

# EARS Reporting System

User guide for the web application version 2.0

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## Introduction

This User Manual contains all essential information for the EARS system users to make full use of the information management system. The manual includes a description of the system functions, capabilities, modes of operation, and step-by-step procedures for system access and use. This is the second version of the user manual based on the available and additional modules of the system and enhancements made, this is not the final user guide but should change along with additional system enhancements.

## Purpose, Scope and objectives

This document provides the system design of the EARS information system together with all the integrations that will be necessary to ensure effective functioning of the surveillance system. This includes data collection and sharing with relevant agencies for analysis and response.

This document will describe the system and its functional architecture, and will provide the use cases for EARS watchers both at the National, county and Sub County levels and help in dissemination of public health related information across the devolved units.

The main objective of this system is to help the Ministry of Health Improve in reporting timeliness and availability of surveillance data at the national, County and Sub County levels, improve timely response to diseases and events of public health relation, and improve access to data (especially DHIS2 data) by the relevant authorities.

## System Overview

The overall design objective of the system is to enable collection of data required to achieve early detection to analyze the data in a way that it can be used effectively by decision makers.

The system will allow EOC and surveillance workers to receive information through the phones (i.e. E1 lines at the National EOC and relevant County hotlines) and other public sources of public health relation and input it to the EARS system. This system will utilize the input data to analyze, interpret and determine the appropriate response for each case.

The system sources of data shall be;

1. DHIS 2
2. National and county hot lines.
3. Newspapers and the internet.
4. Social media.
5. Other relevant sources.

## Document Organization

This user guide has been organized sequentially based on the main menu of the system and the different modules that comprise the whole system. The flow of data shall be described in images with details of how to perform each activity

## Points of Contacts

Role	Name	Contact
Technical Lead	David Jeffa	<a href="mailto:djeffa@mhealthkenya.org">djeffa@mhealthkenya.org</a>
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Fellow		
Software Developer	Robert Oduor	<a href="mailto:ronnie@mhealthkenya.org">ronnie@mhealthkenya.org</a>
Software Developer	Dennis Muoki	<a href="mailto:dmuoki@mhealthkenya.org">dmuoki@mhealthkenya.org</a>
Systems Analyst	Patience Wanjiru	<a href="mailto:pwanjiru@mhealthkenya.org">pwanjiru@mhealthkenya.org</a>
Project Proponent	mHealth Kenya	<a href="mailto:info@mhealthkenya.org">info@mhealthkenya.org</a>
Project Sponsor	CDC	TBA
Project Owner	Disease Surveillance & Response Unit	TBA

## Description of the system functions

To login in the EOC Web application system click this:

**URL: <http://ears.health.go.ke/>**

## Accounts management/ Administration

### Roles and Access Levels

Each user of the system will be afforded account credentials for security purposes; this is username and a password. These accounts will depend on the roles and access levels. Users have privileges and rights when it comes to access the contents of the system.

### System Roles

The system access has been put in three roles categorized as, a normal user, an administrator and a super administrator.

- a) **Normal user** – This user has privileged access to the dashboard but cannot view all menu items, they can view the register menu item for entering reported disease and events, view some components of GIS and the emergency contacts. The users in this category can view specific reports as should be defined by the EOC manager. The users in this category include EOC watchers.

- b) **Administrators** – These are advanced users with more privileges than the normal users, they can view the dashboard and most of the menu items, the administrator allocates the EOC watchers weekly schedule and assigns ground resources whenever there is field work required. The category include managers
- c) **Super administrators** – This is the highest privileged user. The super admin has access to the whole system. This is the only user allowed to add new users and give them user right and privileges. The super admin can also remove a user from the system and edit user access levels. The category includes the EOC ICT officer managing the system.

### **Access Levels**

The system has different access levels that will be guided by the roles of each access level. The access levels are as follows;

- a) National Users: - The national users are categorized to National managers and National Watchers. A national manager has more privileges to the system, and their role is as a system administrator. A national watcher is a normal user on the roles. As a national user, one is able to see data from everywhere, this includes data from all the Counties
- b) County Users: - The County users are categorized to either County Managers or County watchers. A County Manager is an administrator user at that specific County, while a County Watcher is a normal user at the County level. As a County user, one is able to see data specifically related to that County, this includes all the Sub Counties under that County.
- c) Sub-County User: - The Sub County user are categorized to Sub County managers and Sub county Watchers. A sub County Manager is the administrator at the Sub County level and the Sub county Watcher is a normal system user at the Sub County level. Sub County users see data specifically related to that Sub-County they belong to.
- d) Border Point Users: -The border point users are categorized based on what border points they come from, this includes the land and air entry points. Border point users only access data on the Jitenge module, this is for the truck drivers and airline modules. Users from different land entry points are able to access data for other land entry points and those from airline entry points are able to see the other airline entry points.
- e) Facility Users: - The facility users are only limited to Jitenge Home Based Isolation and Care module, where each health care worker assigned to a facility can be able to access follow up data for the patients they are under their care. These users are only limited to view patients data they are responsible for.

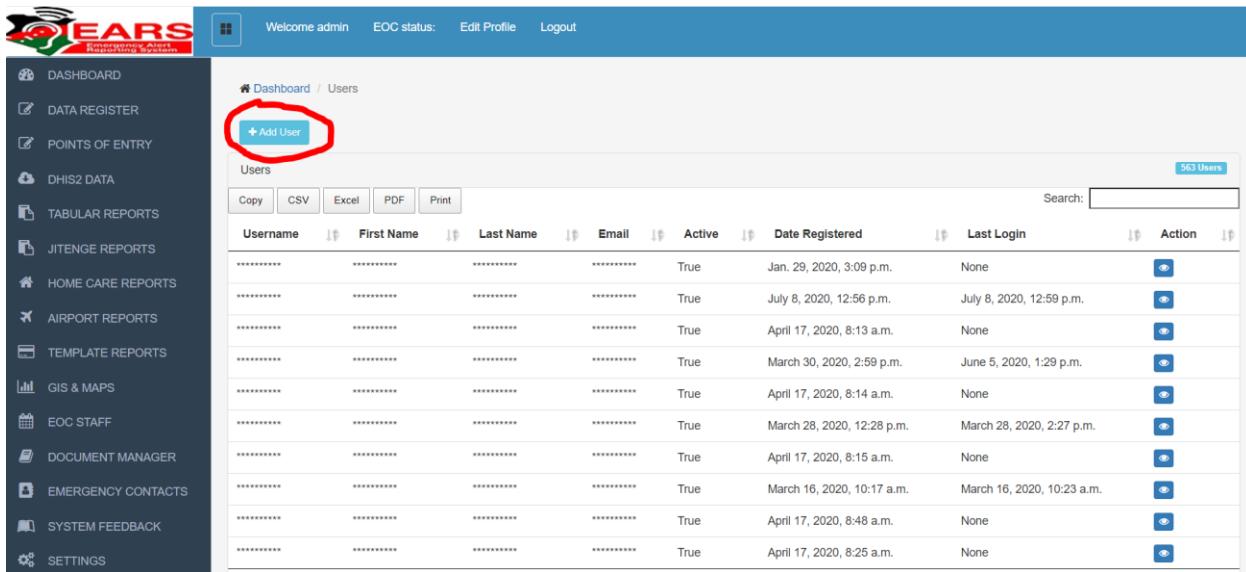
## Administrator/ Manager modules

### Adding users to the system

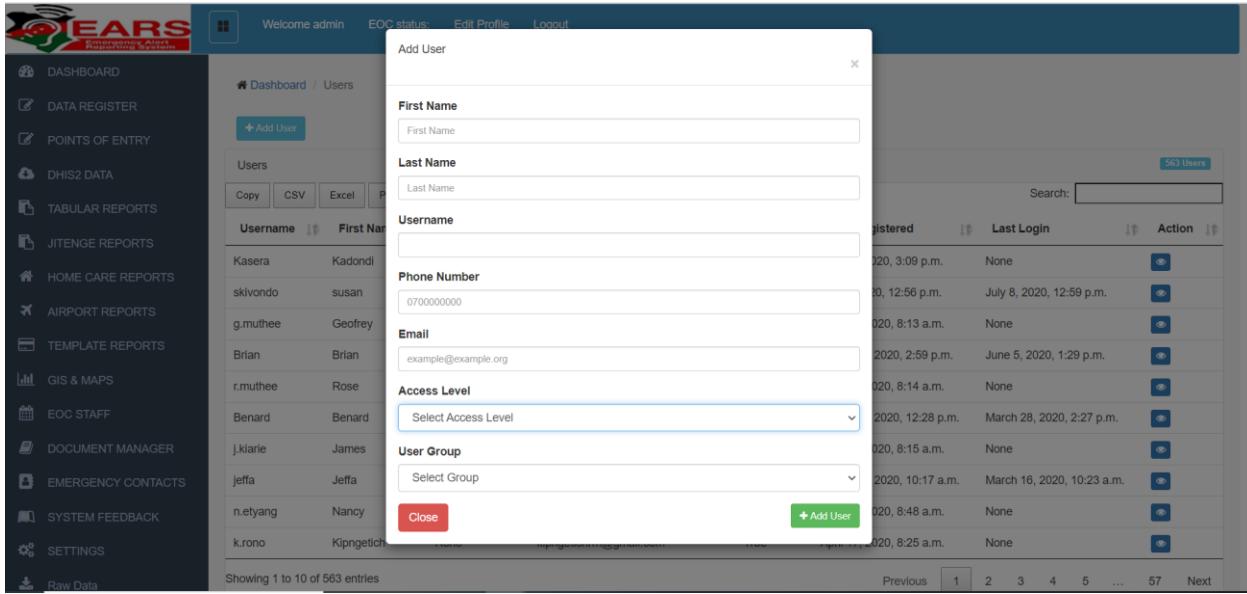
The super admin and the manager are the only users allowed to add other users into the system. Super admin is given credentials when the system is set up. Once logged into the system, on the settings module, there is a user's menu that will open list of all users, and an additional functionality to add users. An add users button will be displayed on the page with a simple form to add a new user.



Fig 1.0



Fit 1.2



The screenshot shows a web-based application interface. At the top, there's a navigation bar with links for 'Welcome admin', 'EOC status', 'Edit Profile', and 'Logout'. On the left, a sidebar menu lists various reporting modules: DASHBOARD, DATA REGISTER, POINTS OF ENTRY, DHS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS, GIS & MAPS, EOC STAFF, DOCUMENT MANAGER, EMERGENCY CONTACTS, SYSTEM FEEDBACK, SETTINGS, and Raw Data.

The main content area has a title 'Add User' and a sub-section 'Dashboard / Users'. It includes a button '+ Add User' and a table showing user details. The table columns are 'First Name', 'Last Name', 'Username', 'Phone Number', 'Email', 'Access Level' (dropdown), 'User Group' (dropdown), and 'Action' (button). Below the table, there are buttons for 'Close' and '+ Add User'.

To the right of the 'Add User' form is a large table titled 'Users' with 563 entries. The table has columns for 'Registered' (date), 'Last Login' (date), and 'Action' (button). The data in the table is a list of user names and their corresponding details.

Fig 1.3

### Diagram Keys

- Fig 1.0 above shows how to access the main menu and display the settings and users modules
- Fig 1.2 above shows a list of users in the system and a button to add new user
- Fig 1.3 above shows a form and how the capture of new user details
- Fig 1.3 shows selection of user access level and selection of user group
- Fig 1.3 will have additional selection options based on user level (Selection of County, Sub County or border point).

### Notes

Upon clicking Add User button on Fig 1.3 an email will be sent to the new user to the email address entered on the form. This email will have the link to the system, the username and the password for accessing the system

## Accessing and logging into the system

To access the EARS portal, open the url ears.health.go.ke. The system is hosted in the Monistry of Health domain. This will open for you a login page as displayed below;

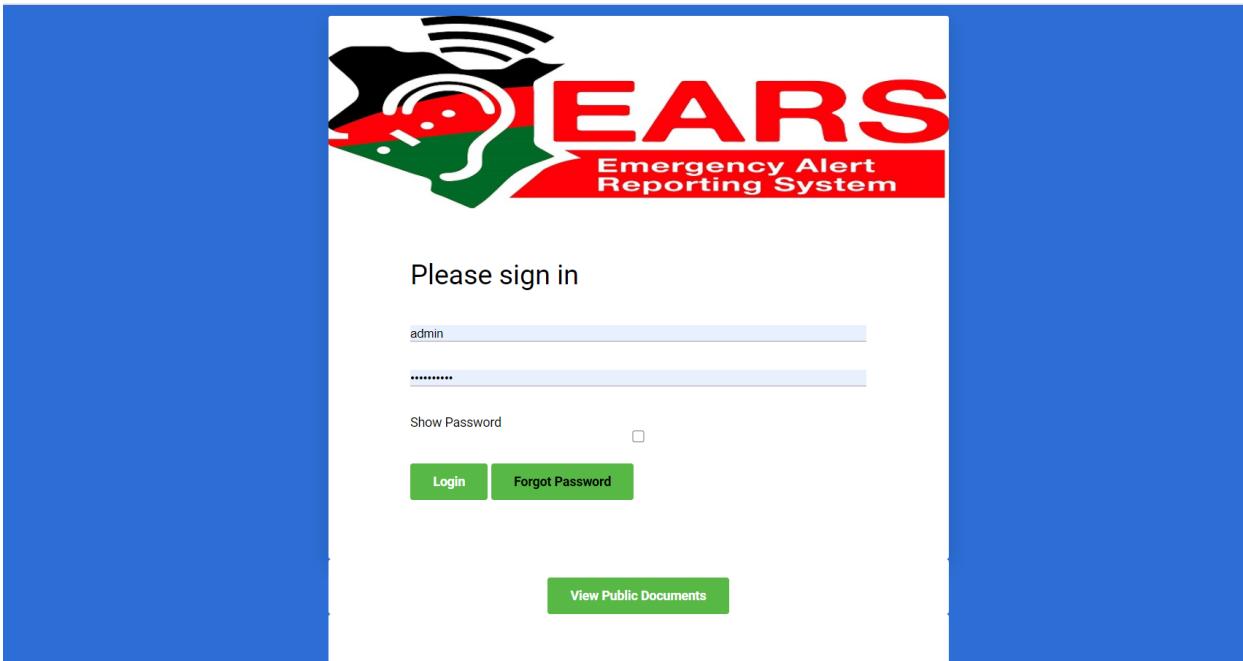


Fig.2.0

Notes:

- Fig 0.1 shows the login screen for EARS system. Only users with valid credentials can access the system
- After entering the url on the web browser, the first screen that will open is the login screen. A web browser example could be internet explorer, Mozilla firefox, google chrome e.t.c.
- Enter the username and password sent to you on email and click login to allow you access. YThis sill be followed by a form to change the default password.
- In case one losts their password, click Forget password, a form to enter new password will be displayed, this new password will be sent to the email address saved during registration.

## The EARS dashboard

Upon successful verification of users credentials, the user will be directed to the dashboard. On the left of the dashboard there is a main menu section for navigating through the system.

The main dashboard of the system displays details in graphical representation and aggregated figures of diseases and events. The dashboard has a reporting snapshot containing some current updates as they stream in real time

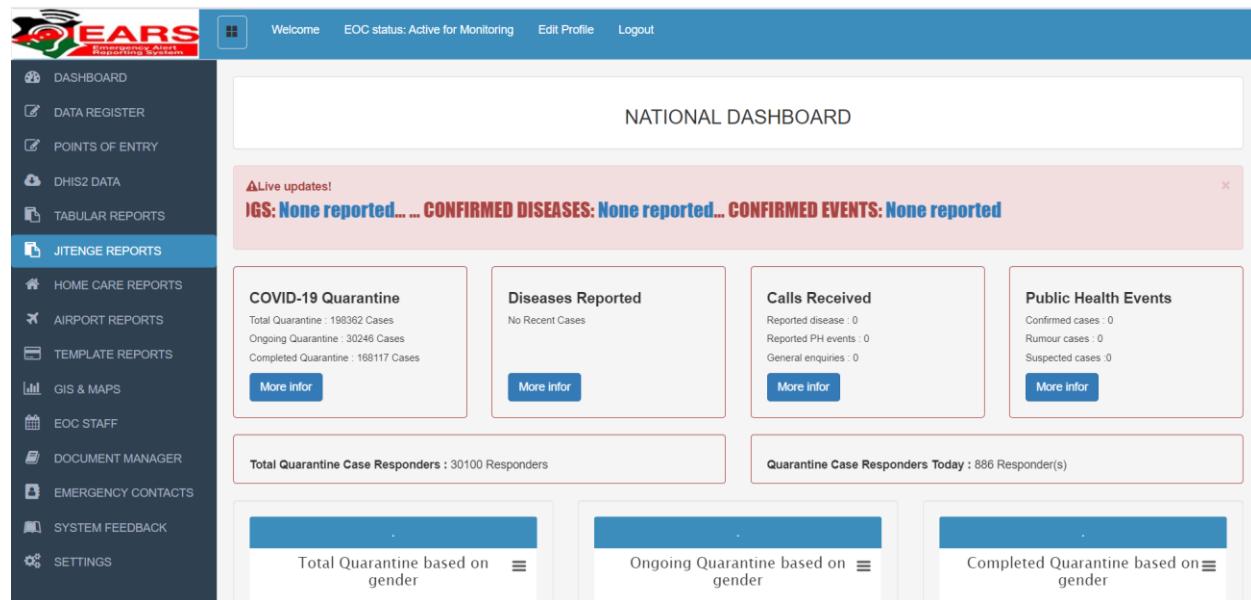


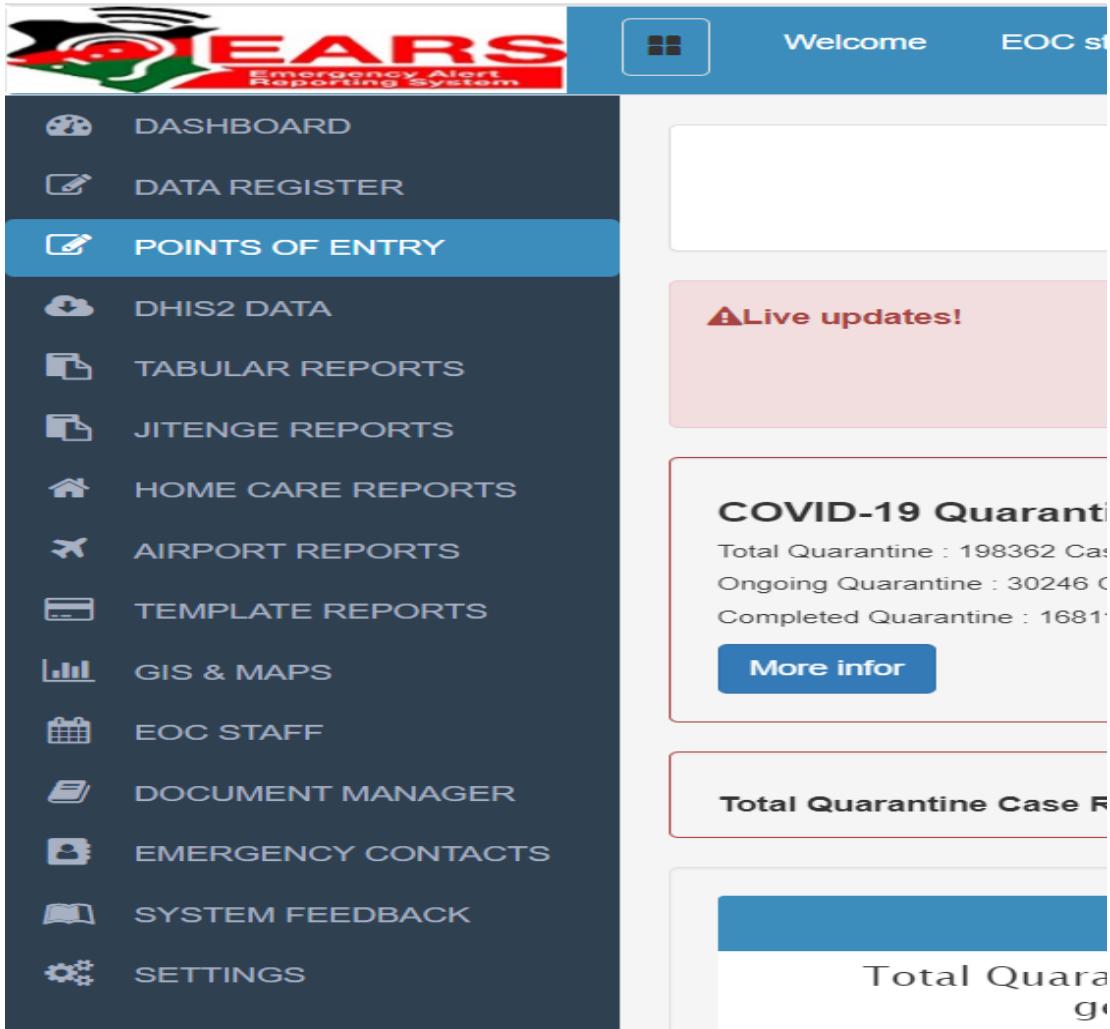
Fig 2.1

### Notes

- Fig 0.2 shows a sample of a dashboard.
- The dashboard content depends on the user roles and rights awarded during the initial registration
- On the left side is the main menu for navigation into different modules
- The dashboard is the first landing page after the user credentials have been verified, the top of the screen shows the activation status of the EOC
- The dashboard has a live update feed that streams snapshots of reports as they stream into the system
- A snapshot of the diseases, events and calls is displayed with a link to view more details in tabular report form
- There is a graphical section where the number of reported diseases and events is put in graphical format and mapping of particular disease is shown in a map

## The Main Menu

Besides the dashboard on the left side, there is a main menu section where users can navigate through the system to access different modules. Each module contains sub-modules, each offering a different functionality to the system



The screenshot shows the main interface of the mHealth Kenya EARS system. On the left, a vertical sidebar lists various menu items with corresponding icons:

- DASHBOARD
- DATA REGISTER
- POINTS OF ENTRY** (highlighted in blue)
- DHIS2 DATA
- TABULAR REPORTS
- JITENGE REPORTS
- HOME CARE REPORTS
- AIRPORT REPORTS
- TEMPLATE REPORTS
- GIS & MAPS
- EOC STAFF
- DOCUMENT MANAGER
- EMERGENCY CONTACTS
- SYSTEM FEEDBACK
- SETTINGS

The main content area includes a "Welcome" button, a "EOC" button, and several informational boxes. One box displays "Live updates!" and another shows COVID-19 Quarantine statistics:

**COVID-19 Quarantine**

Total Quarantine : 198362 Cases  
 Ongoing Quarantine : 30246 Cases  
 Completed Quarantine : 1681 Cases

**Total Quarantine Case Report**

Total Quarantine Cases

### Notes:

- Click on each menu item to view the sub menu items, on clicking each sub menu item a new page will be opened that performs a certain function
- Menu items are visible based on the user level. Some user level are not able to view all menu items.
- Main menu helps in navigation into the system.

## Navigating into the system

### System Settings

The system settings is used for adding and managing the required system supporting setting. Its composed of the following settings;

### Adding Disease lists

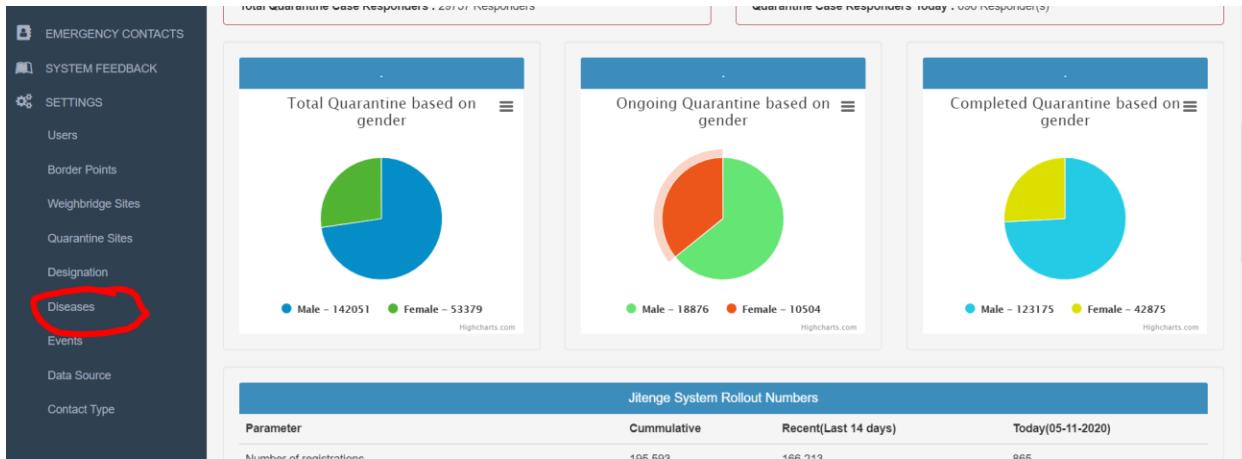


Fig 1.1.0

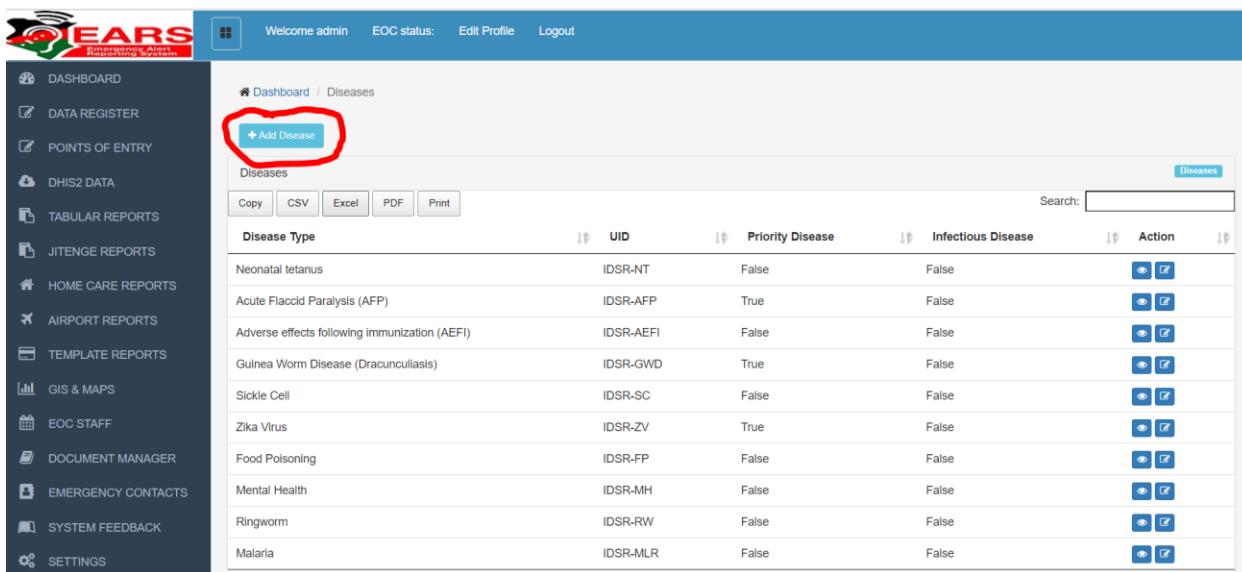


Fig 1.1.1

### Notes:

- Fig 1.1.0 shows how to reach the disease adding module from the main menu, click on settings and select Diseases
- Fig 1.1.1 shows a button that allows a user to add new disease into the system. This will open a form to enter the name of the disease and mark if it's a priority disease

## Adding Public Health Events

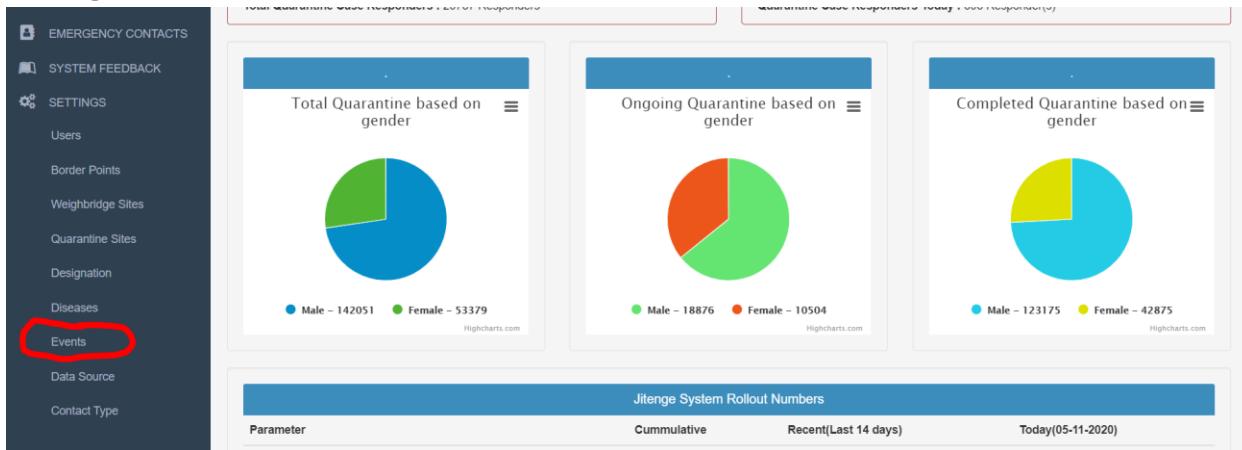


Fig 2.1.0

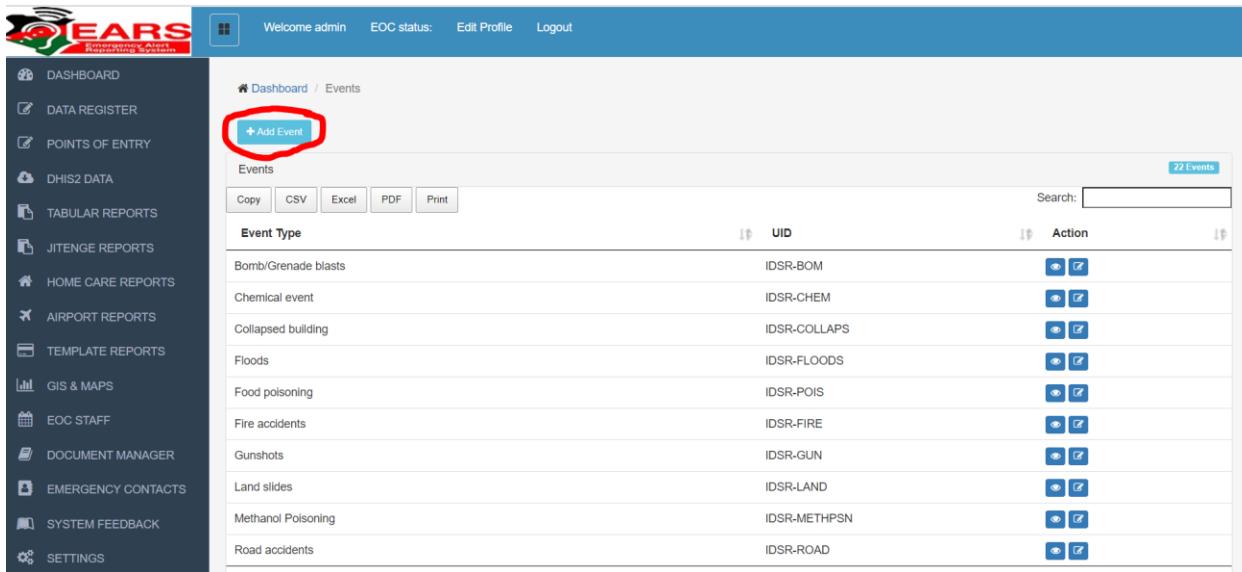


Fig 2.1.1

### Notes:

- Fig 2.1.0 shows how to reach the public health event adding module from the main menu, click on settings and select Events
- Fig 2.1.1 shows a button that allows a user to add new public health event into the system. This will open a form to enter the name of the event.

## Adding Data Sources

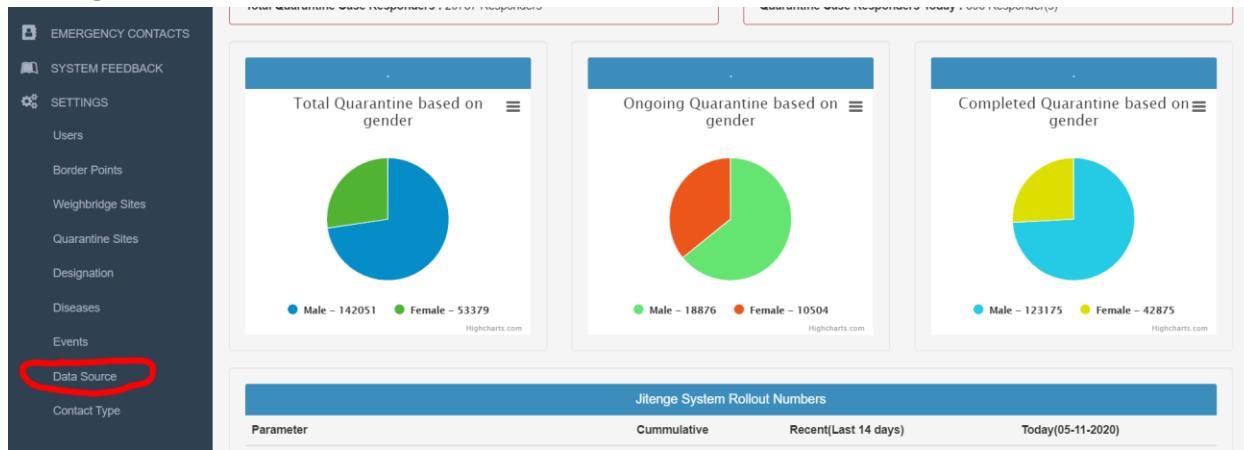


Fig 3.1.0

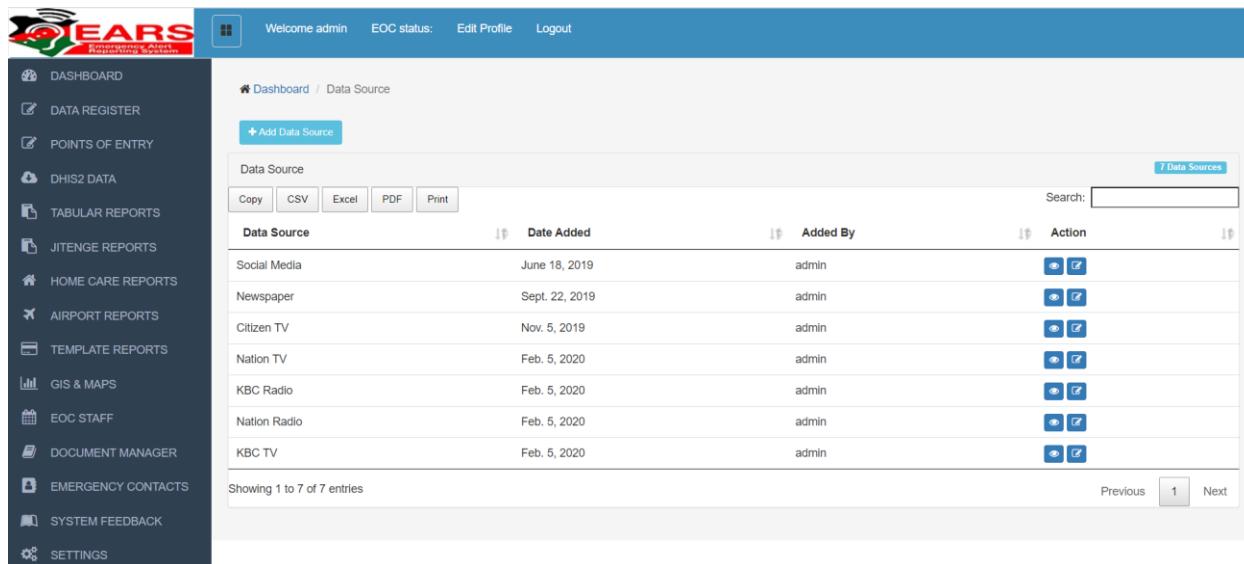


Fig 3.1.1

### Notes:

- Fig 3.1.0 shows how to reach the data source adding module from the main menu, click on settings and select Data Source
- Fig 3.1.1 shows a button that allows a user to add new source of data into the system. This will open a form to enter the name as a source of data.

## Adding type of contacts for Contacts Module

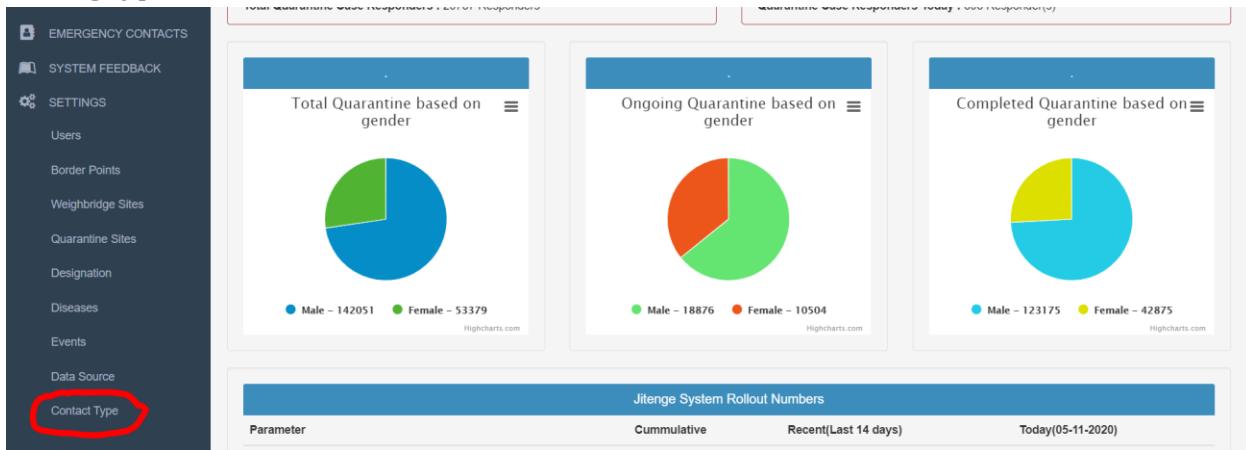


Fig 4.1.0

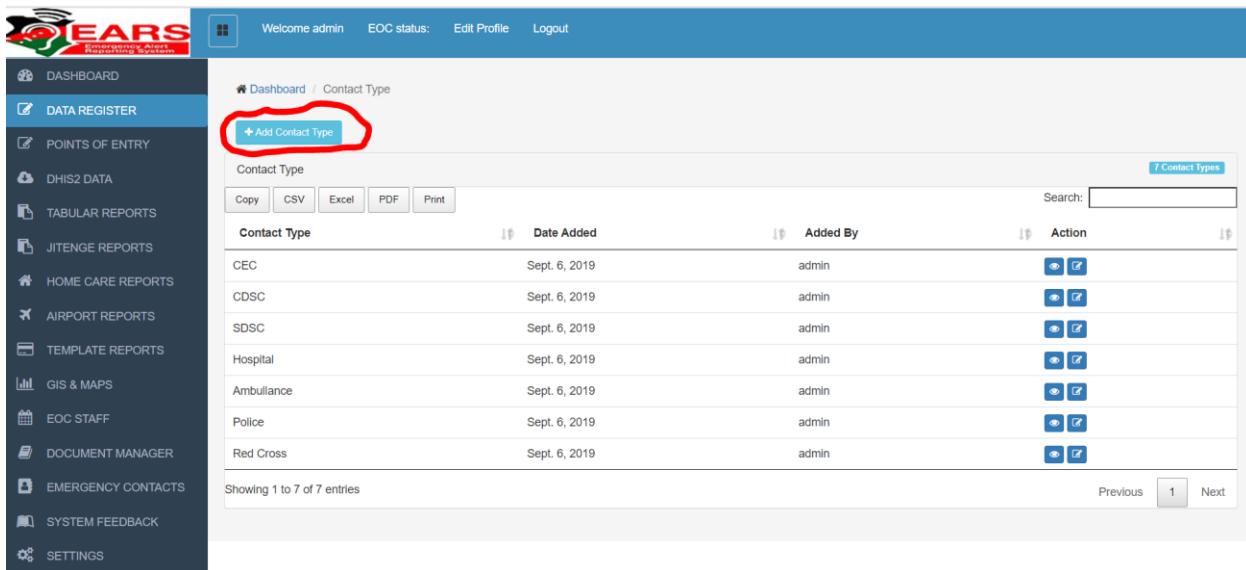


Fig 4.1.1

Notes:

- Fig 4.1.0 shows how to reach the contact types adding module from the main menu, click on settings and select contacts
- Fig 4.1.1 shows a button that allows a user to add new contacts type into the system. This will open a form to enter the name as the type of contact.

## Adding Designations for contacts Module

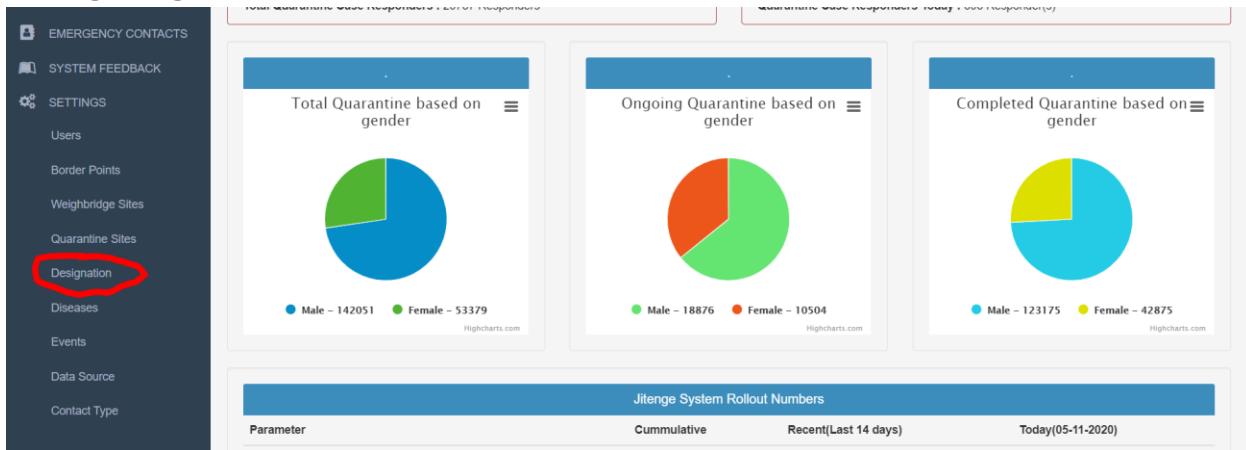


Fig 5.1.0

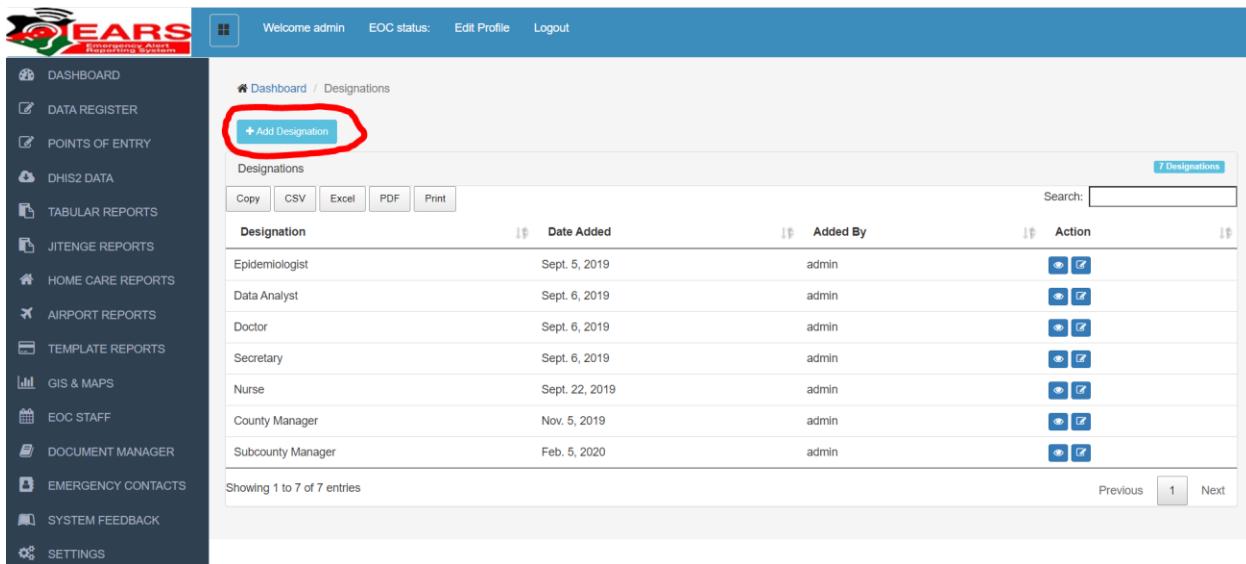


Fig 5.1.1

### Notes:

- Fig 5.1.0 shows how to reach the designations adding module from the main menu, click on settings and select designations
- Fig 5.1.1 shows a button that allows a user to add new designations into the system. This will open a form to enter the name as the designation.

## Adding Points of entry Border Points

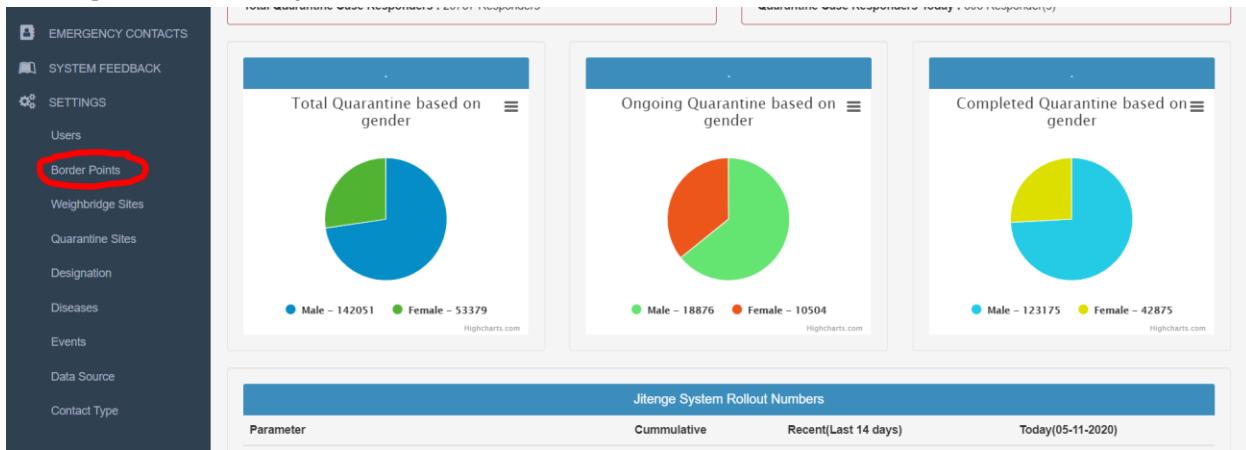


Fig 6.1.0

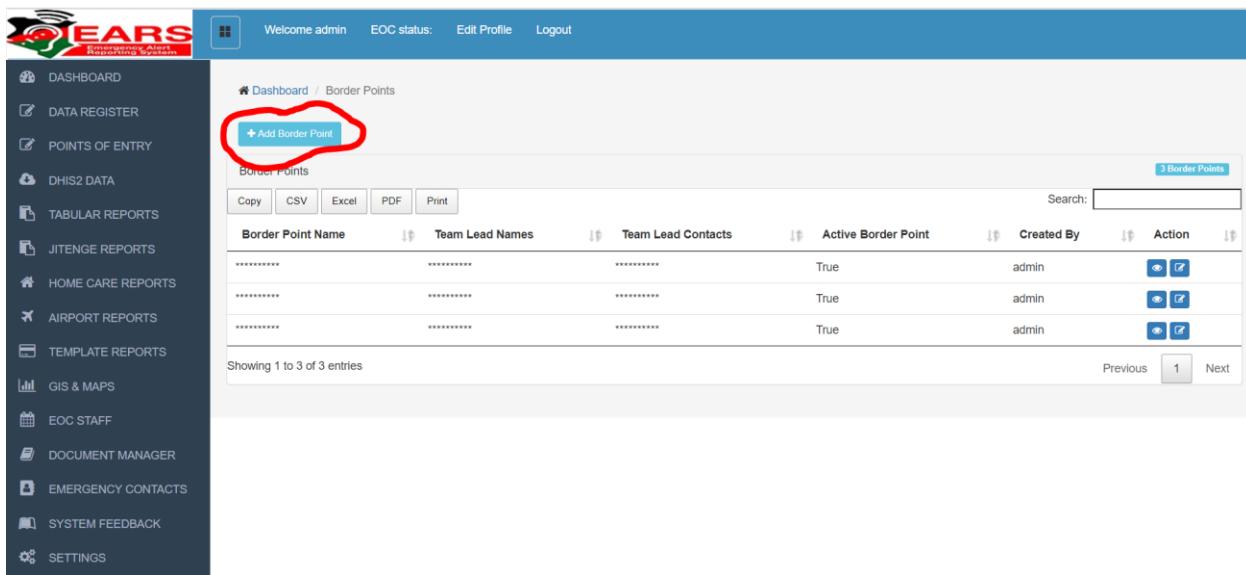


Fig 6.1.1

### Notes:

- Fig 6.1.0 shows how to reach the designations adding module from the main menu, click on settings and select designations
- Fig 6.1.1 shows a button that allows a user to add new designations into the system. This will open a form to enter the name as the designation.

## Adding Weigh bridges for Jitenge Truck Drivers

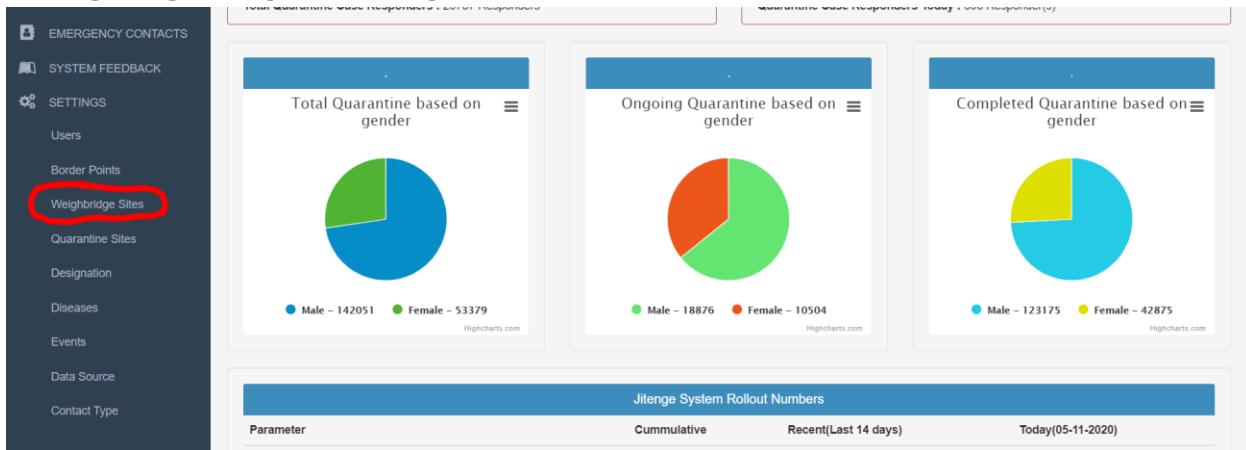


Fig 7.1.0

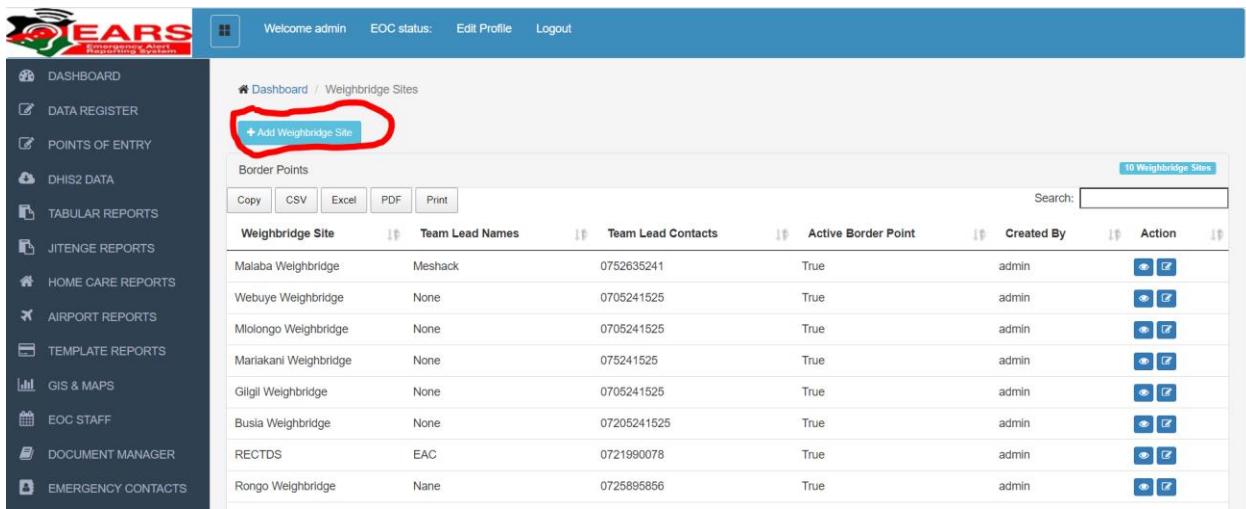


Fig 7.1.1

### Notes:

- Fig 7.1.0 shows how to reach the weigh bridge adding module from the main menu, click on settings and select designations
- Fig 7.1.1 shows a button that allows a user to add new weigh bridge into the system. This will open a form to enter the name as the weigh bridge.

## Adding Jitenge Facility based quarantine Facilities

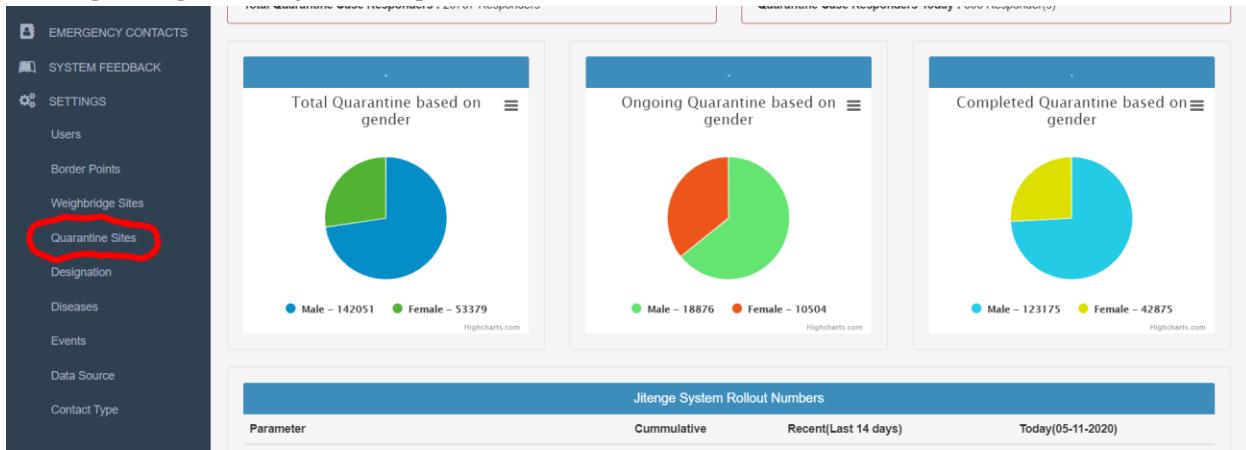


Fig 8.1.0

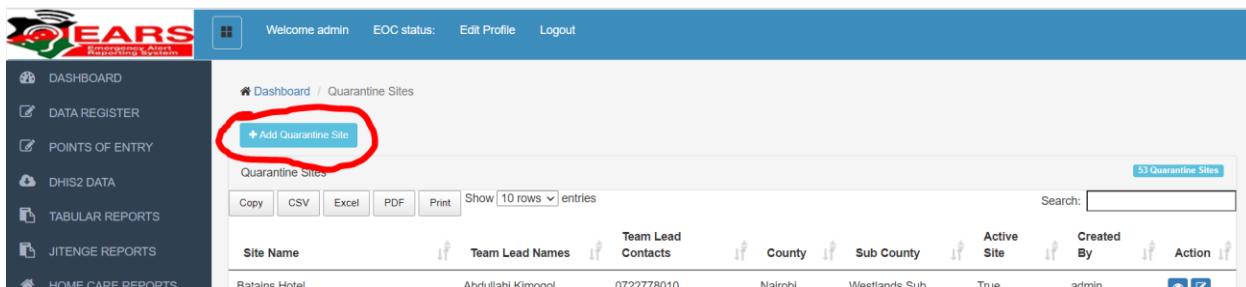


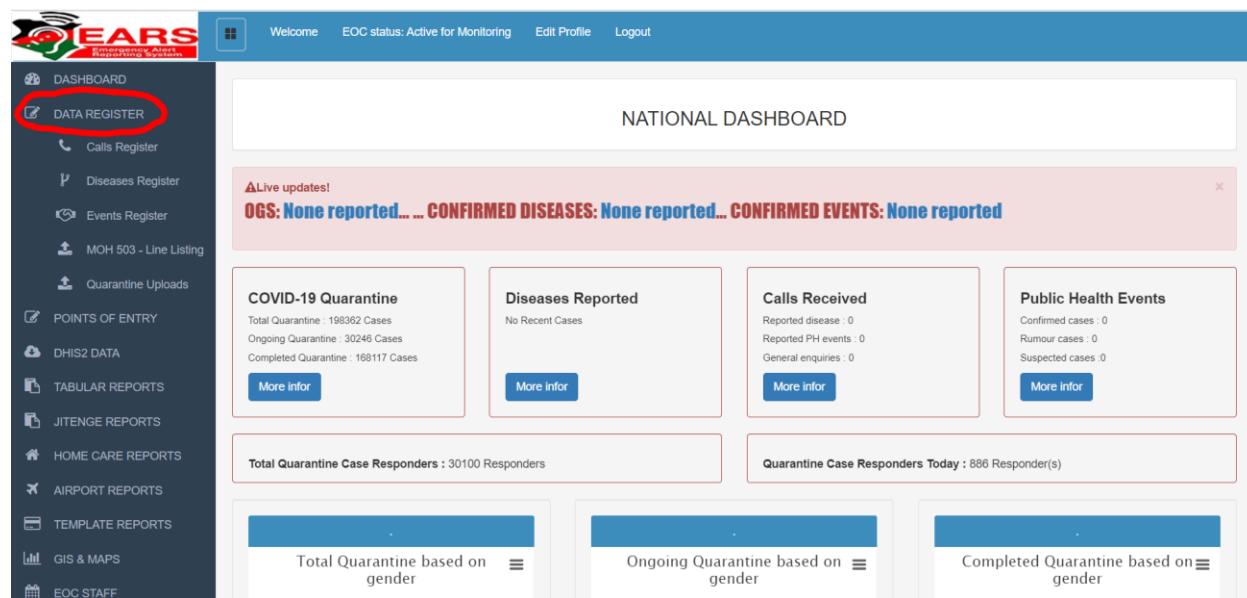
Fig 8.1.1

### Notes:

- Fig 8.1.0 shows how to reach the quarantine facilities adding module from the main menu, click on settings and select designations
- Fig 8.1.1 shows a button that allows a user to add new quarantine facility into the system. This will open a form to enter the name as the facility.

## Data Registers

Data register is a module for capturing information into the system. This module has different sub modules that help categorize information captured into the system



The screenshot shows the mHealth Kenya EARS system interface. The top navigation bar includes 'Welcome', 'EOC status: Active for Monitoring', 'Edit Profile', and 'Logout'. The left sidebar lists various modules: DASHBOARD, DATA REGISTER (circled in red), Calls Register, Diseases Register, Events Register, MOH 503 - Line Listing, Quarantine Uploads, POINTS OF ENTRY, DHIS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS, GIS & MAPS, and EOC STAFF. The main content area is titled 'NATIONAL DASHBOARD' and features a 'Live updates!' section with the message 'OGS: None reported... CONFIRMED DISEASES: None reported... CONFIRMED EVENTS: None reported'. Below this are four boxes: 'COVID-19 Quarantine' (Total Quarantine: 198362 Cases, Ongoing Quarantine: 30246 Cases, Completed Quarantine: 168117 Cases), 'Diseases Reported' (No Recent Cases), 'Calls Received' (Reported disease: 0, Reported PH events: 0, General enquiries: 0), and 'Public Health Events' (Confirmed cases: 0, Rumour cases: 0, Suspected cases: 0). At the bottom, there are three charts: 'Total Quarantine Case Responders : 30100 Responders', 'Quarantine Case Responders Today : 886 Responder(s)', and 'Completed Quarantine based on gender'.

Fig 2.1

The data register sub modules include:

### Call logs

This is the form that all call logs are being captured into the system on a daily basis. This is one of the sources of information that feeds into the system. Calls are categorized into disease related calls, Public health related events calls and other enquiries that are not related to diseases or public health events.

#### Notes:

- To open a call log form in order to register call details, click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side.
- Click on the sub menu that ready's EOC call register to open the register.
- The first page of the Call register will request the user to choose an option of either the data they want to capture is related to a disease or a public health event. The user should choose either based on the nature of the call.
- Once selection has been made, either a disease related form id loaded or public health related form is loaded.
- Some input values of the register are to be selected in a drop down menu and others require keying in of data through the keyboard.
- After filling the register form there is a save button at the end of the form that once clicked the details are saved.
- Once the input details are saved, a red notification will appear on top of the form confirming that the captured data has been saved.

## Disease Register

On this form, disease cases captured from different sources are fed into the system here. The sources could be the newspapers, internet and social media.

### Notes

- To open a disease form in order to register disease details, click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side.
- Click on the sub menu that reads Disease register to open the register.
- Once the page opens a form is loaded to capture the disease.
- Some input values of the disease form are to be selected in a drop down menu and others require keying in of data through the keyboard.
- After filling the disease form there is a save button at the end of the form that once clicked the details are saved.
- Once the input details are saved, a red notification will appear on top of the form confirming that the captured data has been saved.

## Events Register

This is the form that inputs all public health related cases into the system. The form has dropdown list of events that a user can select from and the admin can add more events.

### Notes

- To open a public health event form in order to register event details, click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side.
- Click on the sub menu that reads Event register to open the register.
- Once the page opens a form is loaded to capture the event.
- Some input values of the event form are to be selected in a drop down menu and others require keying in of data through the keyboard.
- After filling the event form there is a save button at the end of the form that once clicked the details are saved.
- Once the input details are saved, a red notification will appear on top of the form confirming that the captured data has been saved.

## MOH505 line lists

The MOH505 line list is a module to help the counties upload their linelist data into the system. They will download a sample of the excel document and enter data into the system by uploading the excel template after filling in the details

### Notes

- Download a template of how data should be uploaded.
- Fill in the template with data and save
- Upload the template using the upload button

## Quarantine uploads

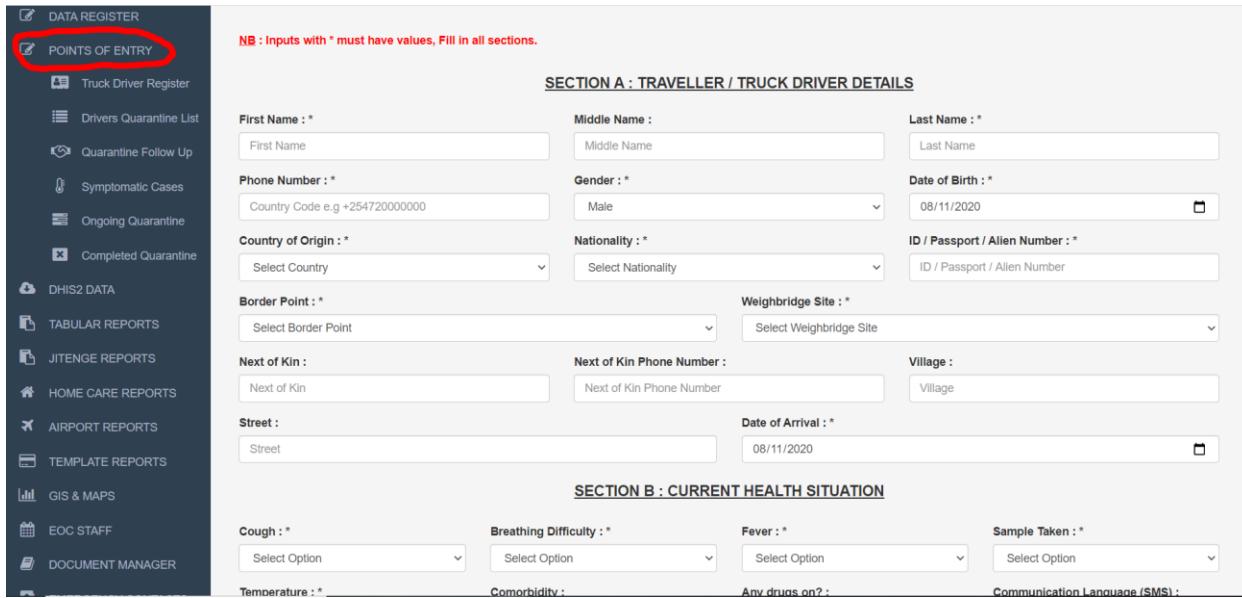
Quarantine uploads is a jitenge data entry module, where people registered into quarantine centers can have their details uploaded into the system to enable start the follow up, the uploads are done in an excel template

### Notes

- Download the template, enter the registered people within the quarantine facility and upload back into the system

## Points of Entry

This module is used for land points of entry i.e. the border points to manage long distance truck drivers while entering the country. This is a truck drivers jitenge module.



The screenshot shows the 'DATA REGISTER' section of the mHealth Kenya system. The left sidebar lists various modules: Truck Driver Register, Drivers Quarantine List, Quarantine Follow Up, Symptomatic Cases, Ongoing Quarantine, Completed Quarantine, DHIS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS, GIS & MAPS, EOC STAFF, and DOCUMENT MANAGER. The 'POINTS OF ENTRY' link is circled in red. The main content area is titled 'SECTION A : TRAVELLER / TRUCK DRIVER DETAILS'. It contains fields for First Name, Middle Name, Last Name, Phone Number, Gender, Date of Birth, Country of Origin, Nationality, ID / Passport / Alien Number, Border Point, Weighbridge Site, Next of Kin, Next of Kin Phone Number, Village, Street, Date of Arrival, Cough, Breathing Difficulty, Fever, Sample Taken, Temperature, Comorbidity, Any drugs on?, and Communication Language (SMS). A note at the top says 'NB : Inputs with \* must have values. Fill in all sections.'

Fig 3.0

This module has the following sub modules;

### Truck Driver Register

Module for registering truck drivers entering the country. Upon being registered into the system 14 days follow up is initiated to get triage data of the truck drivers

### Driver quarantine list

Module that shows a list of all registered truck drivers in the system. This module has capabilities to view more details of a specific registered truck driver, view their lab results and generate attestations which are printed for truck drivers to enable them move into the country.

### Quarantine follow up

Module that shows follow up data for truck drivers, when truck driver respond with their triage data, this information is shown on this module.

### Symptomatic cases

Module that shows follow up data of truck drivers that have reported with symptomatic indicators, the indicators include high temperature, fever and coughing.

## Ongoing quarantine

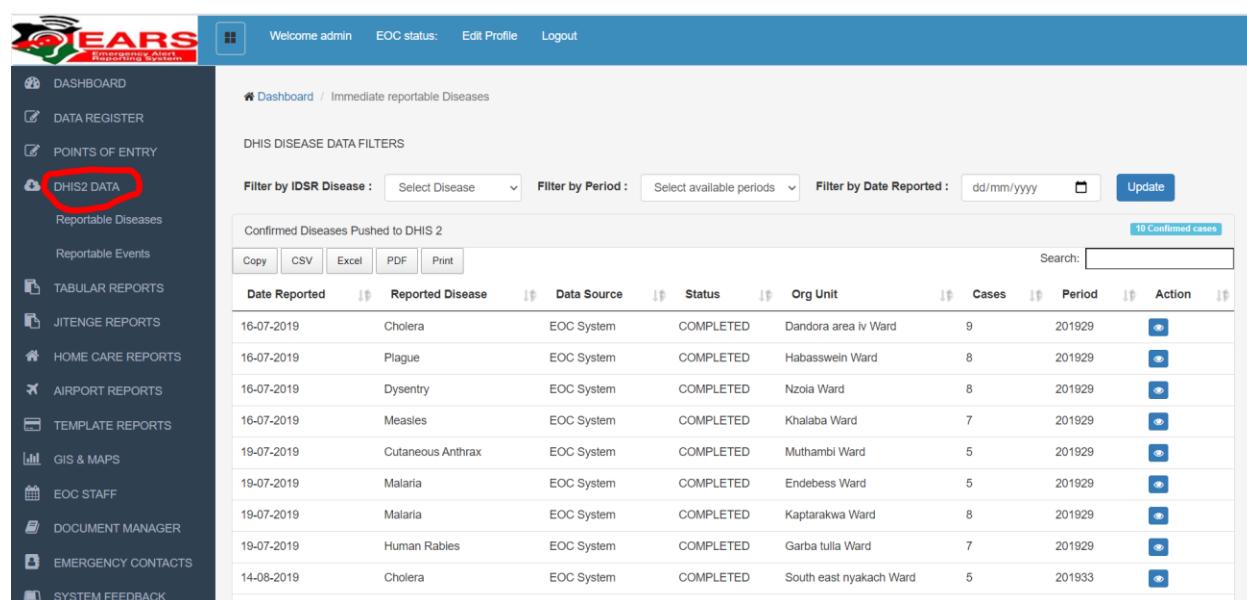
Module shows a list of all truck drivers that are still being followed up, these are the drivers which are still within the 14 days of follow up.

## Completed quarantine

Module shows list of all truck drivers that have completed their 14 days quarantine. The module helps restarting of follow up for truck drivers who are already registered into the system.

## DHIS2 data

This module shows all data that has been pushed to DHIS2, these are the reported diseases that have been followed up and they are confirmed cases



Date Reported	Reported Disease	Data Source	Status	Org Unit	Cases	Period	Action
16-07-2019	Cholera	EOC System	COMPLETED	Dandora area iv Ward	9	201929	
16-07-2019	Plague	EOC System	COMPLETED	Habasswein Ward	8	201929	
16-07-2019	Dysentery	EOC System	COMPLETED	Nzola Ward	8	201929	
16-07-2019	Measles	EOC System	COMPLETED	Khalaba Ward	7	201929	
19-07-2019	Cutaneous Anthrax	EOC System	COMPLETED	Muthambi Ward	5	201929	
19-07-2019	Malaria	EOC System	COMPLETED	Endebess Ward	5	201929	
19-07-2019	Malaria	EOC System	COMPLETED	Kaptarakwa Ward	8	201929	
19-07-2019	Human Rabies	EOC System	COMPLETED	Garba tulla Ward	7	201929	
14-08-2019	Cholera	EOC System	COMPLETED	South east nyakach Ward	5	201933	

Fig 4.1

The module has two sub modules:

### Reportable Diseases

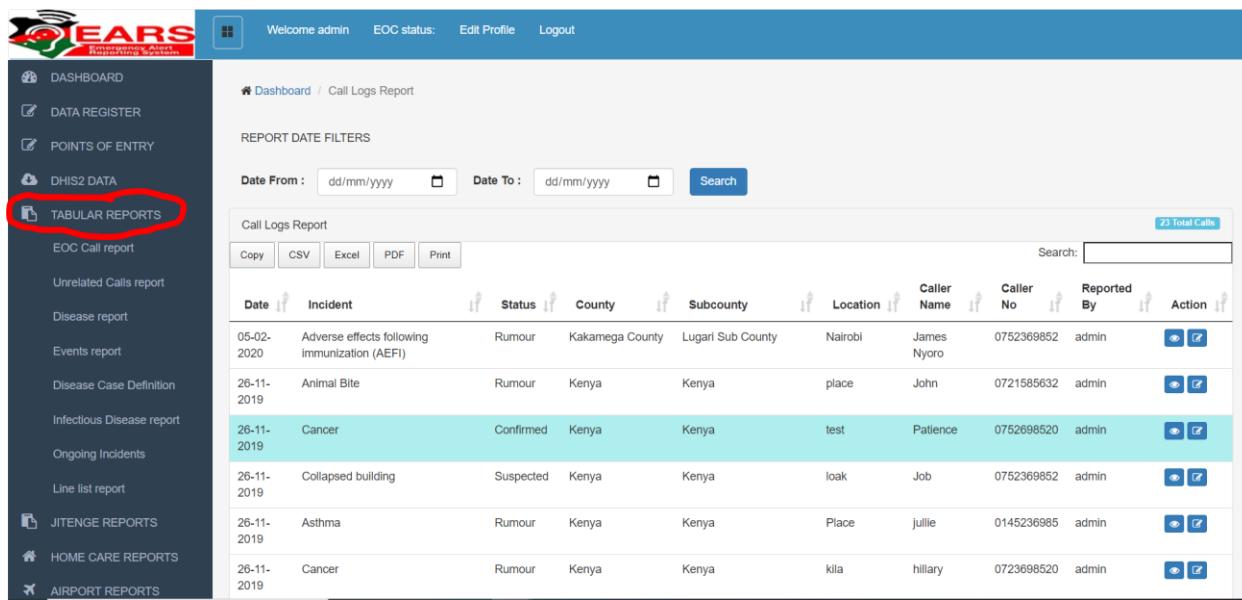
Modules shows disease related data that has been collected into EARS and has been pushed to DHIS2. This is all the confirmed cases.

### Reportable events

Module shows public health related events data that has been collected into EARS and has been pushed into DHIS2. These are confirmed Public health events.

## Tabular Reports

This module allows viewing of all data captured. The module allows users to edit captured information to update the content. Data is categorized in the modules capture



Date	Incident	Status	County	Subcounty	Location	Caller Name	Caller No	Reported By	Action
05-02-2020	Adverse effects following immunization (AEFI)	Rumour	Kakamega County	Lugari Sub County	Nairobi	James Nyoro	0752369852	admin	
26-11-2019	Animal Bite	Rumour	Kenya	Kenya	place	John	0721585632	admin	
26-11-2019	Cancer	Confirmed	Kenya	Kenya	test	Patience	0752698520	admin	
26-11-2019	Collapsed building	Suspected	Kenya	Kenya	loak	Job	0752369852	admin	
26-11-2019	Asthma	Rumour	Kenya	Kenya	Place	Julie	0145236985	admin	
26-11-2019	Cancer	Rumour	Kenya	Kenya	kila	hillary	0723698520	admin	

Fig 5.1

This module has the following sub modules;

### EOC call report

This is a tabular report of the call logs that have been reported. This tabular report can be exported into other systems for further analysis of the data in form of spreadsheet and other formats.

Displays all information captured in call log module of data capture

### Steps to follow:

1. To open the EOC call logs tabular report , click on the register section of the menu, this will open sub menus. The sub menu has more reports
2. Click on the sub menu that reads EOC call logs report to open the report.
3. The values displayed can be edited, when you scroll on the left the edit action is visible. Data can be edited when rumoured report has been confirmed
4. Data with confirmation status appear in different color to the rumoured status..
5. The report can be extracted in pdf, excel and csv. To extract the report, there are buttons ontop of the report that once clicked the relevant report is exported

### Unrelated call report

Tabular report of all call enquiries. These enquiries are not related to any disease or public health related event, this data is used to gauge how busy the hotlines are.

Displays all incoming calls captured under other enquiries or unrelated to function of EOC

### ***Steps to follow:***

1. To open the unrelated report , click on the tabular report section of the menu, this will open sub menus. The sub menu has more reports
2. Click on the sub menu that reads unrelated call report to open the report.
3. The values displayed can be edited, when you scroll on the left the edit action is visible. Data can be editted when rumoured report has been confirmed
4. Data with confirmation status appear in different color to the rumoured status..
5. The report can be extracted in pdf, excel and csv. To extract the report, there are buttons ontop of the report that once clicked the relevant report is exported

### **Disease report**

This is also a tabular report for all the diseases that have been captured into the system from different sources.

Displays all information captured in disease register module

### ***Steps to follow:***

1. To open the disease tabular report , click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side. The sub menu has more reports
2. Click on the sub menu that reads Disease report to open the report.
3. Once the page open a report is displayed like the figure above displaying the report.
4. The values displayed can be edited, when you scroll on the left the edit action is visible. Data can be editted when rumoured report has been confirmed
5. Data with confirmation status appear in different color to the rumoured status..
6. The report can be extracted in pdf, excel and csv. To extract the report, there are buttons ontop of the report that once clicked the relevant report is exported

### **Events report**

This is also a tabular report for all the cases of public health nature that have been captured into the system from different sources.

Displays all information captured in public health related events register module

### ***Steps to follow:***

1. To open the events tabular report , click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side. The sub menu has more reports
2. Click on the sub menu that reads events report to open the report.
3. Once the page open a report is displayed like the figure above displaying the report.
4. The values displayed can be edited, when you scroll on the left the edit action is visible. Data can be editted when rumoured report has been confirmed

5. Data with confirmation status appear in different color to the rumoured status..
6. The report can be extracted in pdf, excel and csv. To extract the report, there are buttons ontop of the report that once clicked the relevant report is exported

## Disease case definition

A list of infectious diseases case definitions. The list can be added into the system

## Infectious diseases

A list showing confirmed infectious diseases. This data is based on the diseases captured from the disease capture module

## Ongoing incidents

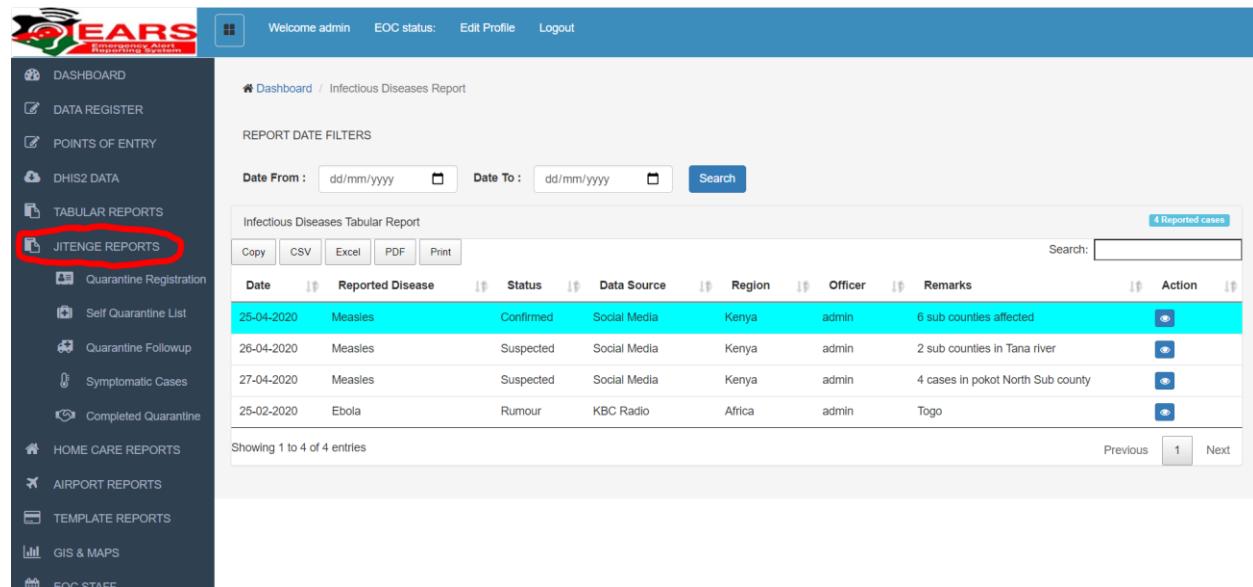
Tabular report on a list showing all cases that have not been closed. Cases that their closure status is ongoing.

## Line list report

Tabular report that displays raw data of the line list that has been collected into the system under the line list module.

## Jitenge Reports

Jitenge report module is a module for quarantine facility registrations. Exposed individuals that are at quarantine facilities are registered and managed in this module



Date	Reported Disease	Status	Data Source	Region	Officer	Remarks	Action
25-04-2020	Measles	Confirmed	Social Media	Kenya	admin	6 sub counties affected	
26-04-2020	Measles	Suspected	Social Media	Kenya	admin	2 sub counties in Tana river	
27-04-2020	Measles	Suspected	Social Media	Kenya	admin	4 cases in pokot North Sub county	
25-02-2020	Ebola	Rumour	KBC Radio	Africa	admin	Togo	

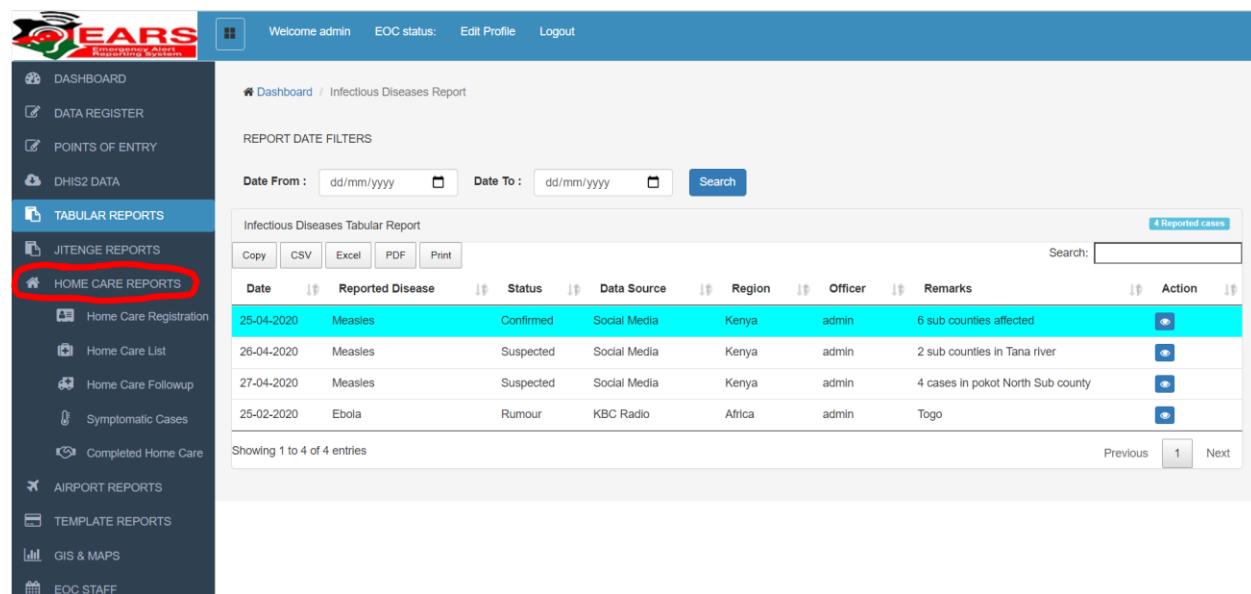
This module has the following sub modules

- a) Quarantine registration: - Registration of exposed individuals within quarantine facilities
- b) Self-quarantine list: - List of all people registered for self-quarantine within the facility based quarantine
- c) Quarantine follow up: - shows list of follow up data, when the exposed people respond with their triage data, this information is shown on this module.
- d) Symptomatic cased:- shows follow up data of people that have reported with symptomatic indicators, the indicators include high temperature, fever and coughing.
- e) Completed quarantine: - shows a list of people that have finished their followed up, these are the people who have finished the 14 days of follow up.

## Homecare Report

Home care module is a jitenge module specifically meant for the home based care and isolation of COVID-19 confirmed patients. The module works like the jitenege report module but this specifically has data that belongs to the Home based isolation patients

The sub modules are all the same as those of jitenge report.



The screenshot shows the EARS software interface. The left sidebar has a dark blue background with white icons and labels. The 'JITENGE REPORTS' section is highlighted with a red oval, and the 'HOME CARE REPORTS' option under it is also circled in red. The main content area has a light gray background. At the top, there's a navigation bar with 'Welcome admin', 'EOC status:', 'Edit Profile', and 'Logout'. Below that is a 'REPORT DATE FILTERS' section with 'Date From' and 'Date To' fields and a 'Search' button. The main table is titled 'Infectious Diseases Tabular Report' and shows four entries. The columns are: Date, Reported Disease, Status, Data Source, Region, Officer, Remarks, and Action. The first entry is highlighted in cyan. At the bottom, it says 'Showing 1 to 4 of 4 entries' and has 'Previous', 'Next', and page number '1' buttons.

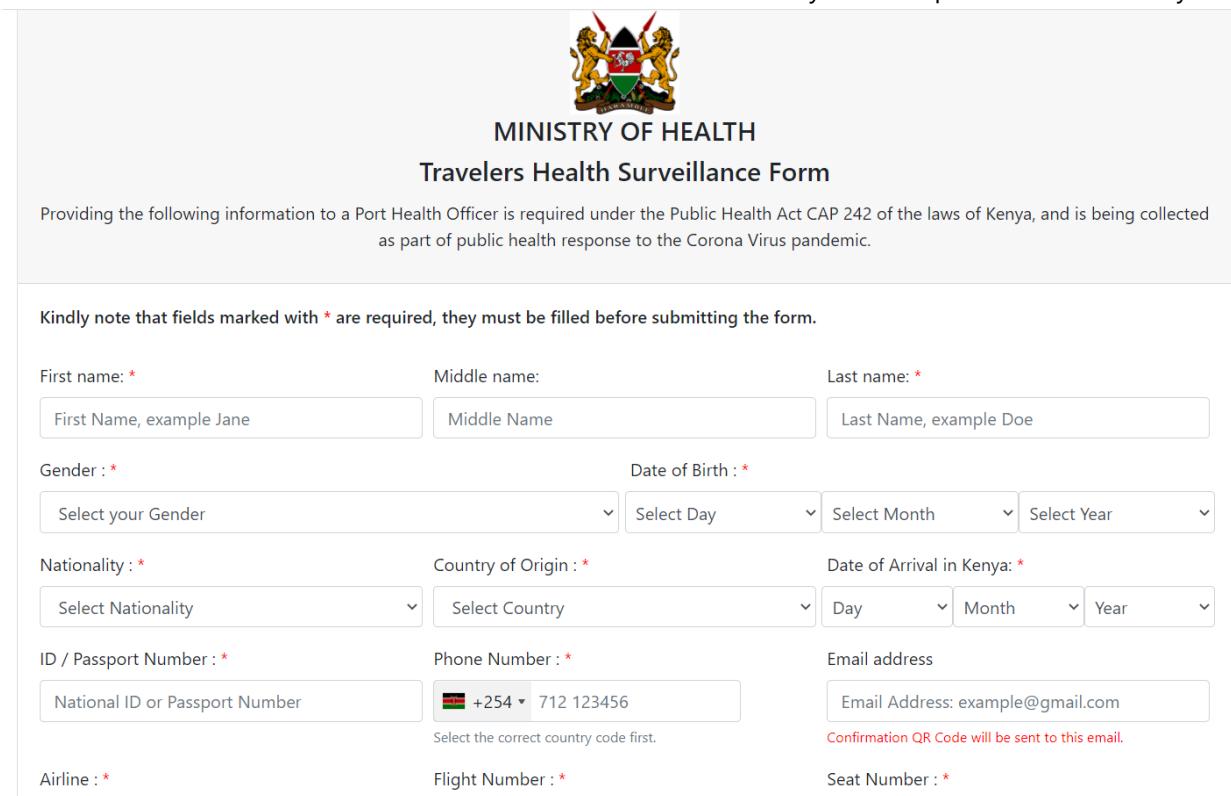
Date	Reported Disease	Status	Data Source	Region	Officer	Remarks	Action
25-04-2020	Measles	Confirmed	Social Media	Kenya	admin	6 sub counties affected	
26-04-2020	Measles	Suspected	Social Media	Kenya	admin	2 sub counties in Tana river	
27-04-2020	Measles	Suspected	Social Media	Kenya	admin	4 cases in pokot North Sub county	
25-02-2020	Ebola	Rumour	KBC Radio	Africa	admin	Togo	

## Airport Report

This module is a jitenge module specifically meant for the incoming international travelers. The module works like the jitenege report module but this specifically has data that belongs to the travelling individuals.

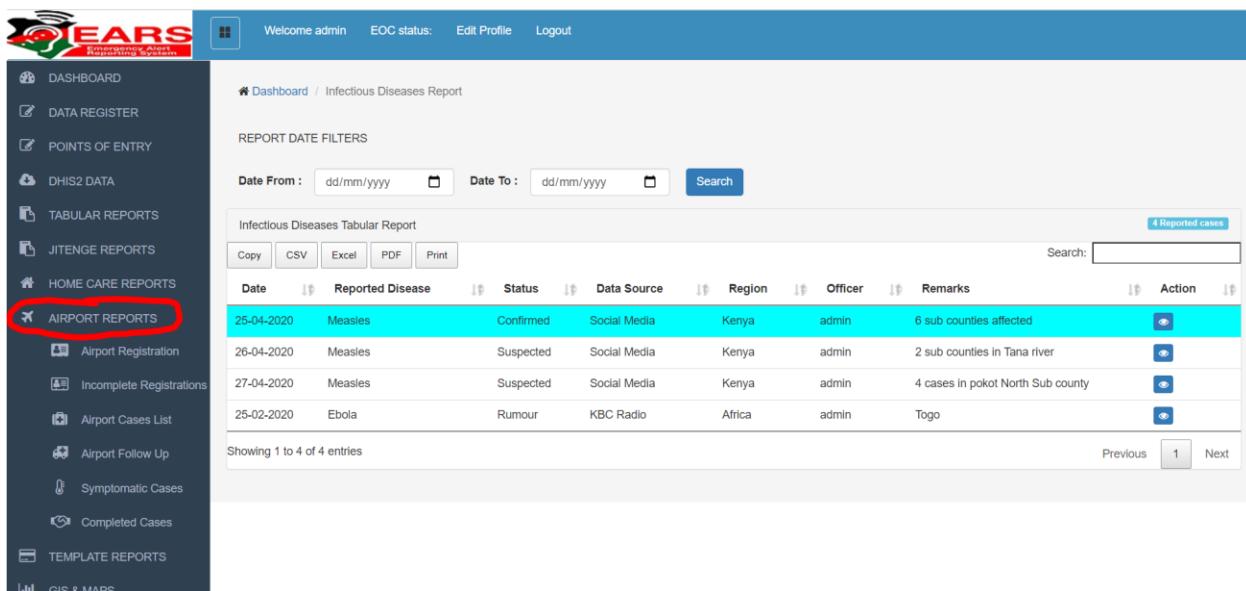
The sub modules are all the same as those of jitenge report.

Travelers fill in the travelers surveillance form which is hosted in the system to register their information. This information will be used to monitor the individuals for the 14 days follow up while in the country



The form is titled "Travelers Health Surveillance Form" and features the Kenyan coat of arms at the top. It includes fields for personal information like First name, Middle name, Last name, Gender, Date of Birth, Nationality, Country of Origin, Date of Arrival in Kenya, ID / Passport Number, Phone Number, Email address, Airline, Flight Number, and Seat Number. A note at the top states: "Providing the following information to a Port Health Officer is required under the Public Health Act CAP 242 of the laws of Kenya, and is being collected as part of public health response to the Corona Virus pandemic." A note below says: "Kindly note that fields marked with \* are required, they must be filled before submitting the form."

Fig 5.1 Sample of online travelers surveillance form



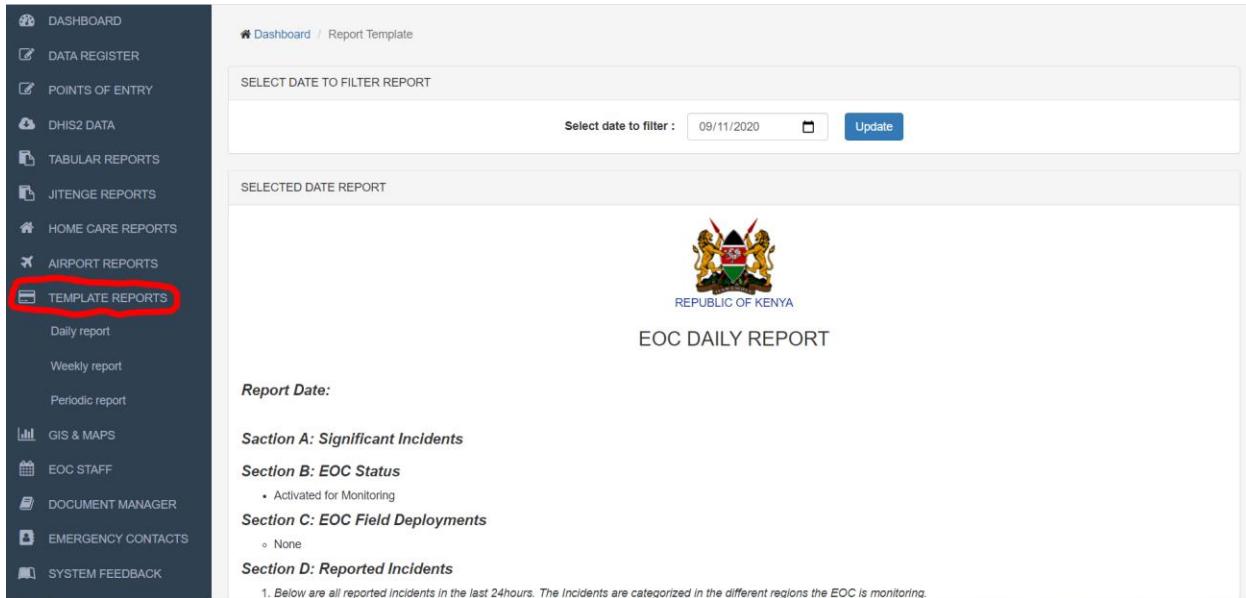
The screenshot shows the EARS system interface. The left sidebar has a red circle around the "AIRPORT REPORTS" link. The main area shows a table of reported cases with columns for Date, Reported Disease, Status, Data Source, Region, Officer, Remarks, and Action. The table lists four entries related to Measles and Ebola cases.

Date	Reported Disease	Status	Data Source	Region	Officer	Remarks	Action
25-04-2020	Measles	Confirmed	Social Media	Kenya	admin	6 sub counties affected	
26-04-2020	Measles	Suspected	Social Media	Kenya	admin	2 sub counties in Tana river	
27-04-2020	Measles	Suspected	Social Media	Kenya	admin	4 cases in pokot North Sub county	
25-02-2020	Ebola	Rumour	KBC Radio	Africa	admin	Togo	

Fig 5.2 shows how to view registration information in the EARS system

## Template Reports

This is a report module for daily, weekly and periodic reports. Data collected from the system is aggregated based on specific date the information is collected

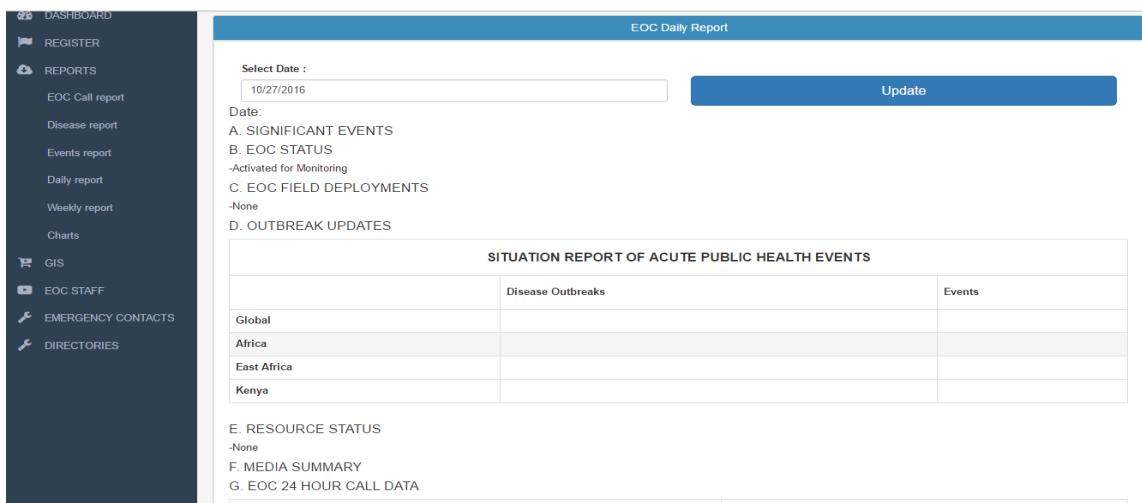


The screenshot shows the 'TEMPLATE REPORTS' section highlighted in red in the sidebar. The main content area displays the 'Report Template' page with a 'SELECT DATE TO FILTER REPORT' section containing a date picker set to '09/11/2020' and an 'Update' button. Below it is a 'SELECTED DATE REPORT' section featuring the Kenyan coat of arms and the text 'REPUBLIC OF KENYA'. The title 'EOC DAILY REPORT' is centered. A 'Report Date:' label is followed by a date input field showing '10/27/2016'. The report content is organized into sections: **Section A: Significant Incidents**, **Section B: EOC Status** (with a note about activation for monitoring), **Section C: EOC Field Deployments** (showing 'None'), and **Section D: Reported Incidents**. A note at the bottom states: '1. Below are all reported incidents in the last 24 hours. The Incidents are categorized in the different regions the EOC is monitoring.'

These reports are categorized into;

### Daily reports

This is a customized report that is built into a template that replicates the format of the current manual daily report that EOC watchers compile on a daily basis. On this template, the user just specifies the date of the report then click on update to extract the report based on the data captured for that day. The report is then extracted to a pdf for sharing with other stakeholders.



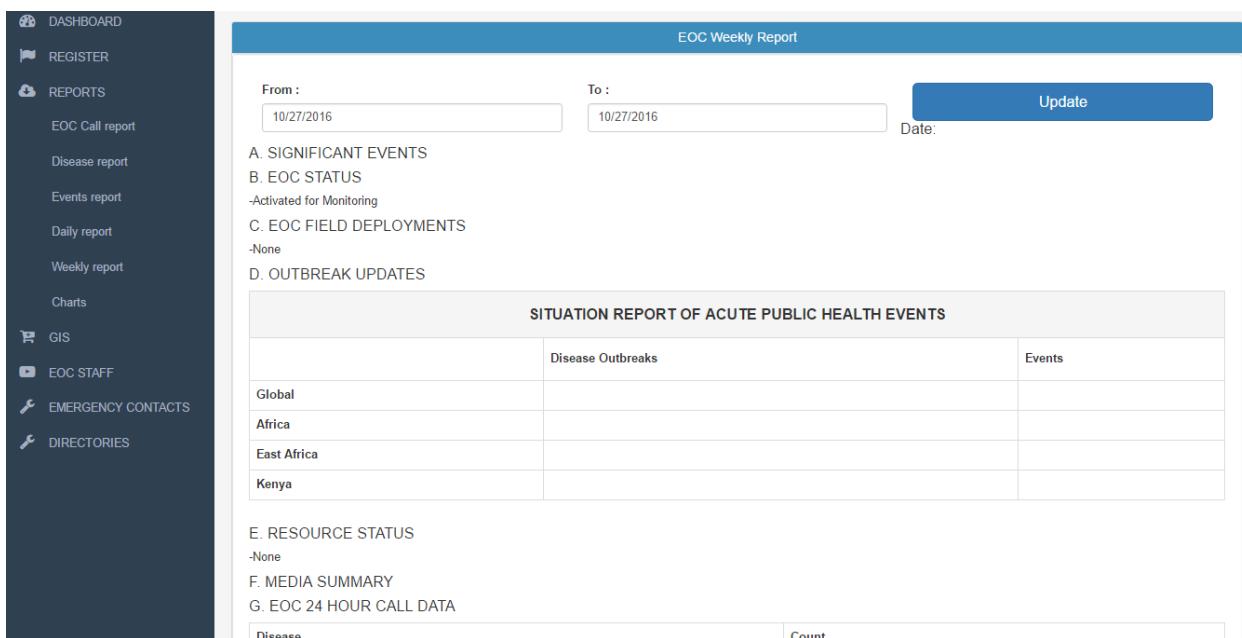
The screenshot shows the 'REPORTS' section in the sidebar. The main content area displays the 'EOC Daily Report' page. At the top is a 'Select Date : 10/27/2016' input field and an 'Update' button. Below is a list of categories: A. SIGNIFICANT EVENTS, B. EOC STATUS (activated for monitoring), C. EOC FIELD DEPLOYMENTS (None), and D. OUTBREAK UPDATES. Under D. OUTBREAK UPDATES, there is a table titled 'SITUATION REPORT OF ACUTE PUBLIC HEALTH EVENTS' with columns for 'Disease Outbreaks' and 'Events'. Rows include Global, Africa, East Africa, and Kenya. At the bottom are sections for E. RESOURCE STATUS (None), F. MEDIA SUMMARY, and G. EOC 24 HOUR CALL DATA.

### Steps to follow:

1. To open the daily report , click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side. The sub menu has more reports
2. Click on the sub menu that reads Daily report to open the report template.
3. Once the page open a report template is displayed like the figure above.
4. The current date is selected from the date section on the page and then click update button to populate data to the template.
5. There is a button at the bottom of the report for extraction of the report, when the button is clicked the report is extracted in pdf form and stored in the downloads folder in the computer
6. Data in the report cannot be edited as it comes from the database and compiled from the tabular reports

### Weekly Reports

This report is customized like the daily report but extracts weekly reports based on specific EPI weeks. It is in the same format being used currently by the EOC watchers.



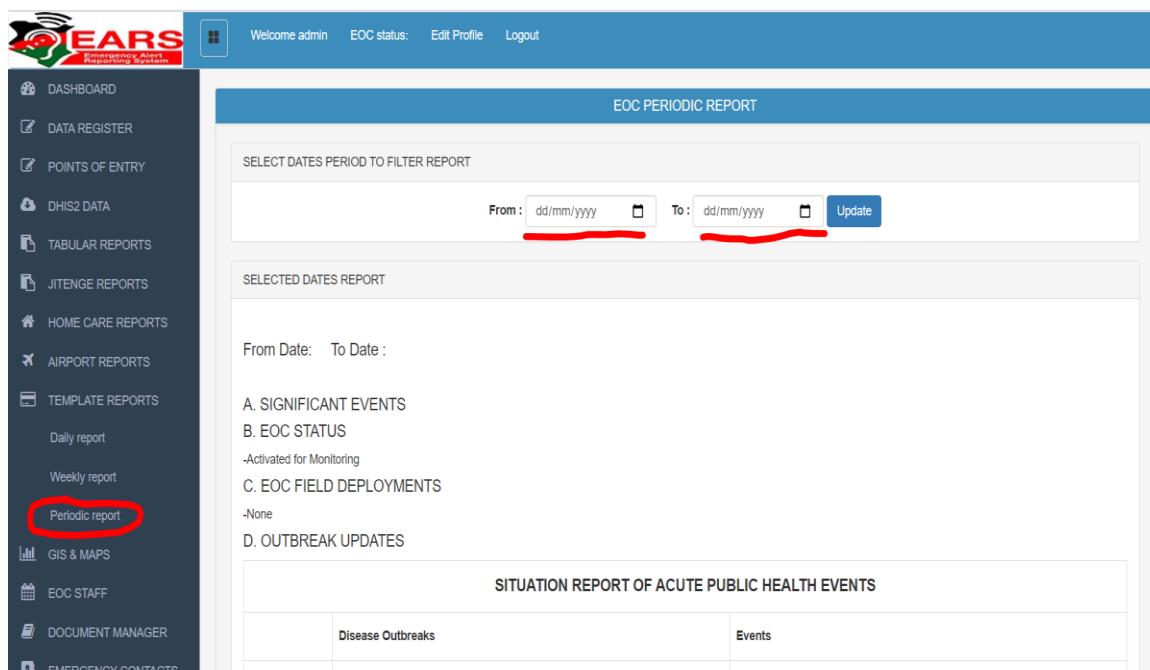
### Steps to follow:

1. To open the weekly report , click on the register section of the menu, this will open sub menus as displayed in the fig above on the right side. The sub menu has more reports
2. Click on the sub menu that reads Weekly report to open the report template.
3. Once the page open a report template is displayed like the figure above.

4. The form allows two date entry input to display the data in the current week, once the dates are selected from the date section on the page and then click update button to populate data to the template.
5. There is a button at the bottom of the report for extraction of the report, when the button is clicked the report is extracted in pdf form and stored in the downloads folder in the computer
6. Data in the report cannot be edited as it comes from the database and compiled from the tabular reports

## Periodic Reports

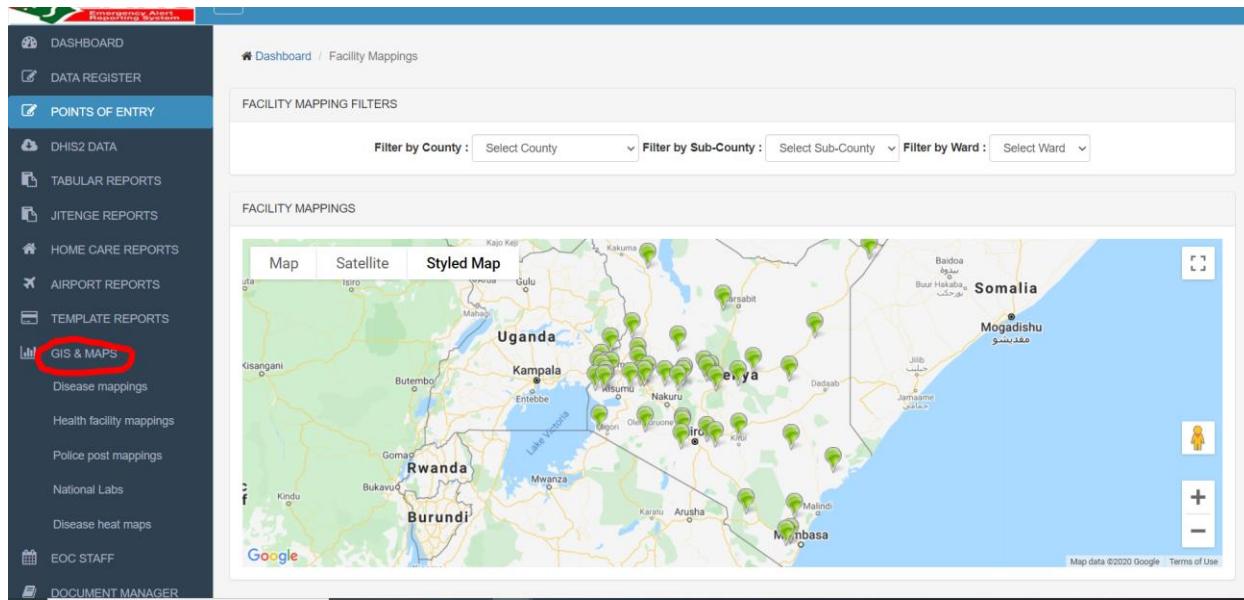
This report is customized like the other reports but extracts reports based on customized periods specified by the user. It is in the same format being used currently by the EOC watchers



The screenshot shows the EARS software interface. On the left is a vertical sidebar with a red header "EARS Emergency Alert Reporting System". Below the header are several menu items: DASHBOARD, DATA REGISTER, POINTS OF ENTRY, DHIS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS (with sub-options Daily report, Weekly report, and Periodic report, where "Periodic report" is highlighted with a red oval), GIS & MAPS, EOC STAFF, DOCUMENT MANAGER, and EMERGENCY CONTACTS. The main content area has a blue header "EOC PERIODIC REPORT". Below it is a section titled "SELECT DATES PERIOD TO FILTER REPORT" with "From:" and "To:" date pickers. Underneath is a "SELECTED DATES REPORT" section with a "From Date: To Date:" input field. A list of report types follows: A. SIGNIFICANT EVENTS, B. EOC STATUS (with a sub-item "Activated for Monitoring"), C. EOC FIELD DEPLOYMENTS (with a sub-item "None"), and D. OUTBREAK UPDATES. At the bottom is a section titled "SITUATION REPORT OF ACUTE PUBLIC HEALTH EVENTS" with a table header row containing "Disease Outbreaks" and "Events".

## GIS And Maps

This module shows different kinds of maps for data captured into the system. This is highly dependent on data being captured into the system



## Disease Mappings

Mappings of diseases reported into the system. This shows the point where the reported disease happened within the country

## Health facility mappings

This is a map displaying hospital, referal labs, police stations and other facilities within the country and their geographical location

### Steps to follow:

1. To open the facility mappings , click on the GIS section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads Health facility mappings to open the GIS mappings of the facilities.
3. Once the page loads a map is displayed like the figure above.
4. The mappings can be filtered to view only specific categories, one can choose to view only hospitals locations or Labaratory locations

## Police Post Mappings

This is the map showing locations of the police stations within a specific region within the country. This is to help health care workers to be able to know nearest police stations near their location.

## Disease heat maps

Heat maps are meant to show the trend of reported diseases within a certain region for action to be taken by the relevant responders.

### ***Steps to follow:***

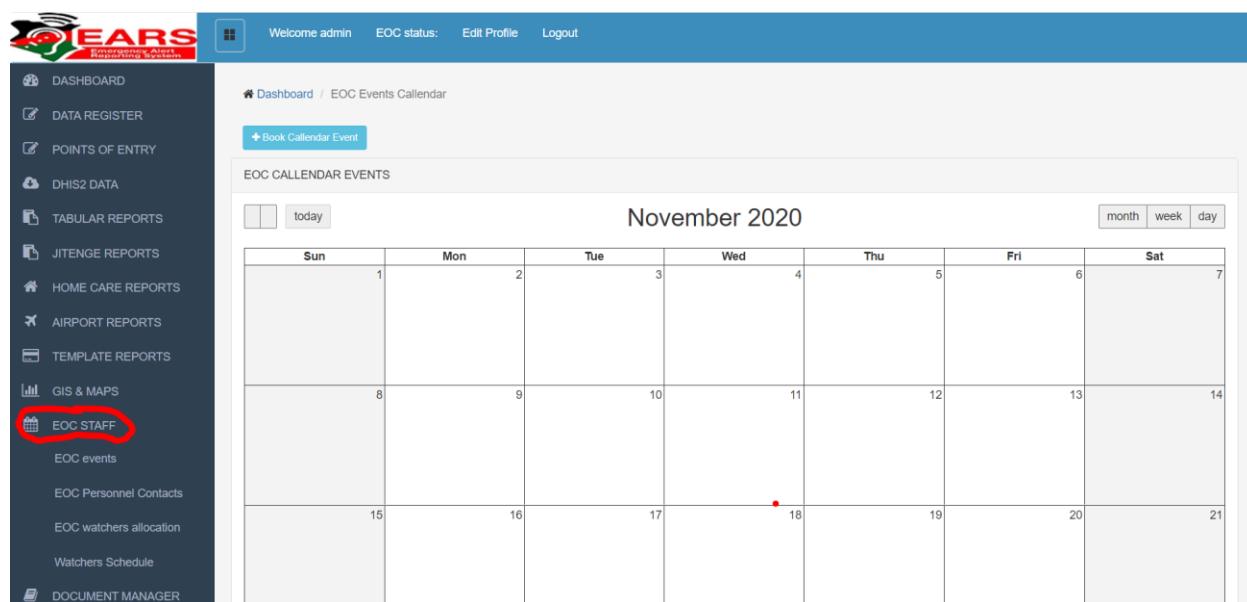
1. To open the heat maps , click on the GIS section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads Heat maps to open the heat maps.
3. Once the page loads a map is displayed like the figure above.

## EOC Staff

This is a human resource module for the national level EOC to manage events, contacts and other resources within the EOC.

### EOC calender

The EOC calender puts together all the event schedules of the EOC. This could be upcoming events outside the EOC and meeting schedules within the EOC boardroom.



The screenshot shows the EARS software interface with the following details:

- Header:** Welcome admin, EOC status: [status], Edit Profile, Logout.
- Left Sidebar (Menu):**
  - Dashboard
  - Data Register
  - Points of Entry
  - DHIS2 DATA
  - Tabular Reports
  - JITENGE REPORTS
  - Home Care Reports
  - Airport Reports
  - Template Reports
  - GIS & MAPS
  - EOC STAFF** (This option is highlighted with a red circle)
  - EOC events
  - EOC Personnel Contacts
  - EOC watchers allocation
  - Watchers Schedule
  - DOCUMENT MANAGER
- Current Page:** Dashboard / EOC Events Calendar
- Buttons:** Book Calendar Event, month, week, day.
- Calender View:** November 2020
 

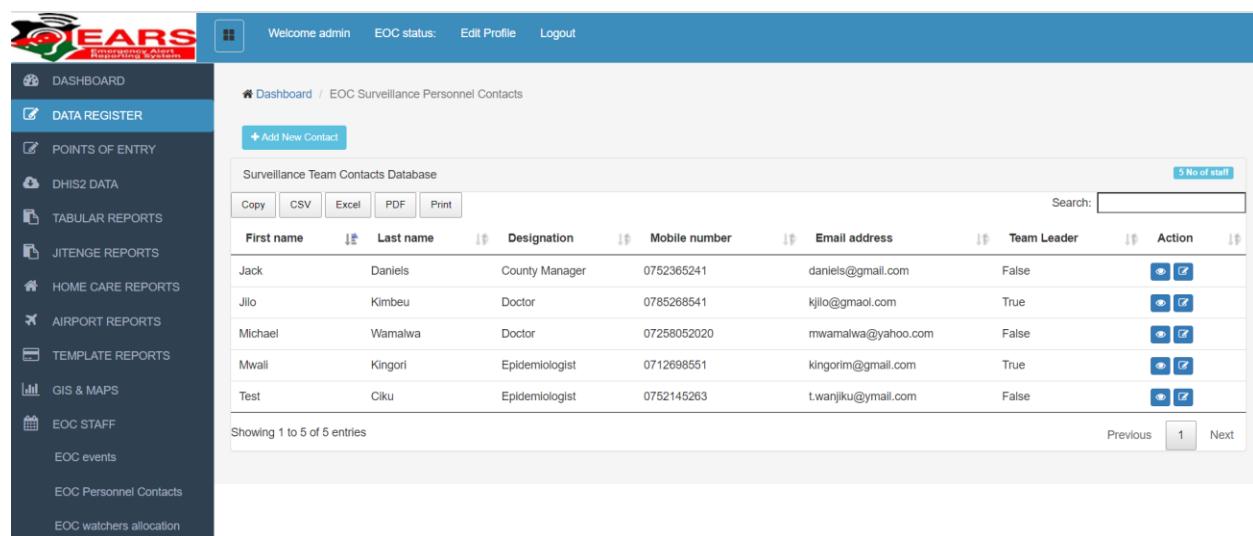
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

### Steps to follow:

1. To open the calender , click on the EOC staff section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads Eoc calender to open the calender.
3. Once the page loads a calender is displayed like the figure above.

### EOC Contacts

This is a database of all the people who work in the EOC and can be allocated schedules to work in the EOC as watchers. This database helps in management of work plan schedules within the EOC.



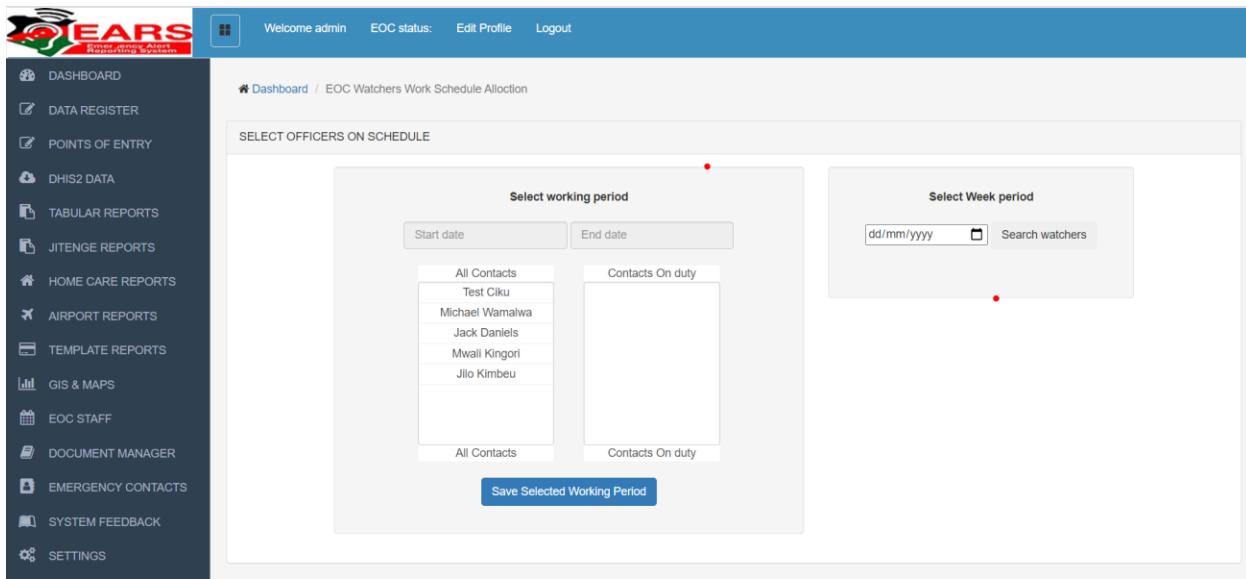
First name	Last name	Designation	Mobile number	Email address	Team Leader	Action
Jack	Daniels	County Manager	0752365241	daniels@gmail.com	False	
Jilo	Kimbeu	Doctor	0785268541	kjilo@gmaol.com	True	
Michael	Wamalwa	Doctor	07258052020	mwamalwa@yahoo.com	False	
Mwalli	Kingori	Epidemiologist	0712698551	kingorim@gmail.com	True	
Test	Ciku	Epidemiologist	0752145263	t.wanjiku@ymail.com	False	

### Steps to follow:

1. To open the EOC contacts , click on the EOC personnel contacts section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads Eoc contacts to open the contacts in a tabular form.
3. To add a new contact click on the add contact button, on button click a new page will pop up to allow entry of the contact details
4. Fill the details on the form and click submit to save the new contact. Once saved the contact will appear in the tabular list.

### Watchers allocation sheet

This form can be visible to the manager who allocates schedules to the watchers, a list of all workers in the EOC are displayed and the manager selects the people to work in different schedules. An email is then sent to all the relevant people who are scheduled to work as watchers before the beginning of the working week.



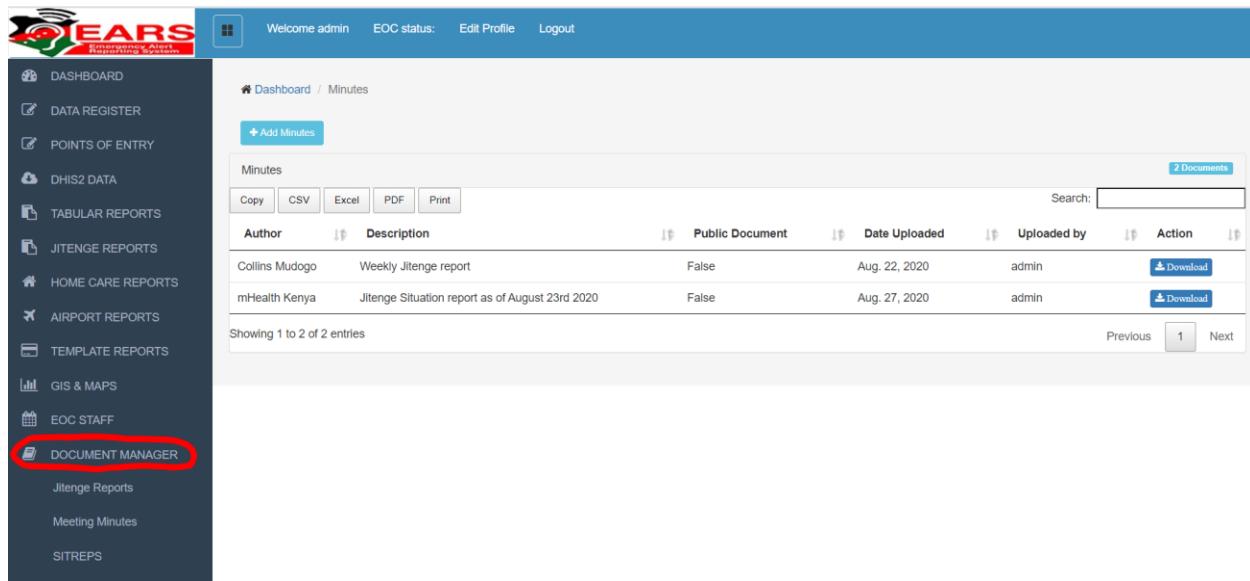
The screenshot shows the EARS software interface. The left sidebar contains a navigation menu with items like DASHBOARD, DATA REGISTER, POINTS OF ENTRY, DHIS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS, GIS & MAPS, EOC STAFF, DOCUMENT MANAGER, EMERGENCY CONTACTS, SYSTEM FEEDBACK, and SETTINGS. The main content area has a blue header bar with 'Welcome admin', 'EOC status:', 'Edit Profile', and 'Logout'. Below this, the page title is 'EOC Watchers Work Schedule Allocation'. A sub-header 'SELECT OFFICERS ON SCHEDULE' is followed by two input fields: 'Select working period' (with 'Start date' and 'End date' inputs) and 'Select Week period' (with a date input 'dd/mm/yyyy' and a search button 'Search watchers'). Below these are two tables: 'All Contacts' (listing Test Ciku, Michael Wamalwa, Jack Daniels, Mwali Kingori, Jilo Kimbeu) and 'Contacts On duty' (empty). At the bottom is a blue button 'Save Selected Working Period'.

### Steps to follow:

1. To open the allocation sheet , click on the EOC staff section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads allocation sheet to open the form.
3. To add a new work schedule click on the 'from' and 'to' date period, then click on the list of the contacts displayed to move them to the duty selection side. Once the list is completed click save to save the schedule
4. To view watchers set for a specified perion, select the date on the right table and click search watchers. A list of all the watchers scheduled to work in the date input will appear on the right table.

### Document management

On this module, the users are able to upload relevant documents in to system for backup. These include minutes of meetings, scanned newspapers and any other relevant articles that might need to be referred to in the future. The documents are categorized differently on how they are hosted.



The screenshot shows the mHealth Kenya EARS system interface. The left sidebar contains a navigation menu with various options like Dashboard, Data Register, Points of Entry, etc. The 'DOCUMENT MANAGER' option is highlighted with a red circle. The main content area shows a list of documents under the heading 'Minutes'. There are two entries:

Author	Description	Public Document	Date Uploaded	Uploaded by	Action
Collins Mudogo	Weekly Jitenge report	False	Aug. 22, 2020	admin	<a href="#">Download</a>
mHealth Kenya	Jitenge Situation report as of August 23rd 2020	False	Aug. 27, 2020	admin	<a href="#">Download</a>

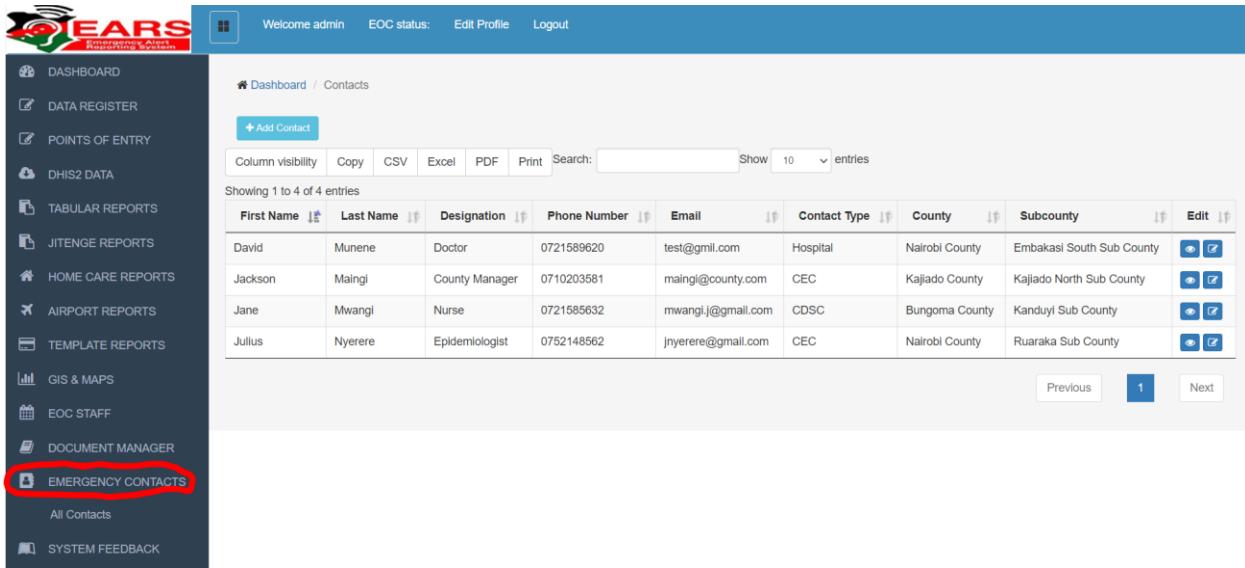
At the bottom, it says 'Showing 1 to 2 of 2 entries' with 'Previous' and 'Next' buttons.

### Steps to follow:

1. To open the document manager , click on the Document manager section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the button that reads all to add minutes to open the page to save relevant documents into the system
3. Enter the name of the document to be put in the repository then click on the choose file button to locate the document to upload
4. Click on save button to save the document into the system.

### Emergency contacts

This is a database of all relevant emergency contacts in the country including redcross, ambulance, police e.t.c. These contacts will help easy access of relevant people incase any contact is required. Users can add contacts into the system.



The screenshot shows the mHealth Kenya EARS system. The top navigation bar includes links for 'Welcome admin', 'EOC status:', 'Edit Profile', and 'Logout'. The left sidebar menu lists various reporting categories: DASHBOARD, DATA REGISTER, POINTS OF ENTRY, DHIS2 DATA, TABULAR REPORTS, JITENGE REPORTS, HOME CARE REPORTS, AIRPORT REPORTS, TEMPLATE REPORTS, GIS & MAPS, EOC STAFF, DOCUMENT MANAGER, and EMERGENCY CONTACTS (which is highlighted with a red box). Below the sidebar is a search and filter interface for contacts, followed by a table displaying contact information for four entries. The table columns include First Name, Last Name, Designation, Phone Number, Email, Contact Type, County, Subcounty, and Edit link. At the bottom of the page are navigation buttons for 'Previous', a page number '1', and 'Next'.

First Name	Last Name	Designation	Phone Number	Email	Contact Type	County	Subcounty	Edit
David	Munene	Doctor	0721589620	test@gmail.com	Hospital	Nairobi County	Embakasi South Sub County	
Jackson	Maingi	County Manager	0710203581	maingi@county.com	CEC	Kajiado County	Kajiado North Sub County	
Jane	Mwangi	Nurse	0721585632	mwangi.j@gmail.com	CDSC	Bungoma County	Kanduyi Sub County	
Julius	Nyerere	Epidemiologist	0752148562	jnyerere@gmail.com	CEC	Nairobi County	Ruaraka Sub County	

### Steps to follow:

1. To open the emergency contacts , click on the Emergency contacts section of the menu, this will open sub menus as displayed in the fig above on the right side.
2. Click on the sub menu that reads all to view all contacts or click the specific contact type that one requires to filter with, i.e. Redcross, police e.t.c.