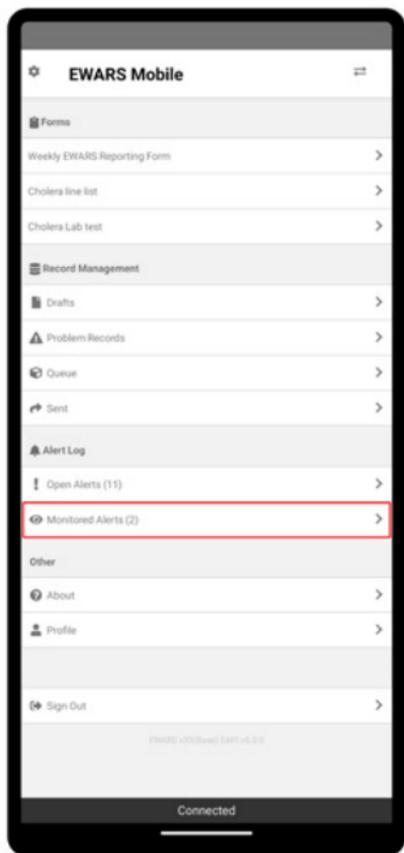
- ▶ Under **Alert Log**, tap on **'Open Alerts'**; a list of triggered alerts along with location and date will be displayed.
- ▶ Tap on the alert. For example, 'Bilnula PHCC 2021-09-12', under 'Cholera'.
- ▶ Tap on **Activity**; the activity screen will appear. Activity includes the date and name of the user who raised the alert, changes performed in the alert workflow, and so on.
- ▶ You can enter comments in the box provided at the bottom of the activity screen. These additional comments can be viewed by the geographical and account admins of the EWARS system at the central level.

Manage monitored alerts

Alerts you have started to work on but not submitted will be displayed under 'Monitored Alerts'.

View a monitored alert

- ▶ Under '**Alert Log**', tap on  **MonitoredAlerts (3)** ; a list of monitored alerts along with location and date will be displayed.
- ▶ Tap on the alert. For example, '**Bilnula PHCC 2021-09-12**' under **Cholera**.



- ▶ The alert screen will appear, under which you can view the following:
 - Name, location and **date** of alert
 - **Alert workflow** – displays the stage that the alert is currently at in the workflow.
 - **Activity** – shows the activity related to the alert
 - **Triggering record** - opens the report which caused the alert to be generated.

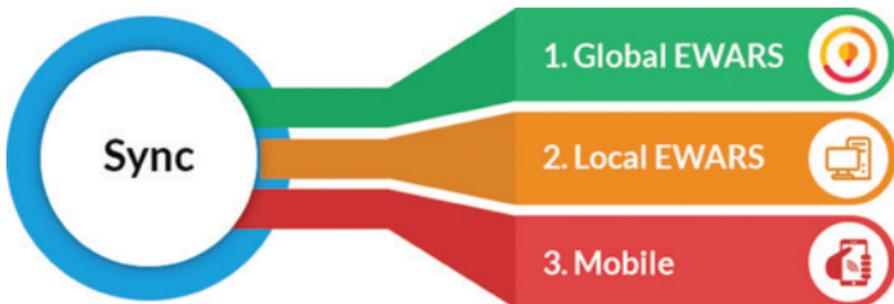
Perform alert workflow

A monitored alert can be opened in the same way as an open alert and can also be followed up. After a final outcome has been assigned to an alert, the alert will be closed. However, if new information becomes available, or if a repeat risk assessment is required, it may be necessary to re-open an alert and to update information.

Note:

You cannot currently re-open an alert that has been closed within the EWARS Mobile app. To re-open an alert, use the EWARS web application or contact the account administrator.

Sync



Sync allows you to synchronize your data with the EWARS server. Users need to synchronize data regularly to send and receive the latest updates generated through EWARS in a box.

When you synchronize, you will automatically receive any updates to the form such as changes to the list of diseases, alerts, new alerts triggered, and so on.

Caution: if you do not perform a sync before the expiry time is reached, the account will be locked and you will need to perform a sync to continue working.

If you are in an offline environment and you submit your reports they will be queued; the only way to share data with the Local EWARS or receiver mobile is to perform a sync.

You can sync your data with any of the three options depending on your context:

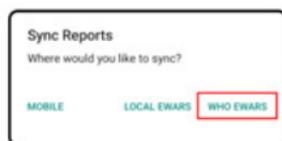
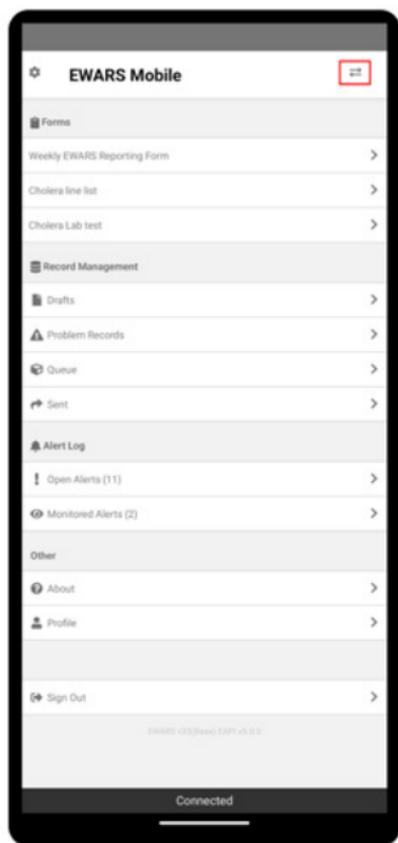
- 1) **Global EWARS** – refers to the online EWARS in a box system managed by WHO.
- 2) **Local EWARS/Local Hub** – refers to the EWARS stand-alone or offline application installed on a desktop or laptop.
- 3) **EWARS Mobile** – refers to a copy of EWARS running on a user's mobile device.

Sync with Global EWARS

Global EWARS is the WHO-controlled instance server accessible over the internet. Most implementations of EWARS in a box are connected to Global EWARS. If your connection is to a Local EWARS or EWARS Mobile, you will be informed of this at the time of the implementation, training and capacity building.

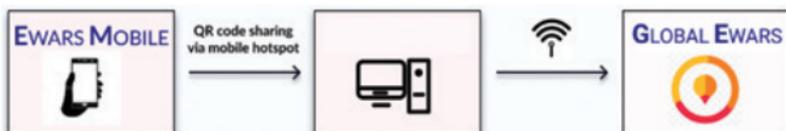
Note:

You can only sync your data directly with the Global EWARS server if you have an active data connection.



To sync the data:

- ▶ Tap on the **Sync**  icon, visible on the top left of the home screen.
- ▶ Tap on **GLOBAL EWARS**; your data will be synced, and you will receive a success notification as shown.



Sync with Local EWARS

Local EWARS refers to the EWARS stand-alone or offline application installed on a desktop or laptop. This can also be referred to as a local hub. Local EWARS or Stand-alone EWARS is used when there is no reliable data connection between reporting users and the surveillance office. Here, the EWARS offline application functions from a desktop or laptop at the surveillance office and is not connected to Global EWARS.

If your setting is using EWARS in a box as a local hub, you will be informed about this by your account administrator. Sync with Local EWARS and Sync with EWARS Mobile only apply if you have an offline/local hub.

If your setting has a local hub (no internet connection to Global EWARS), reporting users can only share data when the reporting mobile is in close proximity to either the:

- 1) local hub or
- 2) another device with EWARS Mobile installed that acts as a data receiver.

In both situations, your EWARS Mobile device will act as a 'Sender' and either EWARS stand-alone or the second EWARS Mobile device will act as 'Receiver'. The data transfer will take place using a local hotspot created by either the local EWARS desktop or the receiver.

To share data, both receiver and sender should follow a few simple steps in a coordinated manner as explained below.

Note:

The laptop/desktop that is used as Local EWARS must be equipped with a webcam in order to scan the QR code.

The steps below demonstrate the process of receiving reports, covering steps for both EWARS stand-alone and EWARS Mobile.



Step 1. To receive reports perform the following steps on the EWARS stand-alone

The surveillance officer who manages the Local EWARS desktop or laptop should follow these steps when the reporting user brings the EWARS Mobile device for data sharing.

- Start the EWARS stand-alone application by clicking on the **EWARS**  icon on your desktop. The EWARS stand-alone application will open.
- Click on the **'Receive reports'**  icon as highlighted in the screenshot. The QR code scanner screen will open. The QR code reader/scanner is started on EWARS stand-alone.



Now, perform the following steps on EWARS Mobile to complement the above actions by the **reporting user**.

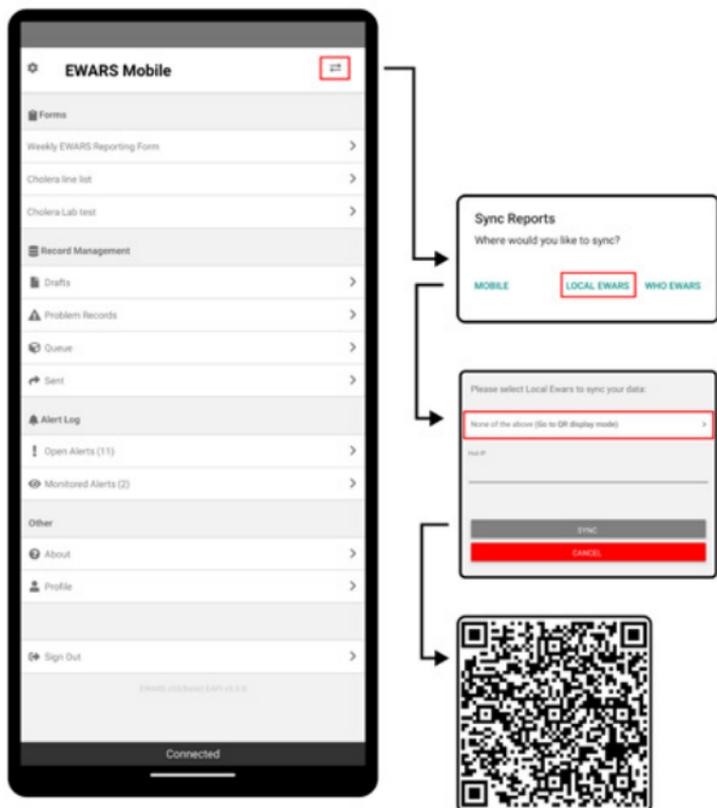


Step 2. To send reports, perform the following steps on EWARS Mobile

These steps should be performed by the reporting user acting as 'Sender'.

- Start the EWARS Mobile application by tapping on  icon on the home screen of the smartphone.
- Tap on the '**Sync**'  icon visible on the top left of the home screen.
- Tap on **LOCAL EWARS**.
- Tap on None of the above (**Go to QR display mode**).

- e) A screen saying '**Creating hotspot**' will appear. Stay on the same screen for a few seconds and the EWARS Mobile application will start a mobile hotspot and generate a QR code.



Once the QR code is generated in the EWARS Mobile app it then needs to be scanned using a camera available on the laptop/desktop on which EWARS stand-alone is installed:

- f) Hold the smartphone so that the QR code is clearly visible within the camera on your machine.



Once the QR code has scanned successfully, EWARS stand-alone will connect to an android-share hotspot and will automatically retrieve synced reports.



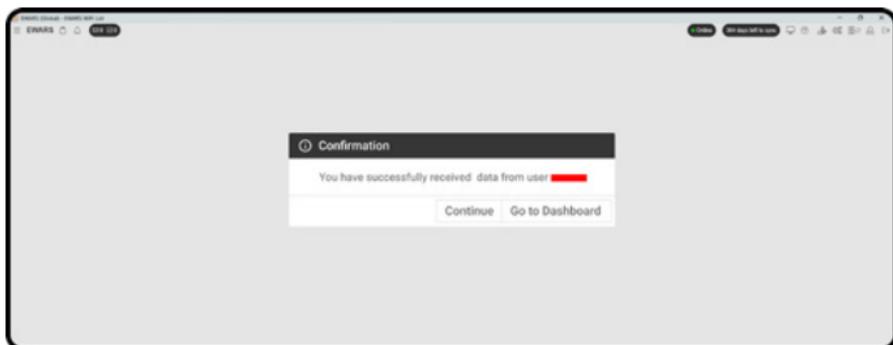
If there is any issue while scanning the QR code then you will receive the following notification:

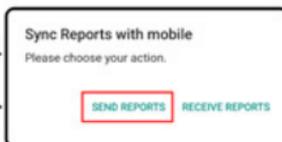
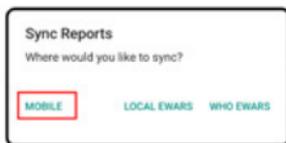
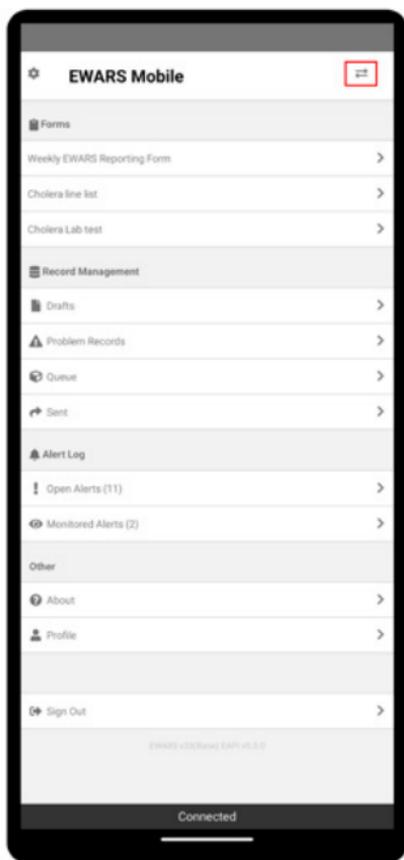


⚠️ Can't Establish Connection With Selected Network

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Once all the submitted reports are transferred successfully, they will be available in the EWARS stand-alone and you will see the following notification:





Sync with EWARS Mobile

You can sync your data with another mobile using a QR code. In this case, the second mobile user acts as a receiver, in the expectation that the second mobile will eventually submit the data to a local EWARS (or Global EWARS in a suitable location).

The reporting user and receiving mobile device need to be in one location for the data transfer to happen.

In this activity, EWARS Mobile 1 will act as a 'Sender' and EWARS Mobile 2 will act as 'Receiver'.

To sync data, sender and receiver should act in a coordinated manner to follow the steps below.

Steps for the sender:

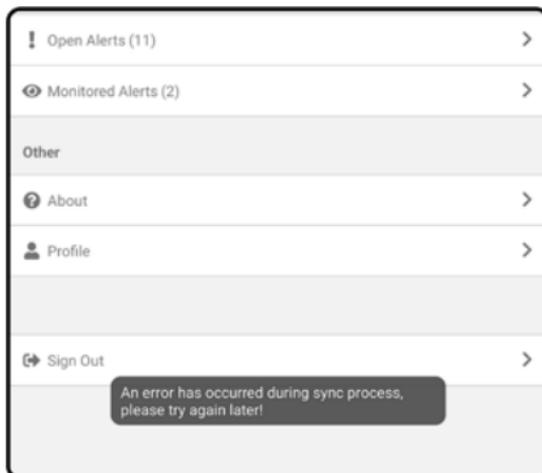
- ▶ Tap on the **Sync**  icon, visible on the top left of the home screen.
- ▶ Tap on **MOBILE**.
- ▶ Tap on **SEND REPORTS**; a hotspot is created on your mobile phone and a QR code is generated.

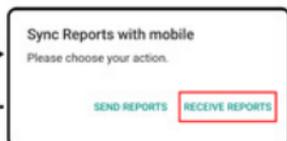
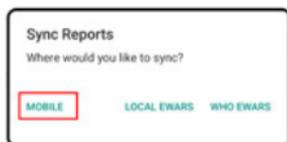
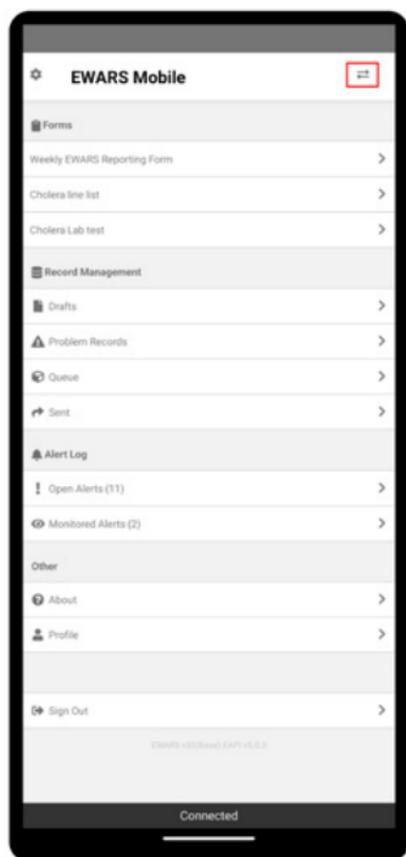
Once the scan is successful, the sender gets the notification confirming the transfer of data. The sender confirms and the data is transferred.

Steps for the receiver:

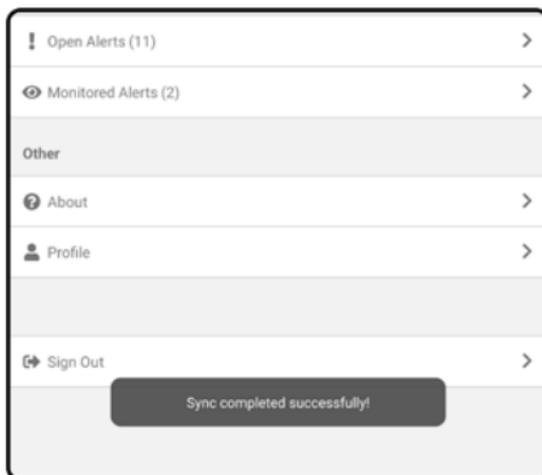
- ▶ Tap on the **Sync**  icon, visible on the top left of the home screen.
- ▶ Tap on **MOBILE**.
- ▶ Tap on **RECEIVE REPORTS**. Your wifi service is enabled, and a QR code scanner is opened to scan the code.
- ▶ Point the device's camera over the QR Code so that it is clearly visible within your screen. The phone automatically scans the code.
- ▶ Once the scan is successful, the sender receives the notification confirming the transfer of data. The sender confirms and the data is transferred. The receiver can then view the submitted report(s) in the queue.

If there is an issue while scanning the QR code, then you will view the following notification:

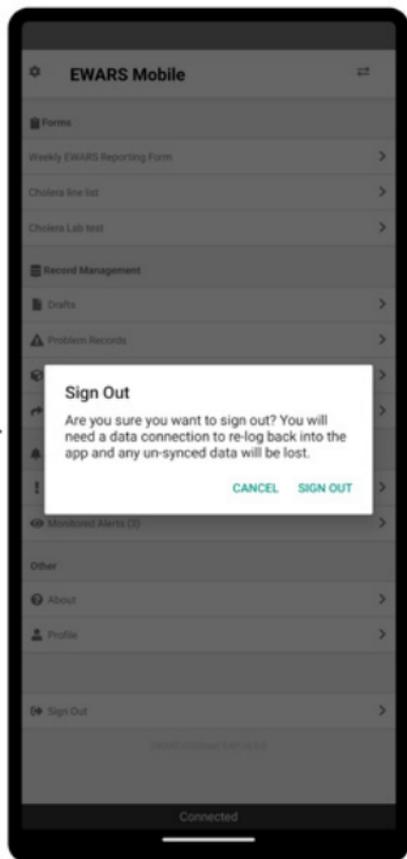
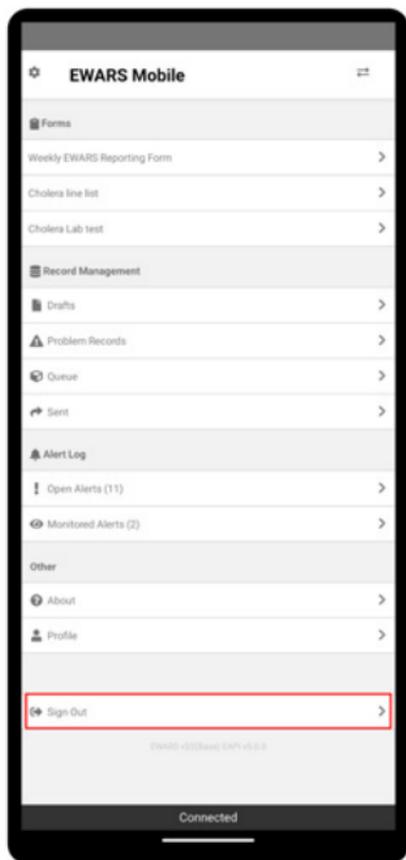




Once the sync is successful, all the submitted reports will be available in the receiving EWARS Mobile, and both the receiver and sender will see the following notification:



Sign Out



You can sign out from the EWARS Mobile application by pressing the 'Sign Out' button at the bottom of the home screen.

Caution: Once you sign out, you will need to have an internet connection in order to log in again. It is recommended that you leave it signed in at all times.

All un-synced data will be permanently deleted if you sign out without performing sync. It is therefore critical to ensure that all the data is in sync with the global server before signing out of the application.

To sign out from the application:

- Tap on '**Sign Out.**'
- A confirmation screen will appear > Tap on **SIGN OUT** > You will be logged out of the application and will be redirected to the login screen.

Best practices

- ▶ Turn the phone off when not in use to save battery.
- ▶ EWARS in a box mobile devices should only be used for professional purposes.
- ▶ Do not leave the EWARS in a box mobile device unattended or out in the open.
- ▶ Use your mobile device's screen lock feature to protect against data breach.
- If lost or stolen, please report immediately to your designated EWARS geographical or account administrator.
- ▶ Sync your data frequently to avoid any lags.
- ▶ Check for updates frequently, accept updates when available
- ▶ Keep battery chargers as a backup where electricity is unreliable.



Frequently asked questions

Can I use my personal mobile phone to install the EWARS in a box application?

Yes, you can install the EWARS in a box mobile application on your personal android mobile. However, if you are reporting from a health facility or hospital it is best to use the EWARS assigned phone for data sharing. This ensures that your personal activities will not affect the data connection and rapid sharing for early warning.

Can I download the application from Google Play Store?

No, it is not available on Google Play Store. Go to https://ewars.ws/ewars_v2_0.apk or download and install the APK file available in the EWARS in a box web application. Please contact your account administrator for this service.

What is the recommended Android version to install the application?

It is recommended to use Android OS version 6.0 Marshmallow or higher.

Do I require an internet connection to download the application?

It is not mandatory. You can manually install the application by getting the apk file on storage media from the administrator. However, you do need a connection for login.



Help & Support

For any queries or for more information, contact the EWARS in a box team at ewars@who.int.





EWARS in a box

For further information, please contact:

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CH-1211 Geneva 27
Switzerland

Email:
ewars@who.int

Web:
[https://www.who.int/emergencies/surveillance/
early-warning-alert-and-response-system-ewars](https://www.who.int/emergencies/surveillance/early-warning-alert-and-response-system-ewars)

Trainings:
<https://openwho.org/courses/EWARS-in-a-box>

