One Health Event Based Surveillance (EBS)
Data Visualization Dashboard
Operational Manual

IEDCR

One Health Secretariat

Ending Pandemics

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Data Visualization Dashboard Operational Manual

One Health Event Based Surveillance (EBS) Enhancement and Data Visualization (Management) Dashboard, Bangladesh

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GLOSSARY:

BBCF	Bangladesh Biodiversity Conservation Federation
BFD	Bangladesh Forest Department
BLRI	Bangladesh Livestock Research Institute
CDC, DGHS	Communicable Disease Control, Directorate General of Health Services
DLS	Department of Livestock Services
EBS	Event Based Surveillance
FAO	Food and Agriculture Organization
GISRS	Global Influenza Surveillance and Response System
IBS	Indicator Based Surveillance
IEDCR	Institute of Epidemiology, Disease Control and Research
ILI	Influenza-like Illness
NICs	National Influenza Centres
OH	One Health
OHEBSDD	One Health Event Based Surveillance Enhancement & Data (Management) Visualization Dashboard
OHS	One Health Secretariat, Bangladesh
OIE	World Organisation for Animal Health
SARI	Severe Acute Respiratory Infections
US CDC	U.S. Centers for Disease Control and Prevention
WHO	World Health Organization
EID	Emerging Infectious Diseases

Operational Definition:

Central Admin	Central admin has overall central control of the dashboard administration for information visualization and control including internal dashboard.
Dashboard	Dashboard is a tool to support decision makers by bringing existing comparative data visualization into one place and making it accessible and meaningful to a wide audience. [ukhsa-ph]
Early Warning, Alert and Response System (EWARS)	Early Warning, Alert and Response System (EWARS) is an effective disease surveillance system is essential to detect disease outbreaks quickly before they spread, cost lives and become difficult to control. [WHO]
Emerging Infectious Diseases (EID)	Emerging infectious diseases (EID) are defined as infectious diseases that are newly recognized in a population or have existed but are rapidly increasing in incidence or geographic range. [WHO]
Epidemiology	Epidemiology is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems. [A Dictionary of Epidemiology by John M. Last]
Event	Any occurrence or incident (public health/animal health/ environmental health or ecosystem) that happens or takes place, of special importance or threat to health (public health/animal health/environmental health or ecosystem).
Event Based Surveillance (EBS)	Event-based surveillance is the organized and rapid capture of information about events that are a potential risk to health(public health, animal health& environmental health). [CDC]
Health	Health is a dynamic state of complete physical, mental, spiritual and social wellbeing and not merely the absence of disease of infirmity (World Health Organization, 1998).
ILI	Influenza-like illness (ILI) is an acute respiratory infection with measured fever of ≥ 38 C°, cough; and onset within the last 10 days. [WHO]
Indicator-based Surveillance (IBS)	Indicator-based surveillance involves reports of specific diseases from health care providers to health(public health/animal health/ environmental health or ecosystem) officials. [CDC]
Most Recent Events	List of five events of recent years
One Health	One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. [WHO]
Outbreak	Any unusual occurrence of disease, or any otherillness of potential public health, animal health & environmental health or echo system concern.
SARI	Severe acute respiratory infections (SARI) is an acute respiratory infection with the history of fever or measured fever of ≥ 38 C°, cough; onset within the last 10 days, and requires hospitalization. [WHO]
Super Admin	Sectoral administrative panel head; an abbreviation that refers to sectoral-level administrative units e.g. Admin of DLS, CF of FD, CSO of BLRI, (or person assigned). Super admin has overall sectoral central control of the dashboard administration for information visualization and control including internal dashboard.

Surveillance

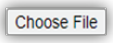
Surveillance is the ongoing systematic collection, collation, analysis and interpretation of data; and the dissemination of information to those who need to know in order that action may be taken.

Or,

Ongoing systemic collection, analysis, interpretation and dissemination of health related data for use in health (public health/animal health/ environmental health or ecosystem) action to reduce mortality & morbidity and to improve health. [CDC]

Symbol Used in this Manual:

This box contains the symbols that a user will see when using the dashboard.

	**Date Picker** This symbol represents the calendar. This symbol can be used to select the date from the calendar.
	**File Upload** This button used to upload file
	**Drop Down** This symbol displays a list of values, from which the user may select one or multiple option.
*	**Asterisk Sign** This is a mandatory field.
Login	**Login Button** This button is necessary to access the dashboard.
	**Captcha** This button used to refresh the calculation
submit	**Submit** This button is necessary to submit any form.
Set new password	**New Password Setting** This button is used to set new password.
Create Account	**Create Account** This button is used to create an account
Remove file	**Remove File** This button will remove file link from file box.
+ Add new	**Add New** This button is necessary to add new event capture.
Edit	**Edit** This button is used to edit user's previously uploaded content.
Verify	**Verify** This button is used to verify a new event.
File	**File** This button is used to view previously uploaded file.
Initiate prior investigation	**Prior Investigation** This button is used to initiate prior investigation.
Investigation report entry	**Investigation Report** This button is used to entry investigation report.
Block user	**Block user** This button is necessary to block a user.
Approve user	**Approve User** This button is necessary to approve user.
Blocked	**Blocked** This status show that the event is restrict to public dashboard.
Visualized	**Visualized** This status show that the event is open to public dashboard.
visual public view	**Visual Public View** This button is used to visualization permit the event on public dashboard.
block public view	**Block Public View** This button is used to restrict the event on public dashboard.
	**Remove/Delete** This button is need to remove/delete user's assigned role.

i. Introduction:

One Health Event Based Surveillance Enhancement & Data (Management) Visualization Dashboard (OHEBSDD) is an information management system designed to facilitate sharing and analysis of emerging infectious disease information. It also helps to find outbreaks faster and contributes in EIDs preparedness and prevention thereby to reduce mortality and morbidity.

OH EBS Data Dashboard aims to consolidate disease events happening countrywide using information that OH EBSDD receives from different official and unofficial sources, e.g. District, Division, country, partners, Non-Governmental Organizations (NGOs), collaborating institutions, Government Organizations (DLS, BFD, BLRI, and DGHS etc.), public domains, the media and web-based health surveillance systems etc. For verification purposes, assigned officer of the respective sector/department will be responsible. All the information (official or unofficial) received from different sources (such as in-country projects and personal contacts with NGOs and other institutions etc.) will be verified and agreed upon before displaying on the Dashboard.

OHEBSDD provides updated information on countrywide EBS [Event based disease (Human, Animal, and Environment) surveillance] and current EIDs of public health concern. Users can access various functions including mapping and graphical tools to collect information and search to do analysis of outbreaks.

This platform is designed for relevant stakeholders of One-Health and international agencies who are interested to collect EIDs happening in the country from time to time for analysis and preparedness and multi-sectoral approach of prevention & control plan development.

The purpose of this 'Operational manual' is to help users/admin to gain access and use the OH EBS Data Dashboard application correctly. It will also provide information on the trends of Public health/ Animal health/ One health diseases or events of concern or threat.

ii. Objective

The web-based Data-Dashboard will provide the necessary features which allows a user to see data trend through graphical visualization on Dashboard.

iii. Data Visualization:

Data visualization comprises of data and information transformation into meaningful and visual methods using a variety of graphical and tabular presentation. In order to visualize data, we need helpful and correct software tools to handle various types of data from multiple sources such as files, web APIs, databases, and others in organized and structured formats. We must choose a visualization tool that satisfies all of our criteria and is appropriate too. The application should be able to create interactive charts, connect to data sources, merge data sources, and give secure data access. All of these features allow us to construct graphical images of our data while conserving time.

Advantages of Data Visualization

- **Easy to understand:** Decision-makers utilize data visualization tools in the form of a graph or chart to quickly construct plots and consume relevant information. The information provides a clear picture of the public health / animal health /environmental health occurrences that are of concern or threat (also trendsand emergency response). For example, if a disease event of concern in the respective Public Health or Animal Health sector (livestock or wildlife) is rapidly spreading, decision-makers can

quickly determine what is/are the current circumstances and how to respond to the event-based surveillance/Outbreak of concern encountered using the data/information. Data visualization can help grasp the huge characteristics of data very simply and cohesively using graphical locations and tools.

• **Quick Decision Making:** Data visualization contributes to improve the speed of decision-making processes by allowing people to quickly interpret visual data. Visual representations are processed faster by the human mind than texts and numerical quantities of narratives. As a result, looking at a graph, chart, or other visual and graphical representations of data is more enjoyable and easier for our brain to digest. To read and comprehend text before converting it into a data visualization that may not be completely correct but is tough and time-consuming to comprehend for a team of decision-makers and planners. Data visualization is usually helpful in shortening meetings and making quick decisions. It contributes in preparedness and resource mobilization plan development.

• **Better Analysis:** For stakeholders to interpret reports on event-based illness surveillance, community status of diseases of concern, and research, data visualization is critical. Better analysis can help us focus on the areas priority that needs greater attention in order to improve preventative, control, and community awareness and risk communication measures. It contributes in Preparedness, Prevention & Control and Risk communication strategies development.

• **Identifying patterns:** After being visualized, the massive volume of relevant data will provide numerous prospects for insights. The useful data and information allows for better visualization and comprehension of cross-sectoral/multisectoral collaboration and coordination. Exploring these patterns allows users to focus on specific areas that require attention or first-response and multi-sectorial support, allowing the functional One-Health approach to be established.

• **Detecting information Errors:** Data visualizing can also help quickly determine any errors or anomalies within the data or information. The sooner the visualization facilitates detection of inaccurate data so it will be off from the analysis and the dashboard.

• **Exploring Global Emerging Diseases threats:** Finding data and information correlations using visual representations to predict global emerging infectious disease prevalence and incidence is critical for being prepared for new public health threats of concern.

• **Success stories:** Because of the manner of displaying data to provide crucial insights that will enable smarter decisions, data visualizations are an acknowledgement of successful prevention and control measures and One-Health partnerships against emerging infectious illnesses.

The primary goal of this document (Dashboard Operational Manual) is to provide more detailed information and instructions on the features of the Dashboard as well as the pattern for processes and applications of verified and approved data/information sharing, and to assist the user/ admin (for the overall information that the user may require) in using the application, connecting and configuring a Data Source, creating a Dashboard and its objects, and generating reports for that Dashboard.

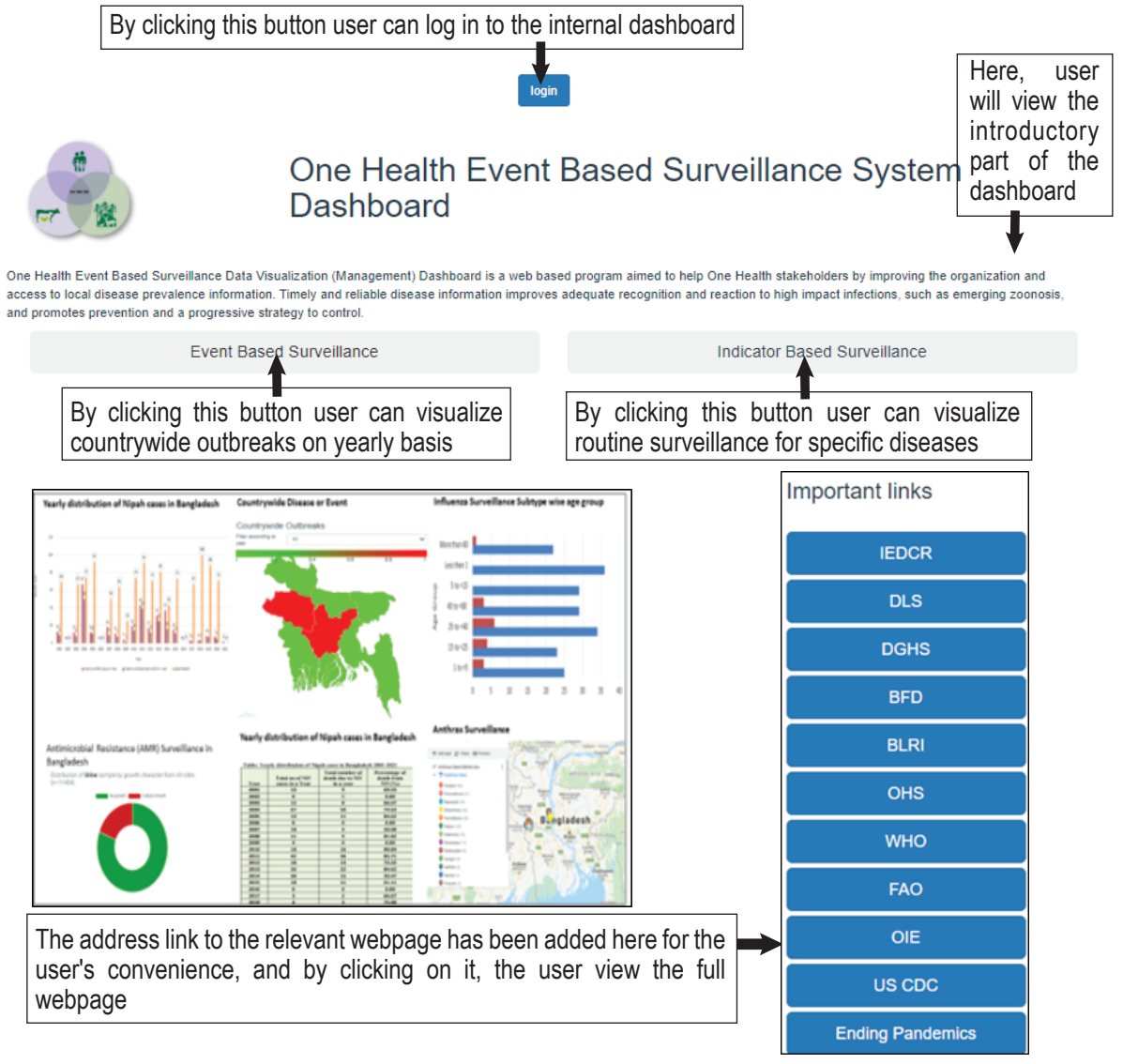
iv. Browsing OHEBSDD:

To browse the application, we need to type the address given below in the address bar of the browser (e.g. Chrome, Edge, Firefox, etc.). It might be helpful to bookmark this address in the browser for browsing easily the next time.

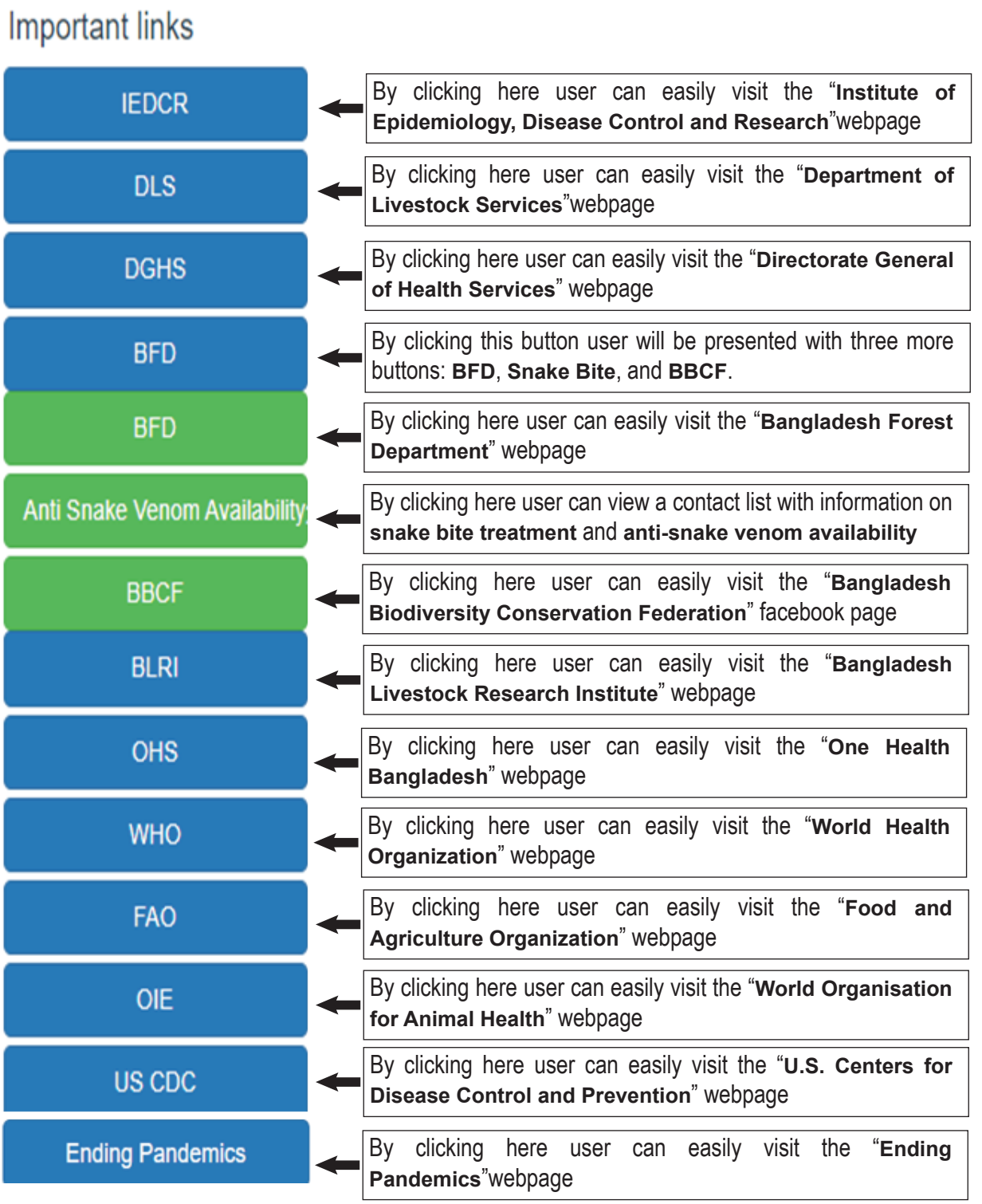
The URL for the OHEBSDD application is ohebsdd.org (User can click this link or copy this address and paste it to the browser address box or can write it manually)

v. Dashboard:

This is the opening page of the dashboard.This page is displayed when a user types the URL into the browser. Here user can view “Event Based Surveillance” and “Indicator Based Surveillance” button. “Event Based Surveillance” button represents the scenario of event-based surveillance or outbreak data on yearly basis and “Indicator-Based Surveillance” button represents the scenario of indicator based surveillance which contains the graphical view of Anthrax, Influenza, Nipah and AMR diseases.

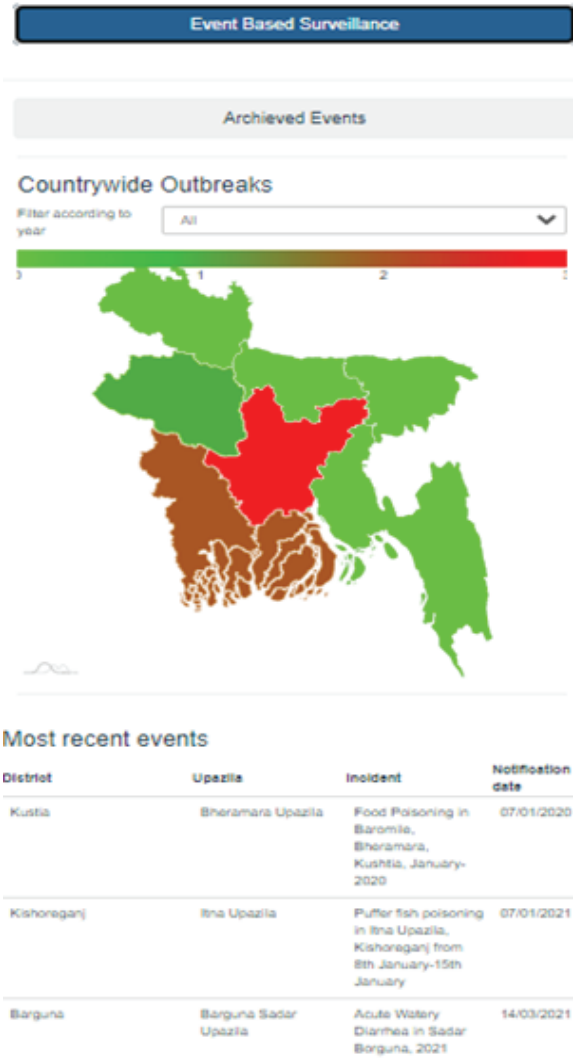


The landing page includes links to a number of health-related organizations that are relevant to this dashboard.



1. Section-I:Event Based Surveillance (EBS)

The Bangladesh map represents the scenario of event based surveillance or outbreak data on yearly basis. The divisions have been colored in accordance with the outbreak's number. The more outbreaks that occur in the division, the more crimson it becomes. User can view information from all event-based surveillance/outbreak here on yearly basis.



By clicking this button user can visualize countrywide outbreaks on yearly basis

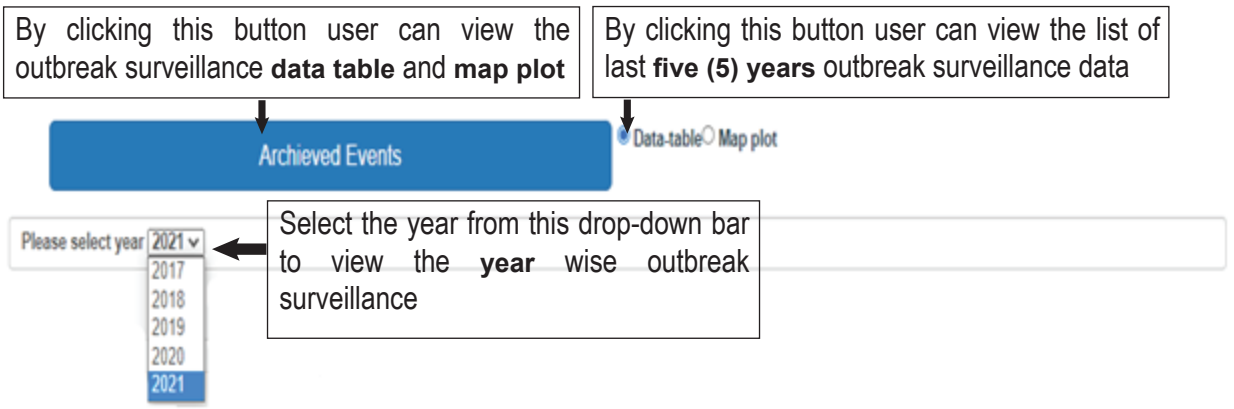
By clicking this button user can view **outbreak surveillance** data & map plot

By clicking this button user can select the **year** from this drop-down bar to view the distribution of outbreak

The division has been colored according to the number of outbreak. The more outbreak occurred in the district it turns crimson. The less outbreak turns it to green.

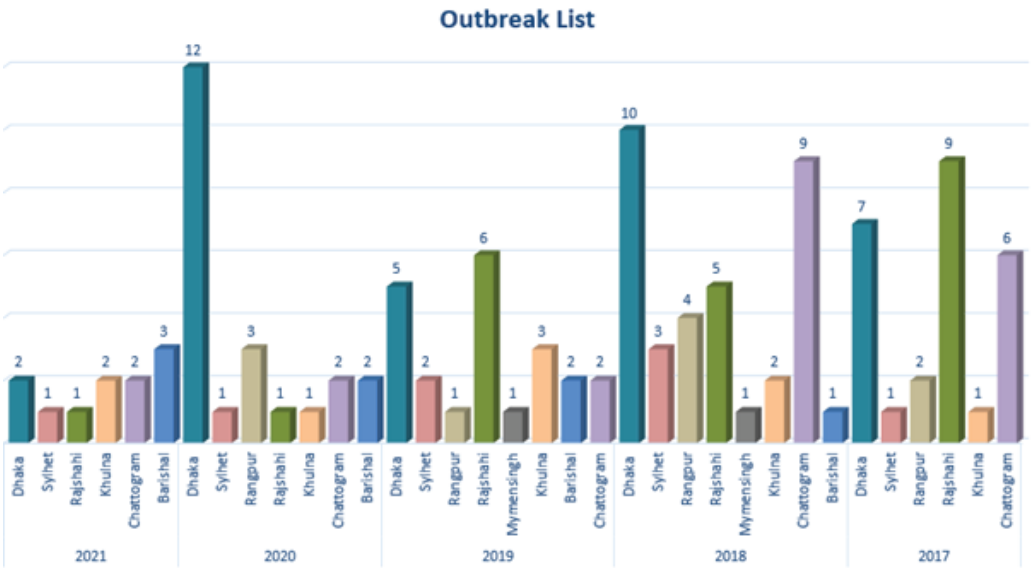
Here, user can view the "most recent events/outbreaks" occurred in the district & upazila/thana. This table will be updated automatically if any new event based surveillance is reported.

- The division color is as per number of outbreak happened per year. The color changes as per number of outbreaks occurring in the division, it turns crimson red. When less number of outbreak happened it will turns into green.
- Divisions with a low incidence of outbreak will be light green in the dashboard; if the frequency of the outbreak progressively grows, the green will also be intense; and if the outbreak risk is high, the division surface area will be red in the dashboard.
- This section provides countrywide outbreak information. The map will be updated automatically if any new event based surveillance is reported and verified.
- Click the **Login** button to enter in admin panel.

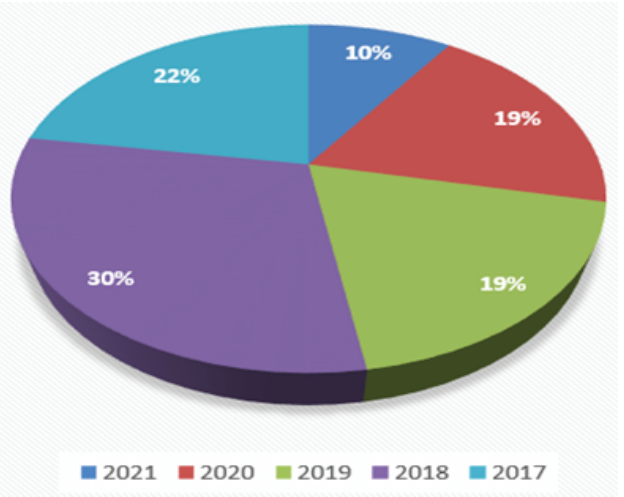


Incident Name	Division	District	Upazila	Area	Investigation Date
Puffer fish poisoning	Dhaka	kishoreganj	Itna		08/01/2021
Suspected encephalitis	Dhaka	Rajbari	Goalondo		12/02/2021
Covid-19	Sylhet	Sylhet			26/01/2021
Suspected encephalitis	Rajshahi	Naogaon	Patnitala		02/02/2021
Lead poisoning	Khulna	Magura			05/01/2021
Food poisoning	Khulna	Kushtia	Bheramara		08/01/2021
Covid-19	Chattogram	Cumilla	Chandina		27/07/2021
Acute watery diarrhoea	Chattogram	Noakhali	Hatiya	Bhashanchar	18/06/2021
Covid-19	Barishal	Bhola			26/02/2021
Acute watery diarrhoea	Barishal	Barguna	Barguna Sadar		15/03/2021
Acute watery diarrhoea	Barishal	Barishal, Jhalokati, Patuakhalli	Barishal Sadar, Bakerganj, Nalchiti, Mirzaganj		18/04/2021

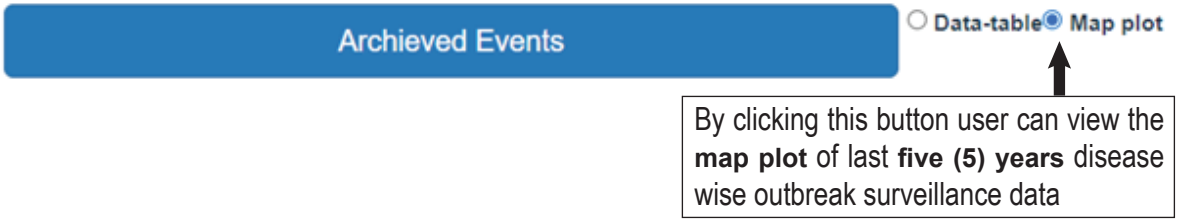
- After selecting a year from the drop down menu, the user will be able to see the number of outbreaks that occurred in that year, as well as where and when the outbreak occurred.

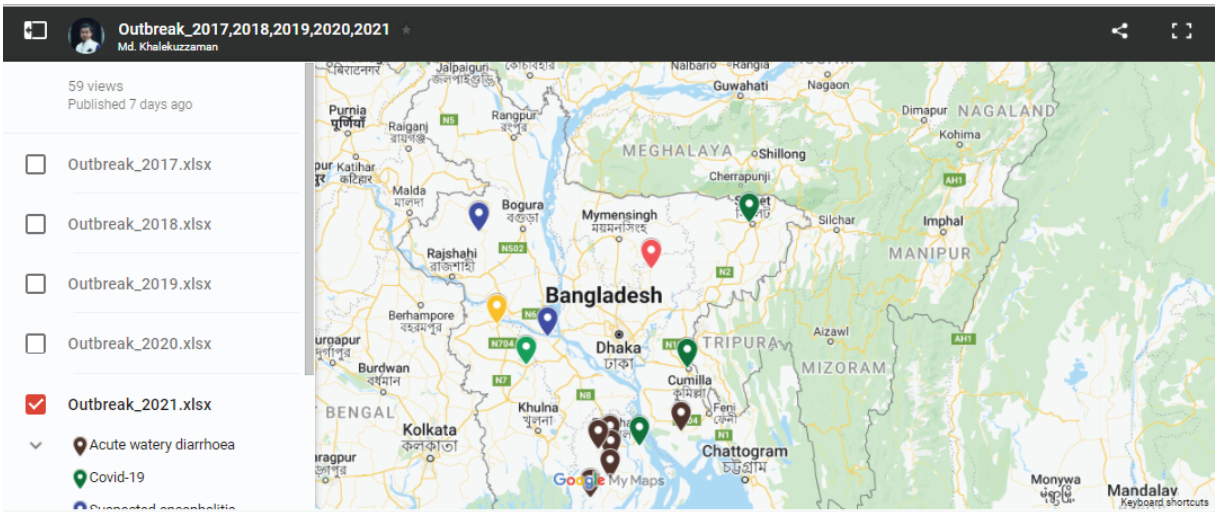


- This event graph provides Outbreak data in graphical form. Division wise number of outbreak occurred in last five years shown in the bar graph



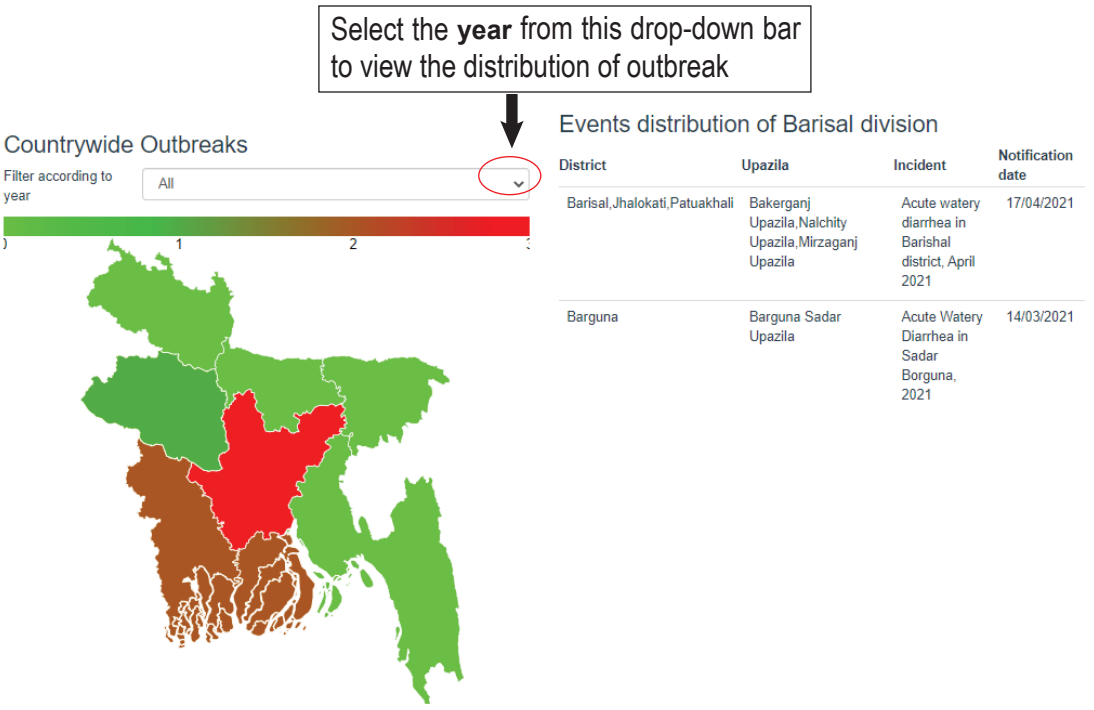
- Percentage of outbreak occurred in last five years shown in pie chart.





- When user click on a location marker on the map the data of the outbreak will displayed on the left side.

User can point to any division of the map in this section. After hovering over any division, it provides background information user can view the list of events/incidents if they click on respective division plot, it will appear on the right side.



- If the user wants to view outbreak information by year, choose the year from the filtering option (see the box above), and the user will get yearly event-based surveillance/Outbreak information on the right side. User can access annual outbreak statistics for the district and upazila/thana.

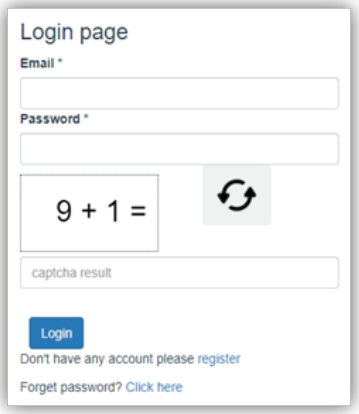
- When you click on the drop down menu this filtering option will displayed.

1.1. Login:

The user who needs to **manage the dashboard** will required **to login first** by using this page to have access to the admin panel. User who have not yet registered must do so, before proceeding to the next section. After registering on the "Dashboard registration page" with a valid email address, password, and other essential information, as the registration is complete and accepted the user can access the dashboard admin panel by using user email ID, password, and captcha result.

1.1.1. Login Page:

An authenticated user can log-in to the admin panel through this page. **If she/he is not registered yet then needs to register first by** Don't have any account please register **clicking the registration link.**



Email: Provide the same email address here, as used during registration; e.g.: john@gmail.com.

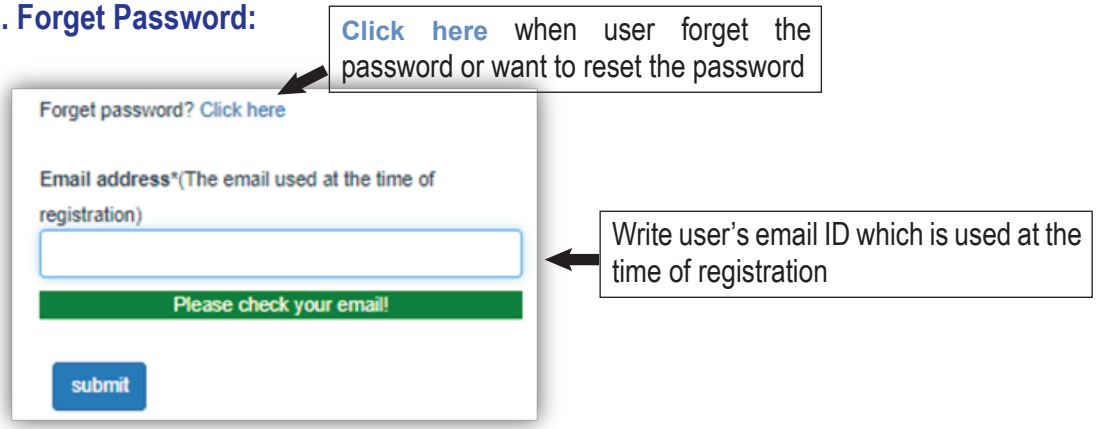
Password: Insert the same password as used during registration; e.g. R9h#$0

Captcha: Press this button to refresh the Captcha. Write the calculated result of above mentioned captcha.

Login: Click on the **"Login"** button (after completed email, password and captcha result)

Register: If user don't have any account click on the **"Register"** option.

1.1.2. Forget Password:



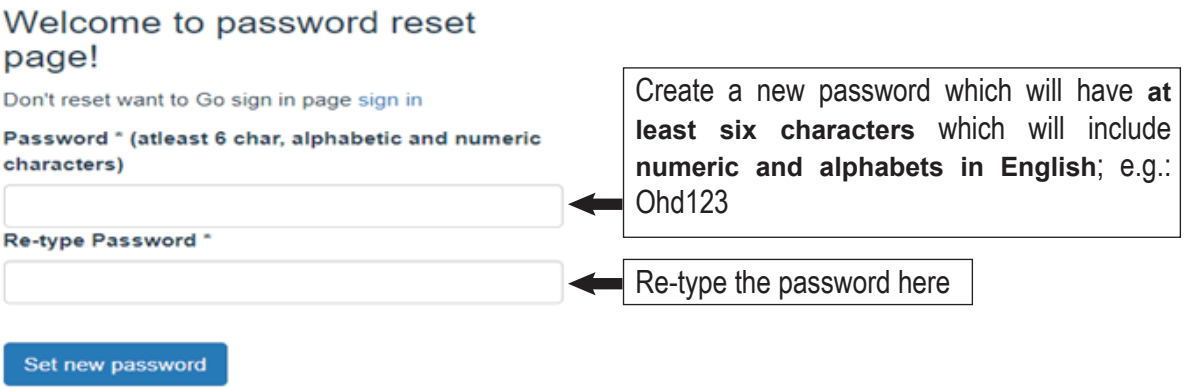
- Finally click on the **submit** button and then an email will be send to the user's entered email address if it was registered before. Please check your email all folders. (e.g. regular mail, junk mail, spam)

Reset password:

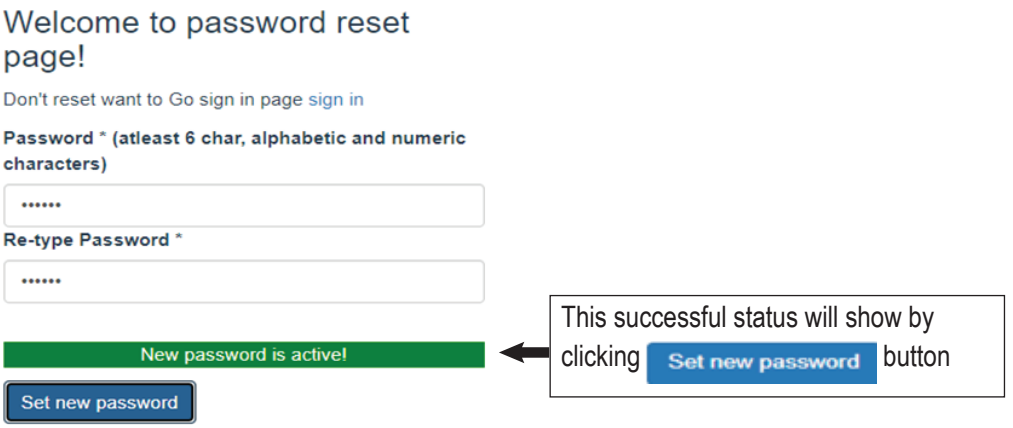
- Click on this link to reset the password **within 15 minutes**

Password reset page:

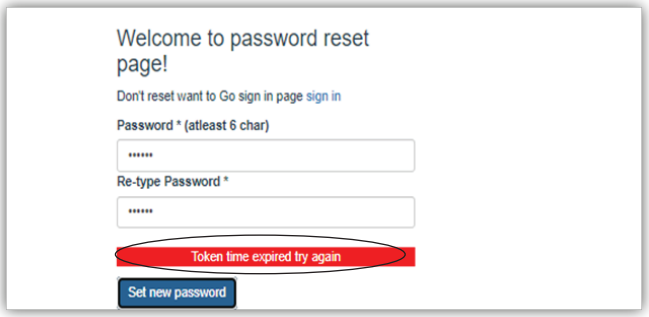
- After clicking the link from email this interface will displayed, user will get 15 min window to reset password.



- Finally click on this **Set new password** button.
- When user successfully change the password this below successful password reset page will displayed.

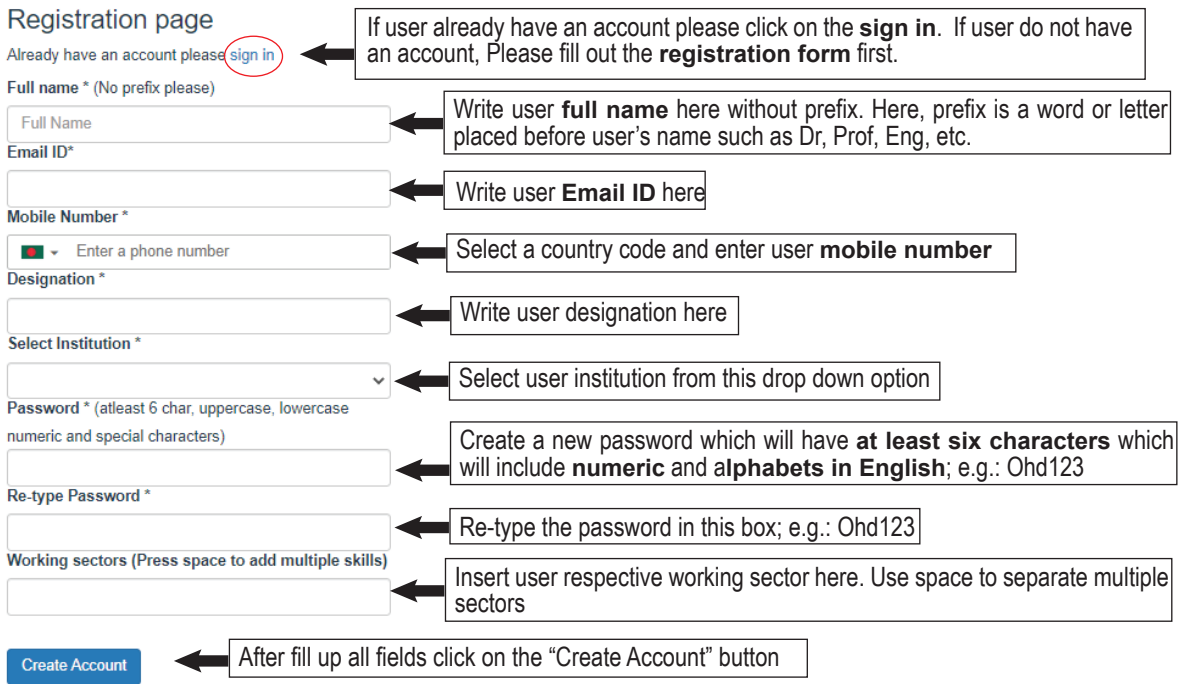


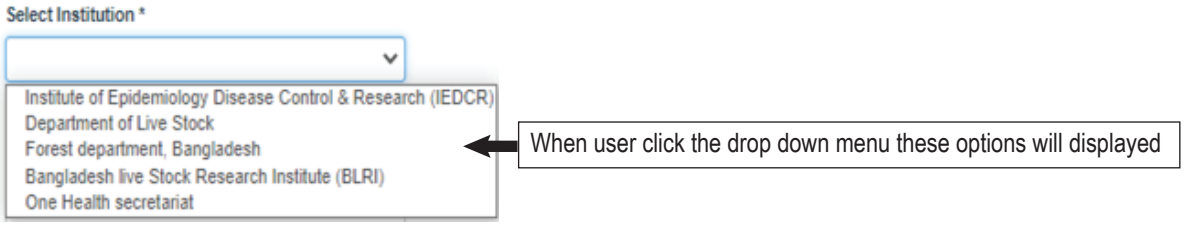
- When users don't click on the link given through email within 15 minutes he/she face the issue given below



1.1.3. Registration Page:

To create a new account an admin/user need to fill up all the fields to complete Registration.





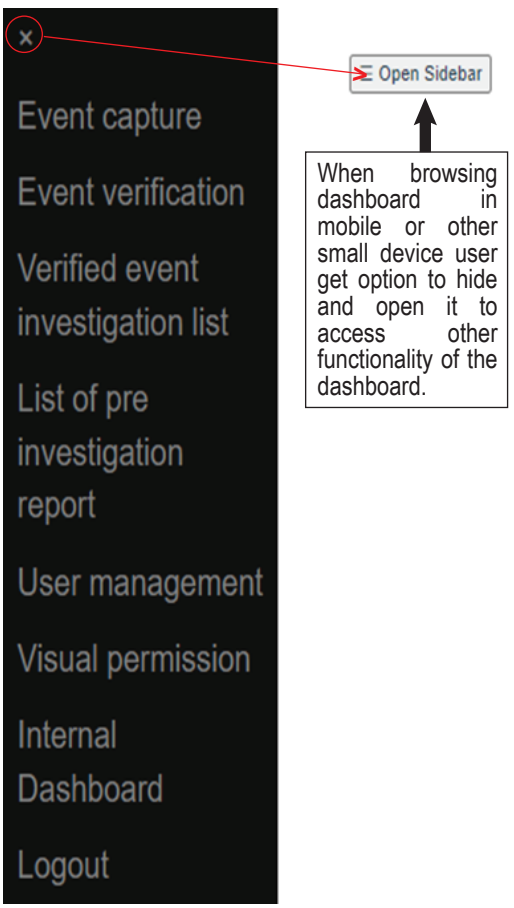
Status:

- After completion of all information in this registration page, User registration will record successfully and user will get the Registration Successful notification.

1.2. Side Panel Edge:

The side panel edge shows the menu of each section of the interior dashboard. Different roles of users can insert or view the event-based surveillance/outbreak data and information in each section (**without logout**), as stated.

- Admin : Authorized user
- Super admin: One admin in every institution. Manage admin and events public visualization.



Event capture: An admin can use this event capture option to record an event / outbreak in this event-based surveillance/outbreak. Which is elaborately described in section 1.3.

Event verification: An admin can verify the event based surveillance in this option. Which is elaborately described in section 1.4.

Verified event investigation list: In this option authorized individuals can initiate prior investigation. Which is elaborately described in section 1.5.

List of pre investigation report: In this option authorized individuals can initiate investigation. Which is elaborately described in section 1.6.

Internal Dashboard: In this option super-admin can visualize the list of investigated events. Which is elaborately described in section 1.7.

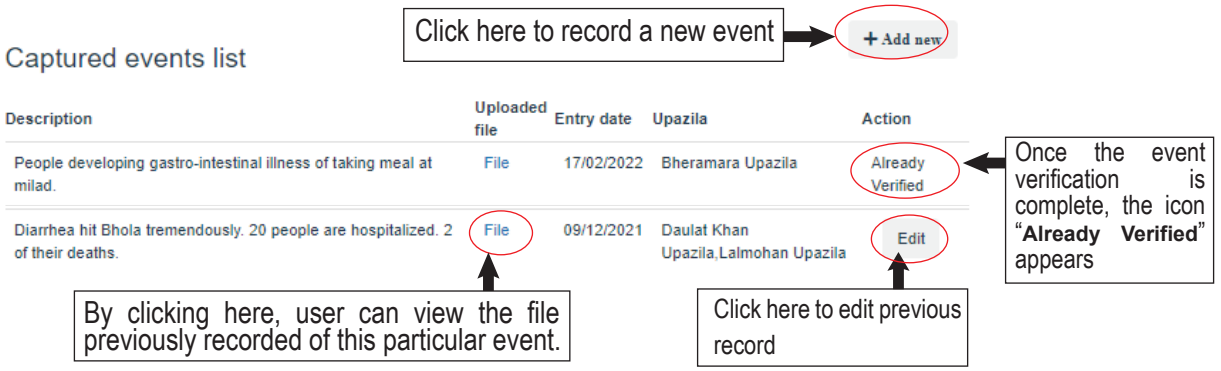
Visual permission: A super-admin can blocked or published any data to the dashboard in this visual permission option. Which is elaborately described in section 1.8.

User management: A super-admin can manage the role of user. Which is elaborately described in section 1.9.

Logout: In this option, user can logging out from the dashboard admin panel.

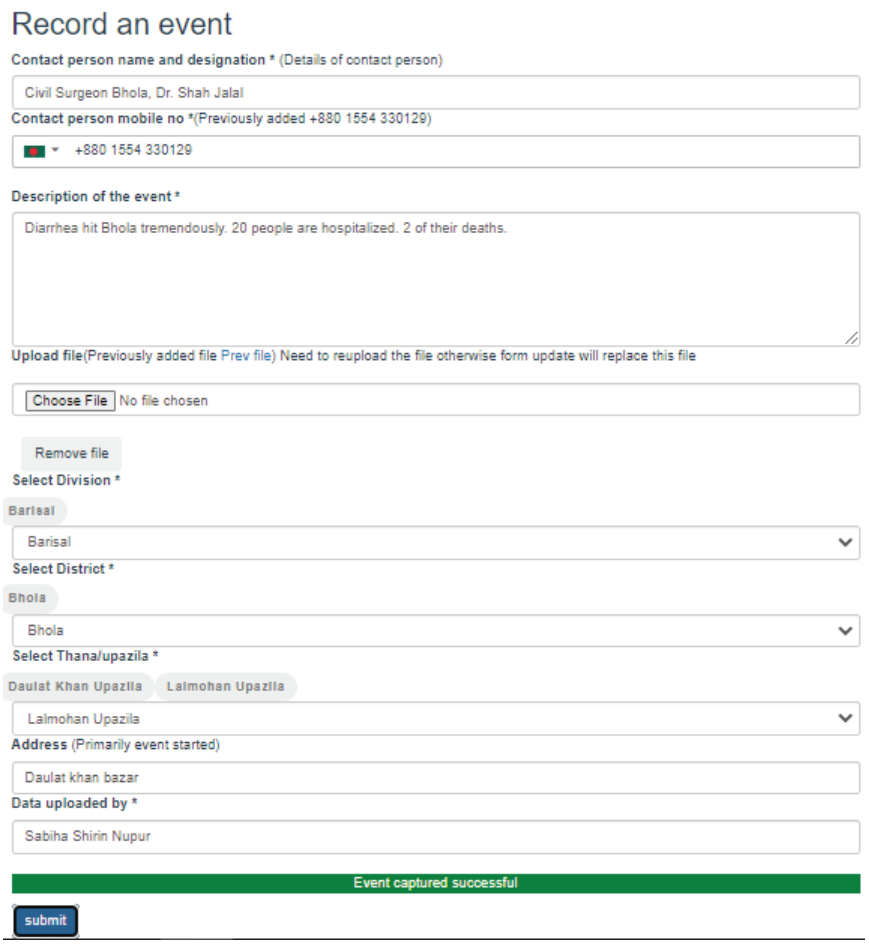
1.3. Event Capture:

Clicking the "Event Capture" option from the side panel admin will be able to view the list of captured events recorded previously. On this page, the admin can capture new events by clicking "Add new" button. Admin gets edit option as well for his/her previously captured events that are not verified yet.



1.3.1. Record an event:

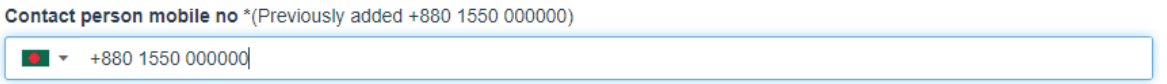
Users can record event-based surveillance/outbreak data information in this event capture by filling up this information as shown below. Authorized individuals can use the event capture option to record an occurrence or epidemic.



Contact person name and designation:

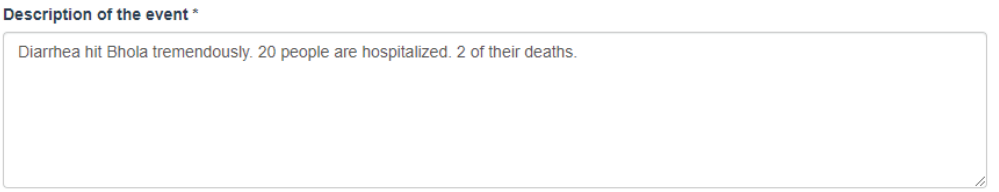
- Insert contact person name and designation here.

Contact person mobile no:



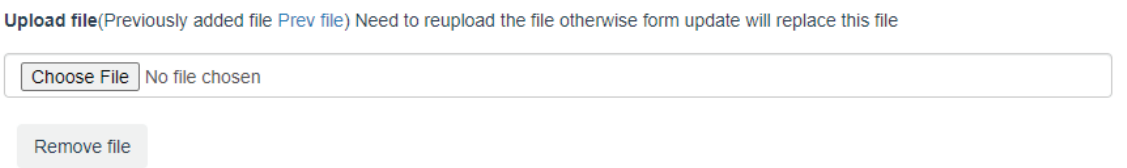
- Insert a mobile number of contact person
- Please note country code will appeared automatically.

Description box:



- Give a description of the event based surveillance here. Write down the date, time, and location details of the event-based surveillance/outbreak as well.
- Please add a detailed description of the type of event, where it occurred, and what kind of occasion it was. (In case of animal, please mention the type of animal involved)

Upload File:



- To upload a file, click the Choose File utton and upload the file *(Only pdf, jpg, and png format is allowed)*.
- User can upload any document, image, or other file here as a hint.
- If more than one documents needs to be uploaded then we have to merge them in one file. Ex: A document can contain image description then used to convert in a pdf file.
- For any difficulties please concern with IT person.
- In case you have attached wrong file please re upload the one you need to attach. This will automatically remove the previous one.
- User can also remove the file by clicking Remove file button.

• **Select administrative level chronologically**

Division:

By clicking the drop down bar, this division list appears & user can select the division of event/outbreak occurrence

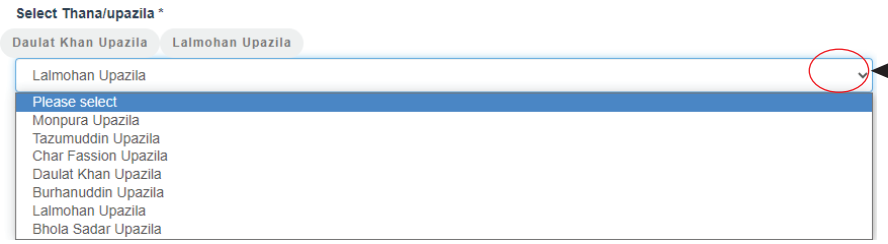
- Select the division of event occurrence. If the event/outbreak happens in more than one division, select the multiple division from the dropdown bar.

District:

By clicking the drop down bar, this district list appears based on selected division/s.

- Select the district of event based surveillance occurrence. If the event based surveillance happens in more than one district, select the multiple district from the dropdown bar.

Thana/Upazila:



By clicking the drop down bar, this thana/upazila list appears based on selected district/s.

- Select the thana/upazila of event based surveillance occurrence. If the event based surveillance happens in more than one thana/upazila, select the multiple thana/upazila from the dropdown bar.

Address:

- Enter the address of event / outbreak occurrence. One may need to investigate with any prime location, nearby (e.g. pouroshova office, mosque, school, market place, home, community center etc.)

Data Uploaded by:

- Enter the individual name here who has uploaded the data.

Submit:

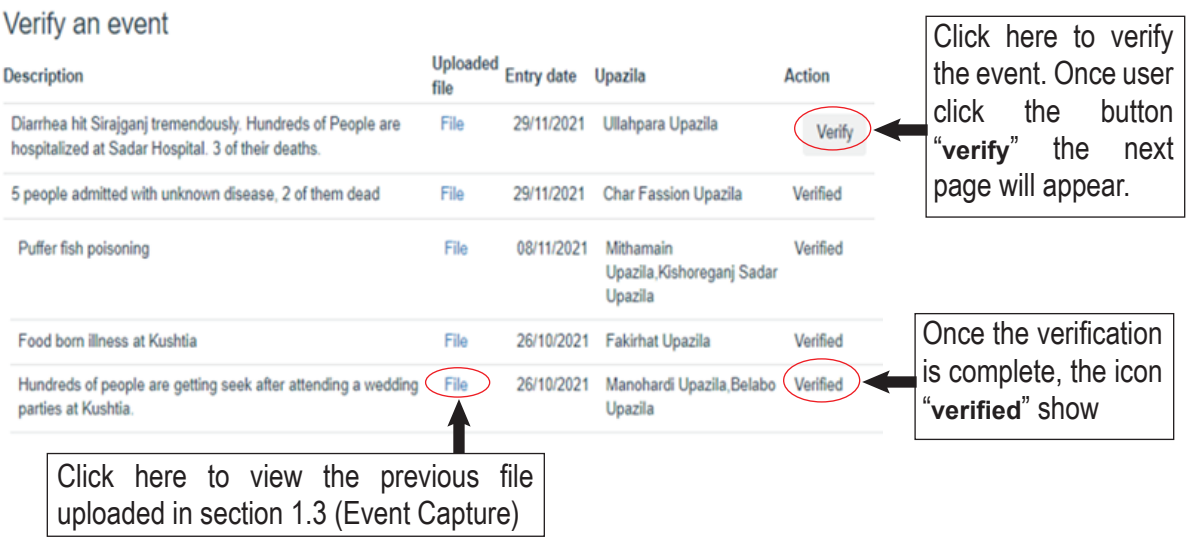
Finally click on the Submit button to record details into the system.

Status:

After completion of all information user "Event Based Surveillance" report will be recorded successfully and user will be able to see the Event captured successful notification

1.4. Event Verification:

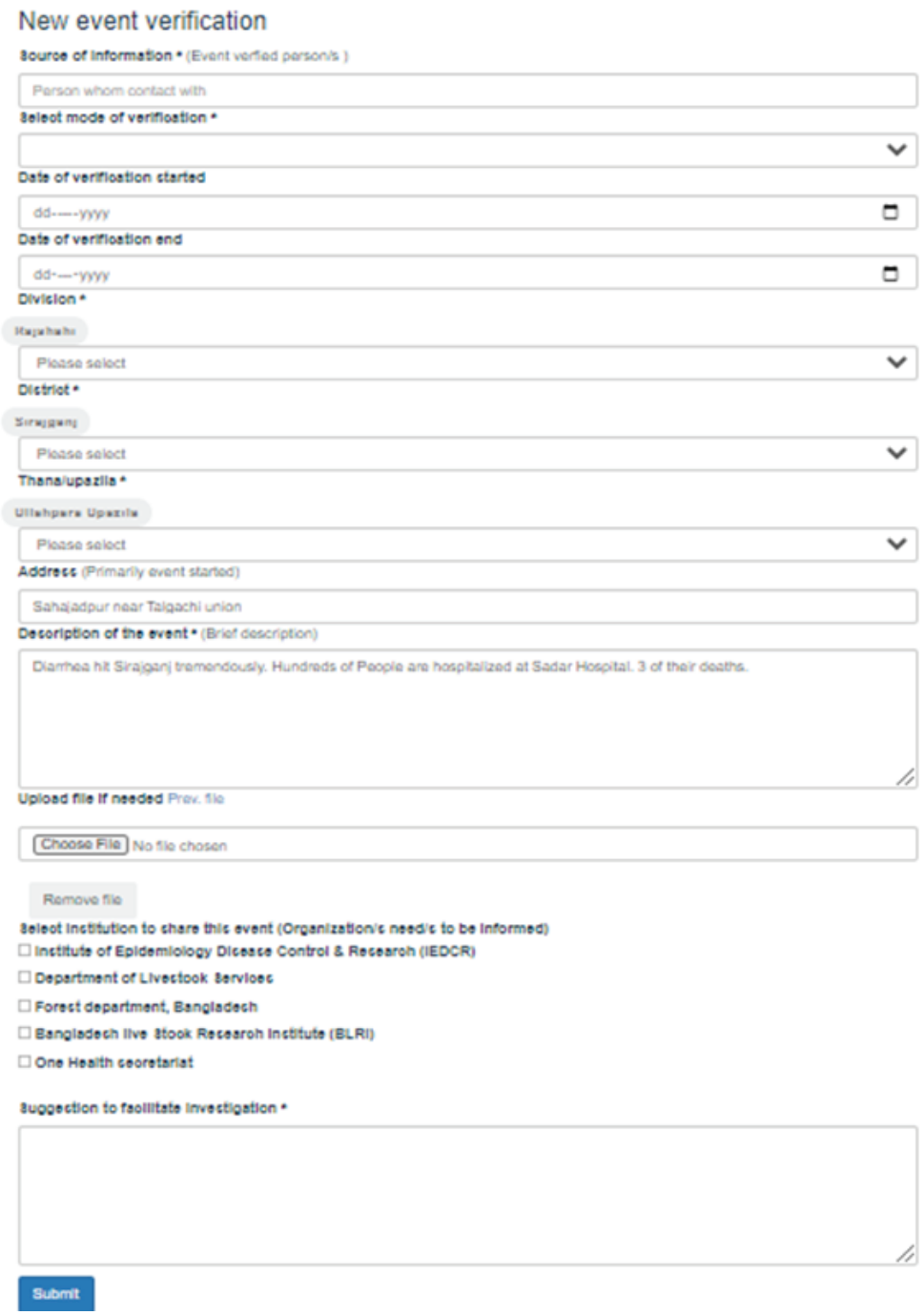
A short description of the event/outbreak can be seen in this page/list. The uploaded file where a document regarding the event/outbreak included, the event entry date, and the name of the upazila where the event-based surveillance/outbreak occurred is shown below. The event-based surveillance/outbreak verification status will appear on the right side of the table. An admin can click the Verify button to verify an event/outbreak.



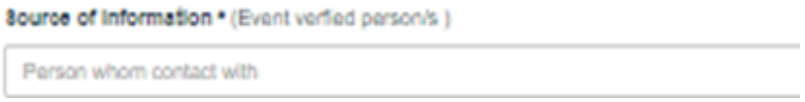
- Please carefully click here to verify the event. Because once verified, any further change required will need super admin permission to re-verify it.
- Once admin click Verify the button the page will appear as next.

1.4.1. New Event Verification:

The event verification page will display after clicking the Verify button. The person who verified the event-based surveillance/outbreak need to fill out all of the field as below.



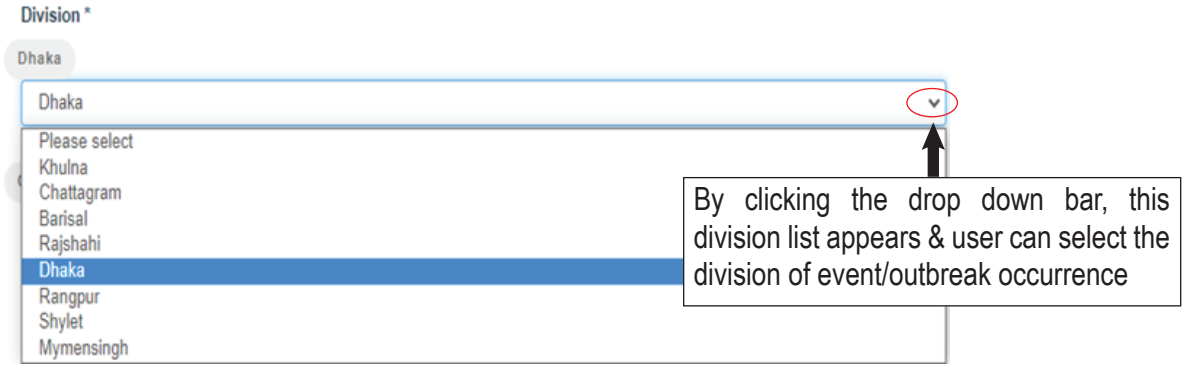
Source of information:



- In this box, enter the name of the person who was contacted to verify the captured event/outbreak.

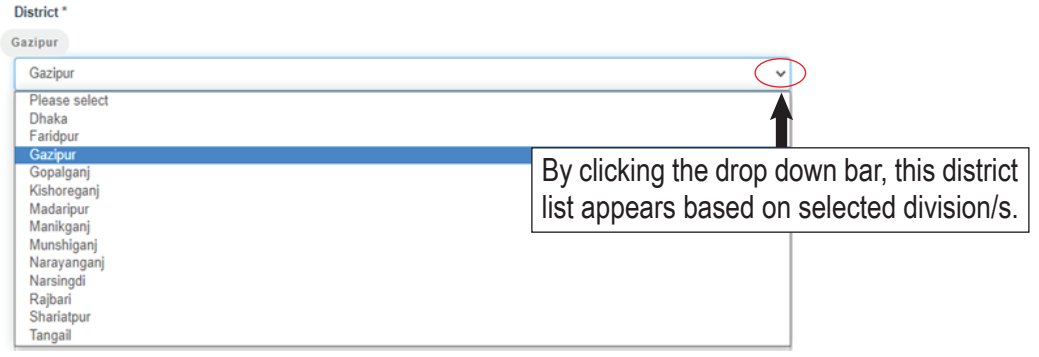
Mode of verification, Date of Verification started and ended:

Division:



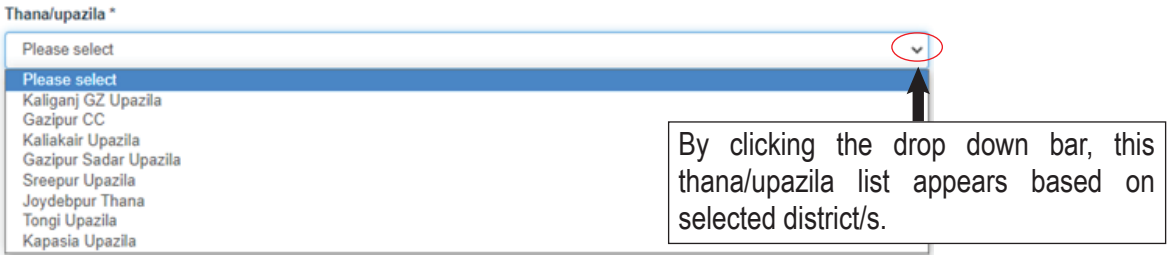
- Select the division of event/outbreak occurrence. If the event based surveillance happens in more than one division, select the multiple division from the dropdown menu.

District:



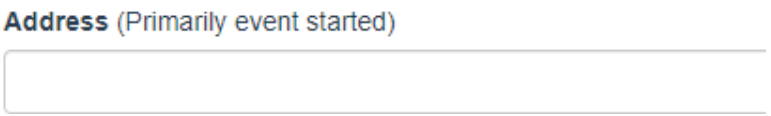
- Select the district of event/outbreak occurrence. If the event based surveillance happens in more than one district, select the multiple district from the dropdown menu.

Thana/Upazila:



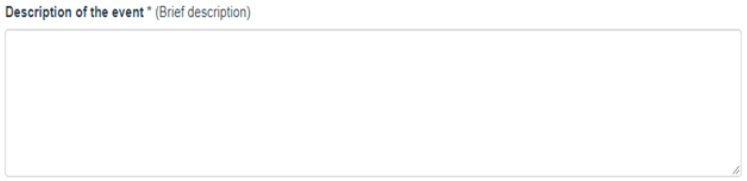
- Select the thana/upazila of event based surveillance occurrence. If the event happens in more than one thana/upazila, select the multiple thana/upazila from the dropdown menu.

Address:



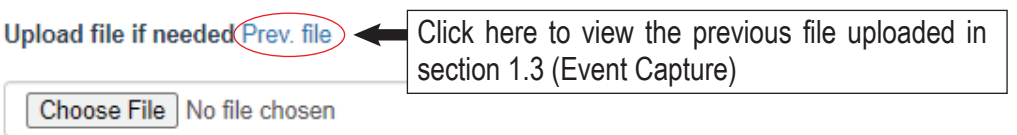
- Enter the address of event/outbreak occurrence. One may need to investigate with any prime location (e.g. pouroshova office, mosque, school, market place, home, community center etc.)

Description of the event:



- Give a brief description of the event/outbreak here. Also write the date, time and place of the event based on surveillance.
- Please add a detailed description of the type of event, where it occurred, and what kind of occasion it was. (In case animal please mention the type of animal involved)

Upload file if needed:

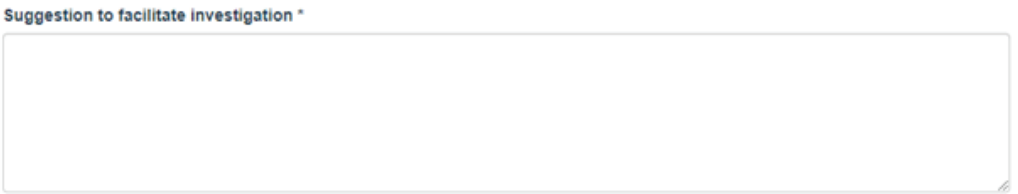


- To upload a file, click the Choose File button and upload the file. *(Only pdf, jpg, and png format is allowed)*
- User can upload any document, image or other file here as a hint.
- If more than one documents needs to be uploaded then we have to merge them in one file. Ex: A document can contain image description then used to convert in a pdf file.
- For any difficulties please concern with IT person.
- User can also remove the file by clicking Remove file button

Event Sharing:

Select the institution with whom user want to share this event based surveillance. User can select multiple options here.

Suggestion to facilitate investigation:



- Input user supplementary opinion or suggestion to facilitate the investigation.

Submit:

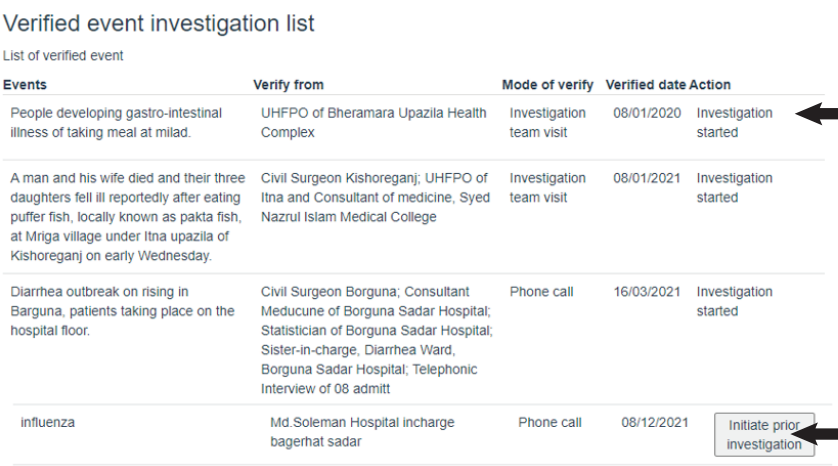
- Finally click on the Submit button to record the details into the system.

Status:

- After completion of all information "Event Based Surveillance" verification will be recorded successfully and user will receive Event Verified successful notification.

1.5. Verified Event Investigation List:

On the **side panel edge's** when the user click the "**Verified Event Investigation List**" option, this interface will be displayed in front of the user. This list populates based on the event-based surveillance/outbreak which has been verified. Now click on the initiate investigation button to record pre investigating information.



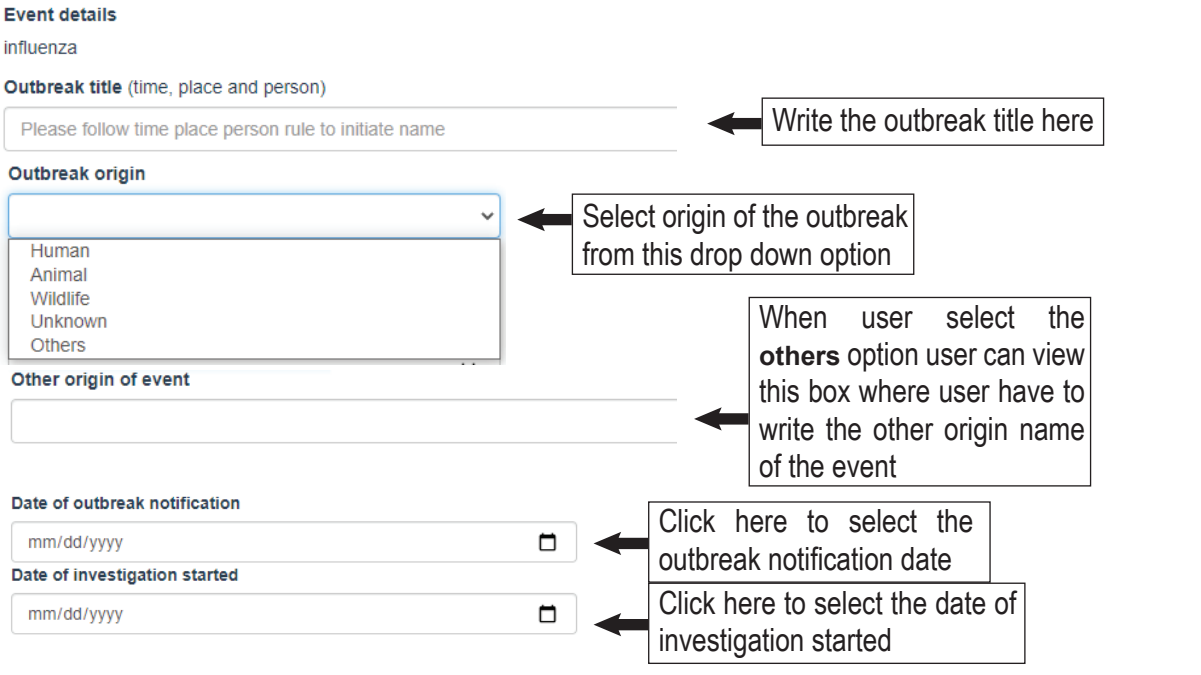
When user click the "Initiate Investigation" button, the statement "Investigation started" will appear, and user will be able to enter section no. 1.5.1.

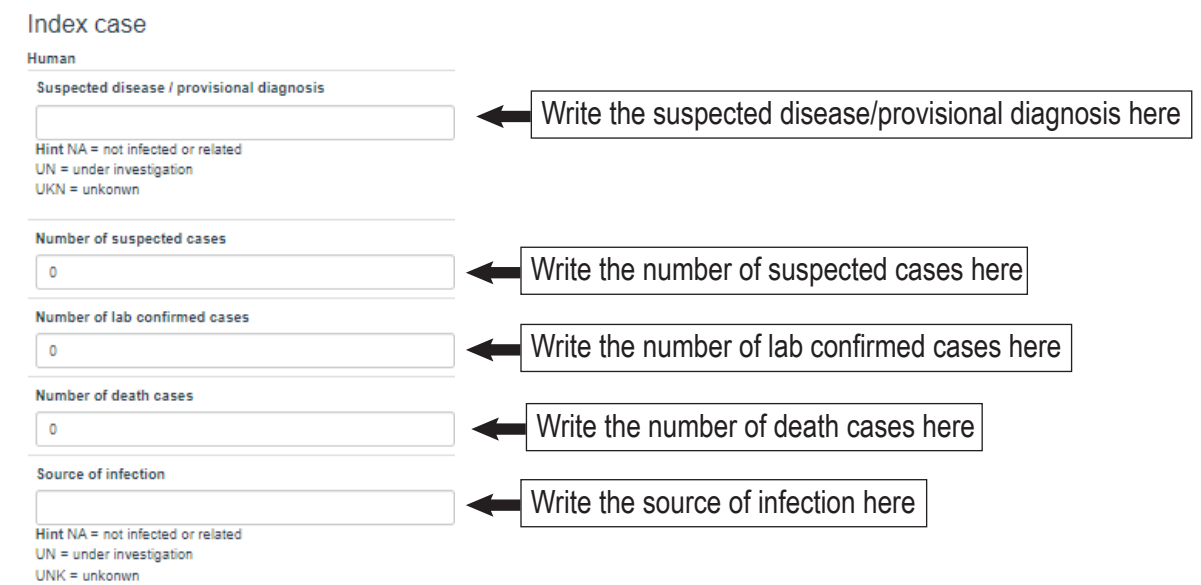
Click here to initiate prior investigation

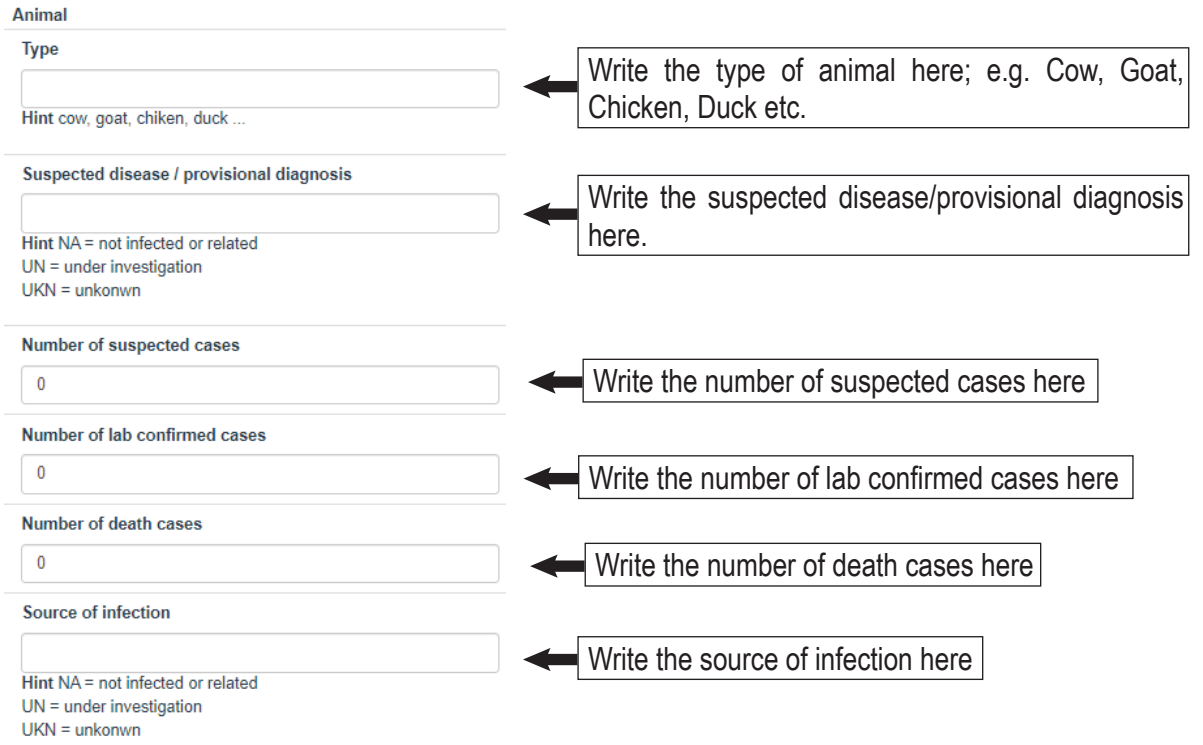
- In this interface users can view event details in brief, outbreak information verified source and how being verified with verification date. The action column gives the opportunity to initiate an investigation as well as review previous events investigation.
- Once user click on Initiate prior investigation this button the “Information Prior to Investigation” page will appear as next.

1.5.1. Information Prior to Investigation:

The following information needs to be filled out from the begining of the event investigation.(preferebly on the first day)







Submit:

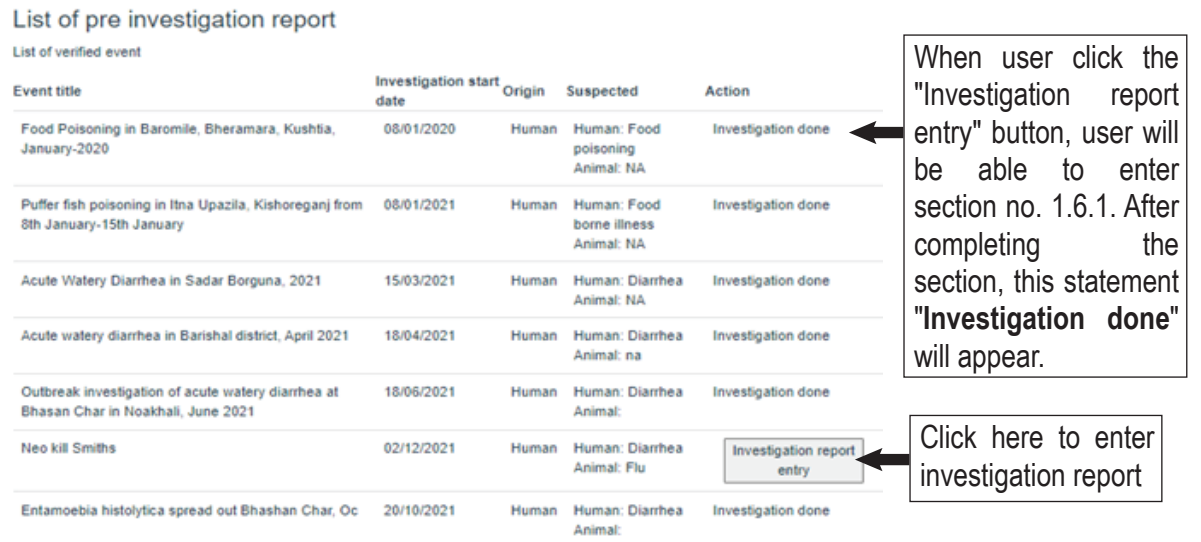
- Finally click on the Submit button to record the details into the system.

Status:

- After completion of all information "Event Based Surveillance" prior investigation will be recorded successfully and user will receive Recorded successfully notification.

1.6. List of Pre Investigation Report:

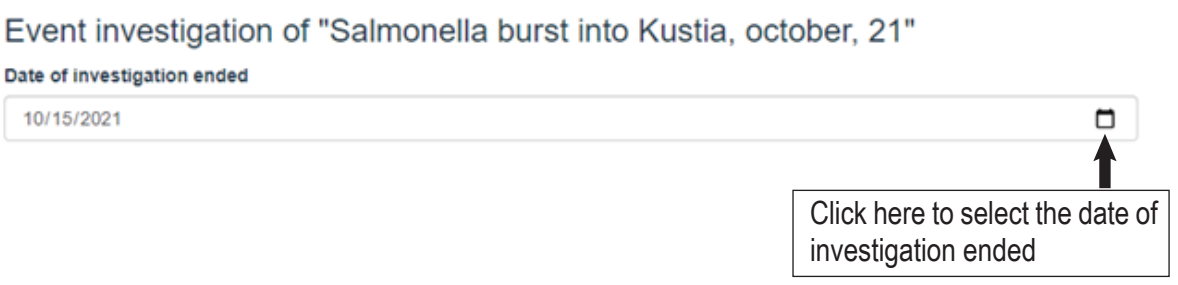
This interface will appear once the event-based surveillance/outbreak has been captured. The list of verified events, investigation start date, origin, and suspected areas will be found in this section. To begin creating a post-investigation report, click the initiate investigation option to go the next page.



- Once user click the Investigation report entry button the “Investigation report entry” page will appear as next.

1.6.1. Post Investigation Report:

In this part, the user must enter the conclusion of the investigation for both human and animals. Users will also need to fill out the Intervention dialog box with short-term and long-term measures taken. The investigation's outcomes, recommendations, and limitations must all be written in the dedicated dialog box.



Index case

Human

confirmed disease / provisional diagnosis

Cholera

Write the confirmed disease/provisional diagnosis here

Hint NA = not infected or related
UN = under investigation
UKN = unkonwn

Number of confirmed cases

5

Write the number of confirmed cases here

Number of lab confirmed cases

1

Write the number of lab confirmed cases here

Number of mortality

0

Write the number of mortality here

Source of infection

Canal water

Write the source of infection here

Hint NA = not infected or related
UN = under investigation
UNK = unkonwn

Animal

Type

Write the type of animal here; e.g. Cow, Goat, Chicken, Duck etc.

Hint cow, goat, chiken, duck ...

confirmed disease / provisional diagnosis

Write the confirmed disease/provisional diagnosis here

Hint NA = not infected or related
UN = under investigation
UKN = unkonwn

Number of confirmed cases

0

Write the number of confirmed cases here

Number of lab confirmed cases

0

Write the number of lab confirmed cases here

Number of mortality

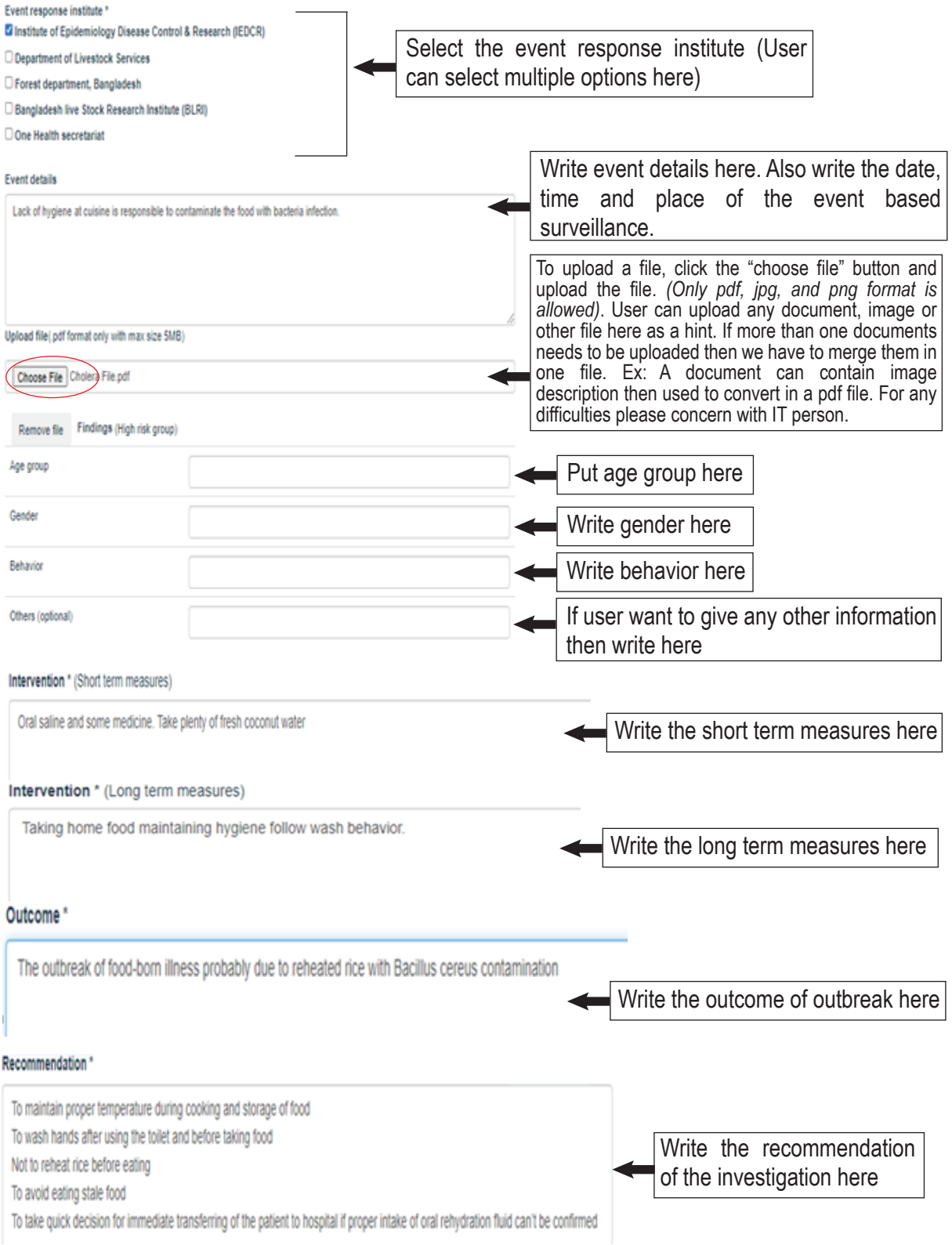
0

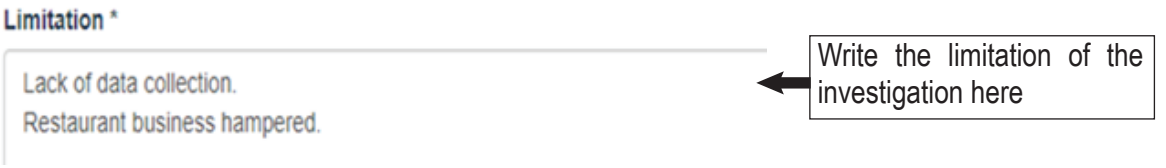
Write the number of mortality here

Source of infection *

Write the source of infection here

Hint NA = not infected or related
UN = under investigation
UKN = unkonwn


Event response institute *
Institute of Epidemiology Disease Control & Research (IEDCR)
Department of Livestock Services
Forest department, Bangladesh
Bangladesh live Stock Research Institute (BLRI)
One Health secretariat
Select the event response institute (User can select multiple options here)
Event details
Lack of hygiene at cuisine is responsible to contaminate the food with bacteria infection.
Write event details here. Also write the date, time and place of the event based surveillance.
Upload file(pdf format only with max size 5MB)
Choose File
File.pdf
To upload a file, click the "choose file" button and upload the file. (Only pdf, jpg, and png format is allowed). User can upload any document, image or other file here as a hint. If more than one documents needs to be uploaded then we have to merge them in one file. Ex: A document can contain image description then used to convert in a pdf file. For any difficulties please concern with IT person.
Remove file
Findings (High risk group)
Age group
Put age group here
Gender
Write gender here
Behavior
Write behavior here
Others (optional)
If user want to give any other information then write here
Intervention * (Short term measures)
Oral saline and some medicine. Take plenty of fresh coconut water
Write the short term measures here
Intervention * (Long term measures)
Taking home food maintaining hygiene follow wash behavior.
Write the long term measures here
Outcome *
The outbreak of food-born illness probably due to reheated rice with Bacillus cereus contamination
Write the outcome of outbreak here
Recommendation *
To maintain proper temperature during cooking and storage of food
To wash hands after using the toilet and before taking food
Not to reheat rice before eating
To avoid eating stale food
To take quick decision for immediate transferring of the patient to hospital if proper intake of oral rehydration fluid can't be confirmed
Write the recommendation of the investigation here



Submit:

Finally click on the Submit button to record details into the system

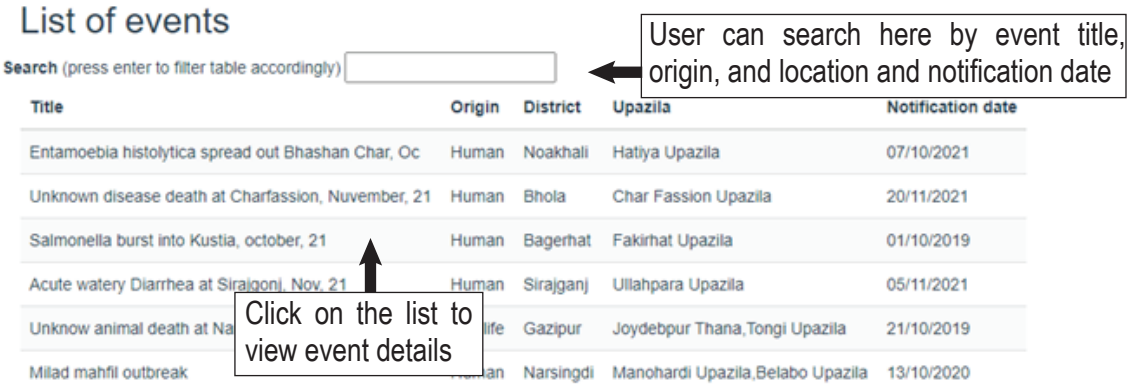
Status:

- After completion of all information "Event Based Surveillance" post investigation report will be recorded successfully and user will receive Recorded successfully notification.

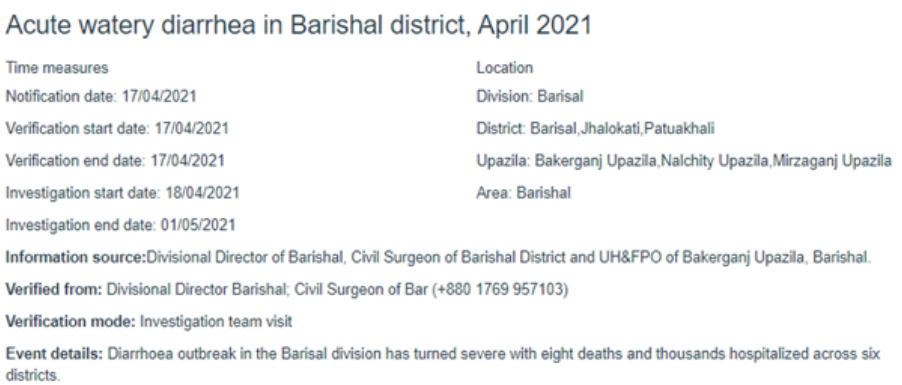
After completion above all section user can either review the data or "Logout" from the Dashboard

1.7. Internal Dashboard:

Super Admin can view a short description of event-based surveillance/outbreak, such as event title, origin, location of the event-based surveillance/outbreak occurred & notification date.

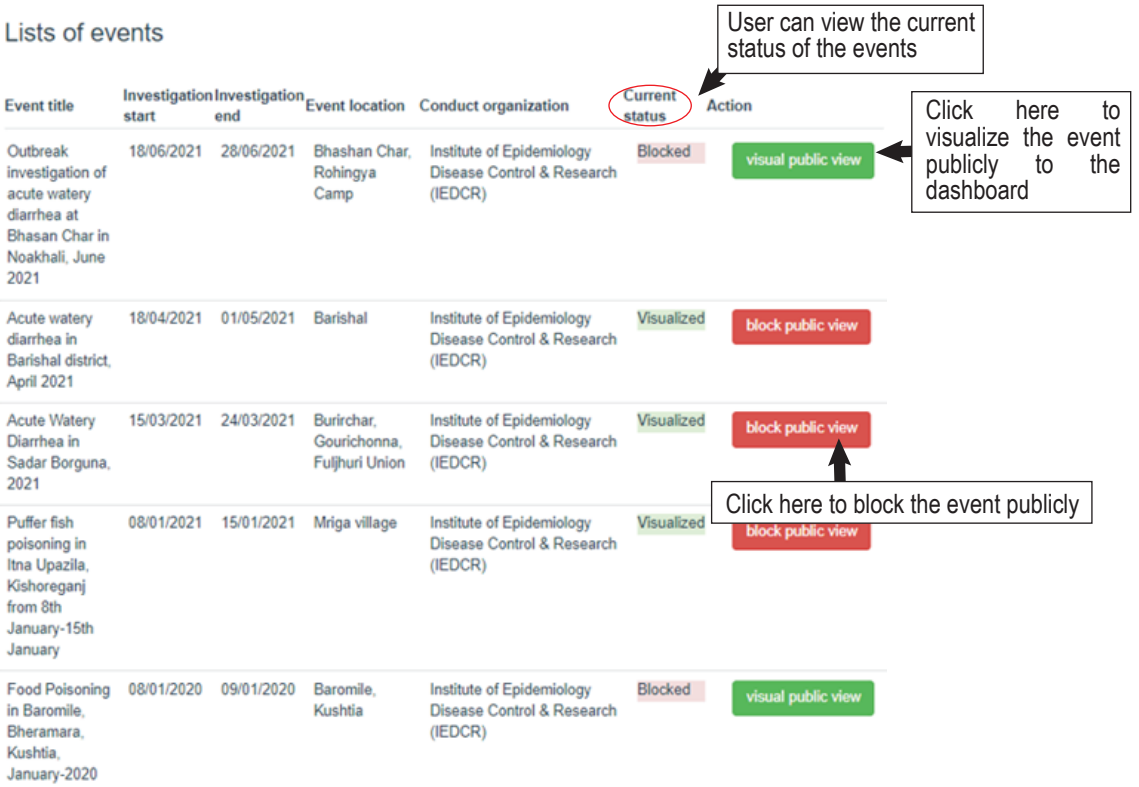


In this **section**, super admin can view the event-based surveillance/outbreak details by clicking any row of the list.



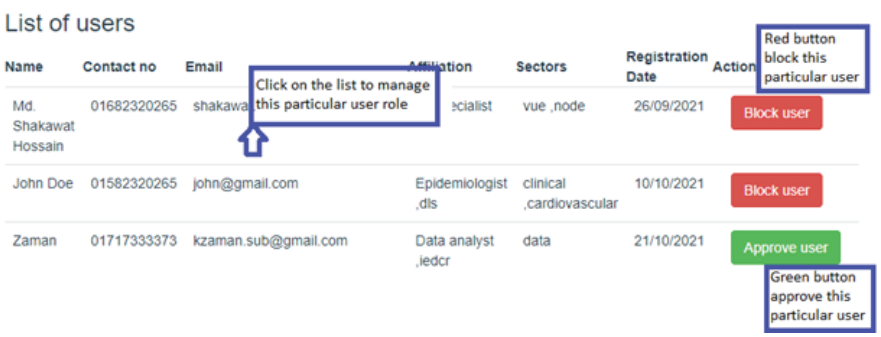
1.8. Visual Permission:

Super Admin can view a short description of event-based surveillance/outbreak, such as event title, investigation start and end date, location of the event-based surveillance/outbreak occurred, conduct organization. In this **visual permission** option, super admin gives permission to visualize (public facing or not) the event, either they will be **blocked publicly** or **visual publicly**. Super Admin can view the event-based surveillance/outbreak data by clicking any row of the list given below. Only the super admin can provide permission for visual access user role management to the admin/user.



1.9. User Management:

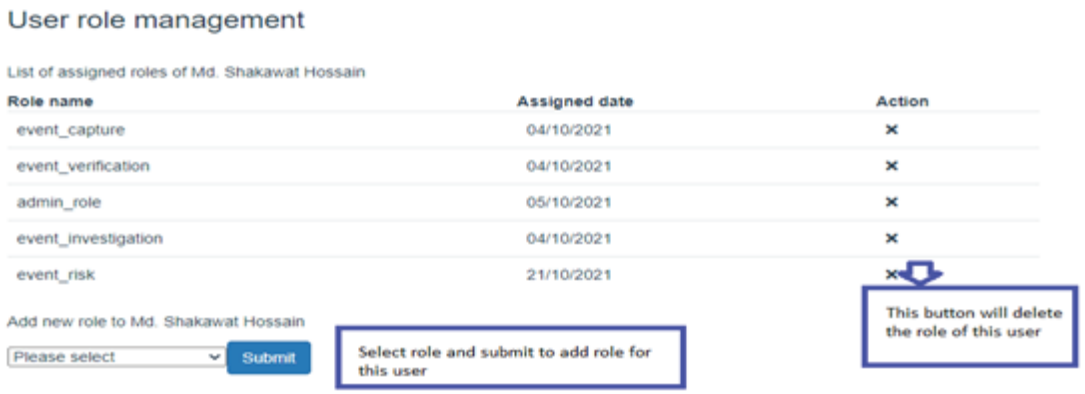
After a user has completed the registration procedure, his/her basic information is displayed in this user list as below. **Any user in this section can be blocked or approved by the super admin**. Super-Admin can also manage specific user roles by selecting them from the list. In the manual the user is the same person named as “admin”.



- On the list of user screen, the sectoral super admin can:
  - Block User: Red Block user button use to block the particular user.
  - Approve User: Green button Approve user use to approve the particular user.

1.9.1. User Role Management:

The admin name and the admin-assigned role name are displayed first in this section. Super admin can choose any user/admin role from a drop-down menu. After that, the user will be able to see the role's allocated date. The action is in the table's last column. Super admin can also remove or add any user/admin allocation roles (action) from this page.

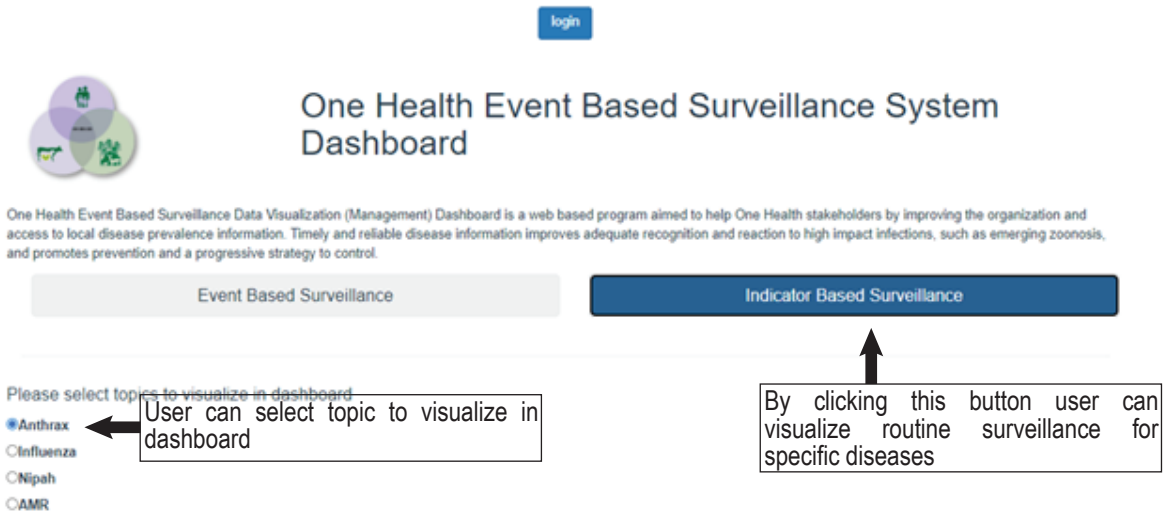


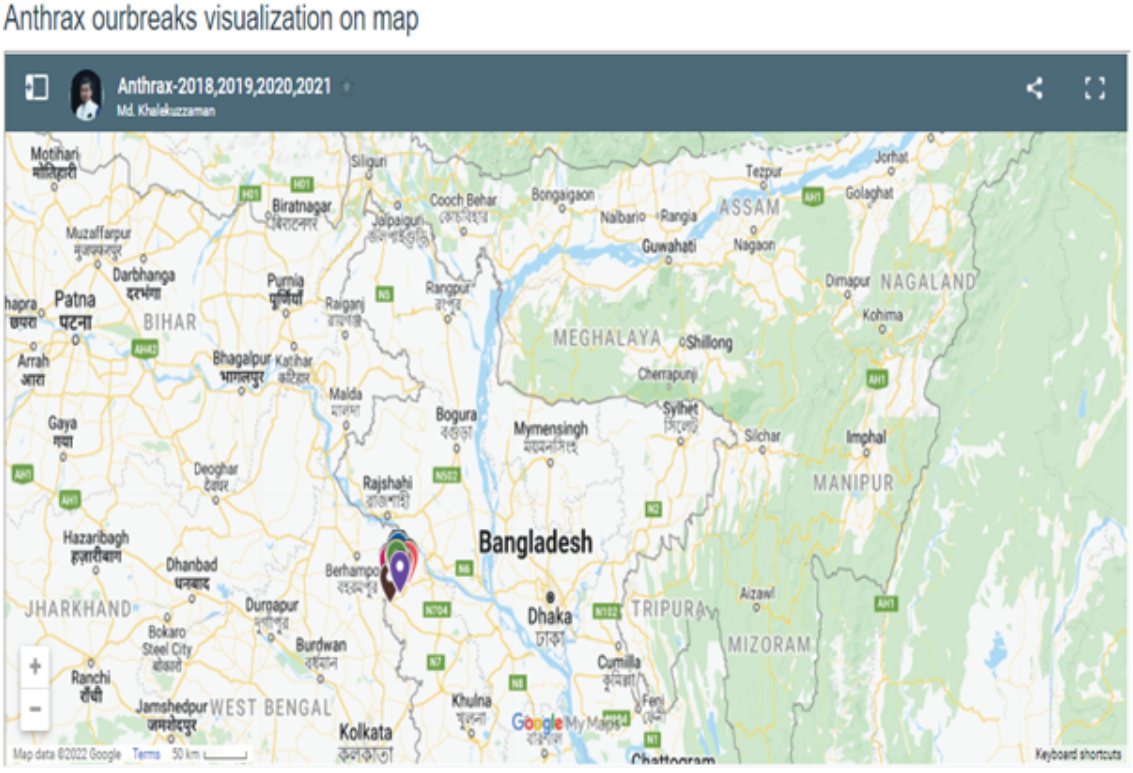
- Click on Submit to add role for the user.

2. Section-II: Indicator-Based Surveillance (IBS)

Indicator-based surveillance involves reports of routine surveillance for specific diseases from health care providers to public/animal health officials. Such information may be described as structured information because the information obtained is standardized. When user click on this 

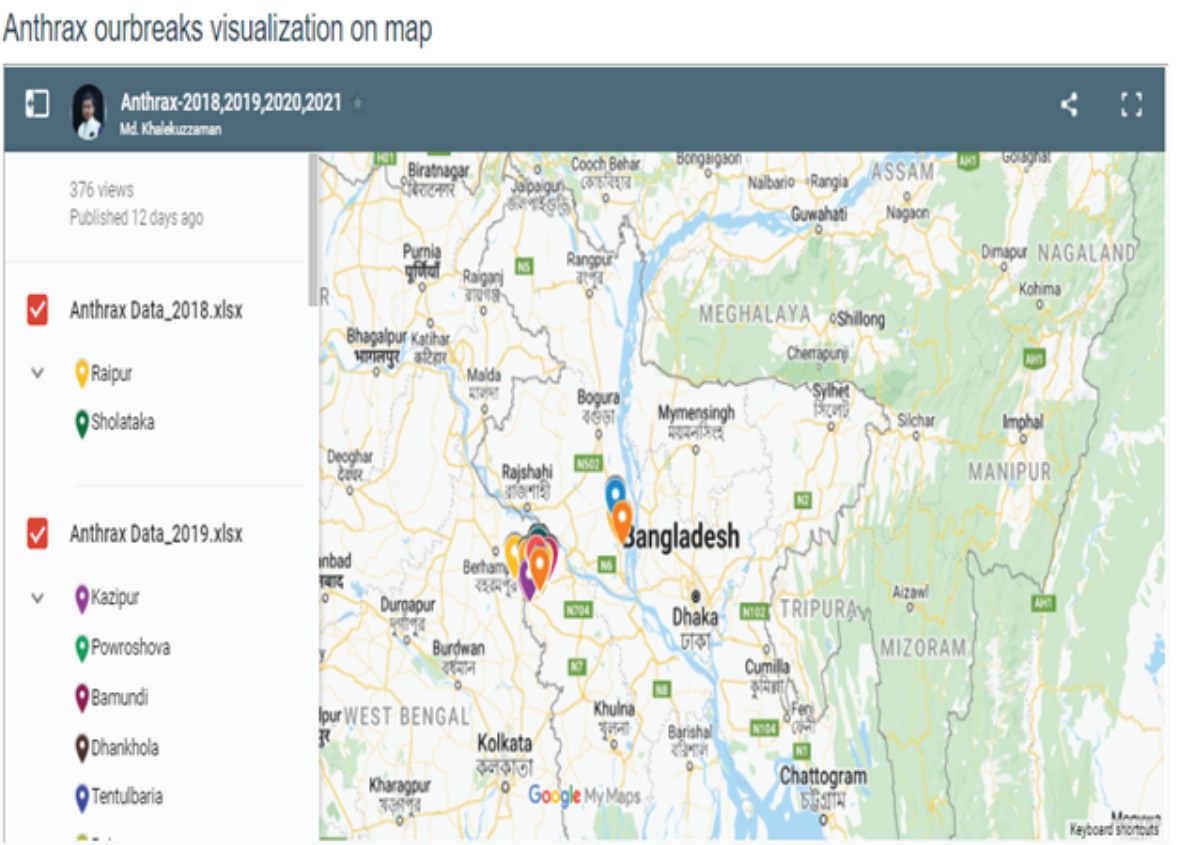
button the page will appear as next.





2.1. Anthrax:

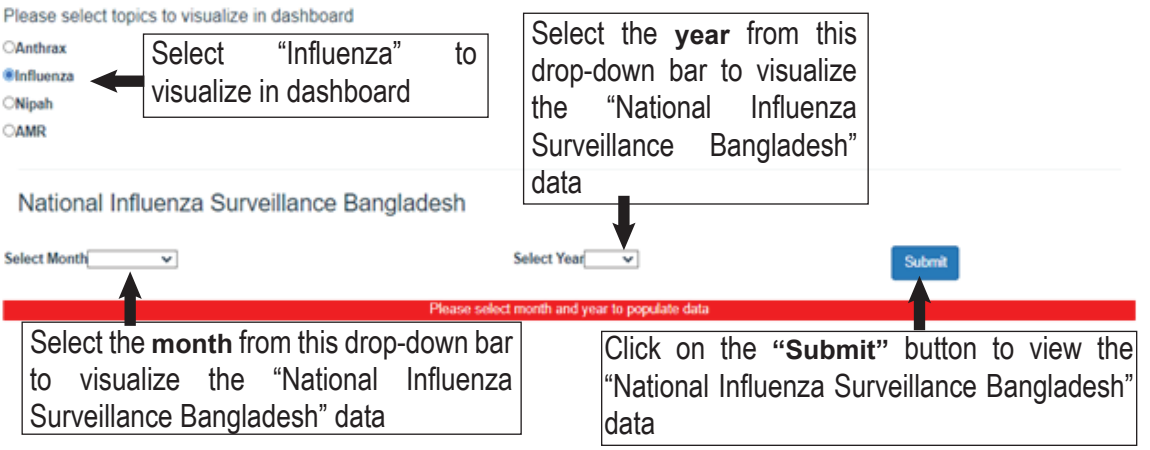
When user click on the Anthrax radio button the next google map will appear:



- When user click on a location marker on the map the data of the location will displayed on the left side.

2.2. Influenza

Here, user can view the "National Influenza Surveillance" data of Bangladesh through filtering by month and year.



Sari case distribution

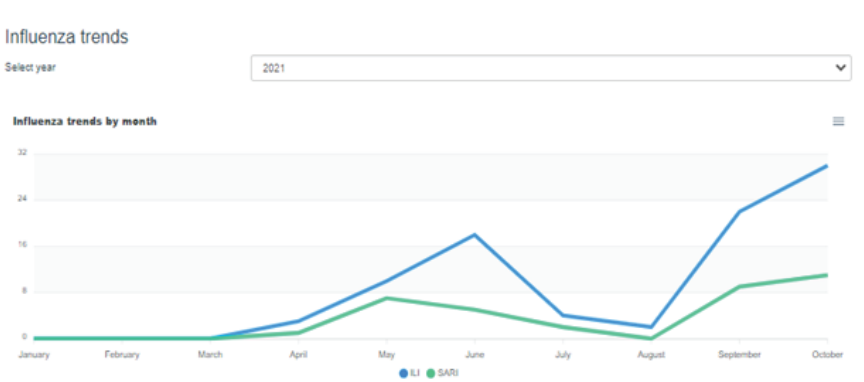
District	AH1	AH3	AH1pdm09	AH5	AH3v	AH7	H1pdm09+H3	B/Vic	B/Yama
Thakurgaon (TDH)	0	0	0	0	0	0	0	0	0
Naogaon (NDH)	0	0	1	0	0	0	0	0	0
Satkhira (SDH)	0	0	3	0	0	0	0	0	0
Narshingdi (NDH)	0	0	2	0	0	0	0	0	0
Habiganj (HDH)	0	0	0	0	0	0	0	0	0
Coxs Bazar (CDH)	0	0	1	0	0	0	0	0	0
Joypurhat (JDH)	0	0	0	0	0	0	0	0	0
DMCH (DMC)	0	0	0	0	0	0	0	0	0
Patuakhali (PDH)	0	0	2	0	0	0	0	0	0
Gazipur (GMCH)	0	0	0	0	0	0	0	0	0

ILI case distribution

District	AH1	AH3	AH1pdm09	AH5	AH3v	AH7	H1pdm09+H3	B/Vic	B/Yama
Thakurgaon (TDH)	0	1	1	0	0	0	0	0	0
Naogaon (NDH)	0	1	2	0	0	0	0	0	0
Satkhira (SDH)	0	0	2	0	0	0	0	0	0
Narshingdi (NDH)	0	0	8	0	0	0	0	0	0
Habiganj (HDH)	0	0	0	0	0	0	0	0	0
Coxs Bazar (CDH)	0	0	1	0	0	0	0	0	0
Joypurhat (JDH)	0	0	0	0	0	0	0	0	0
DMCH (DMC)	0	0	0	0	0	0	0	0	0
Patuakhali (PDH)	0	0	4	0	0	0	0	0	0
Gazipur (GMCH)	0	0	0	0	0	0	0	2	0

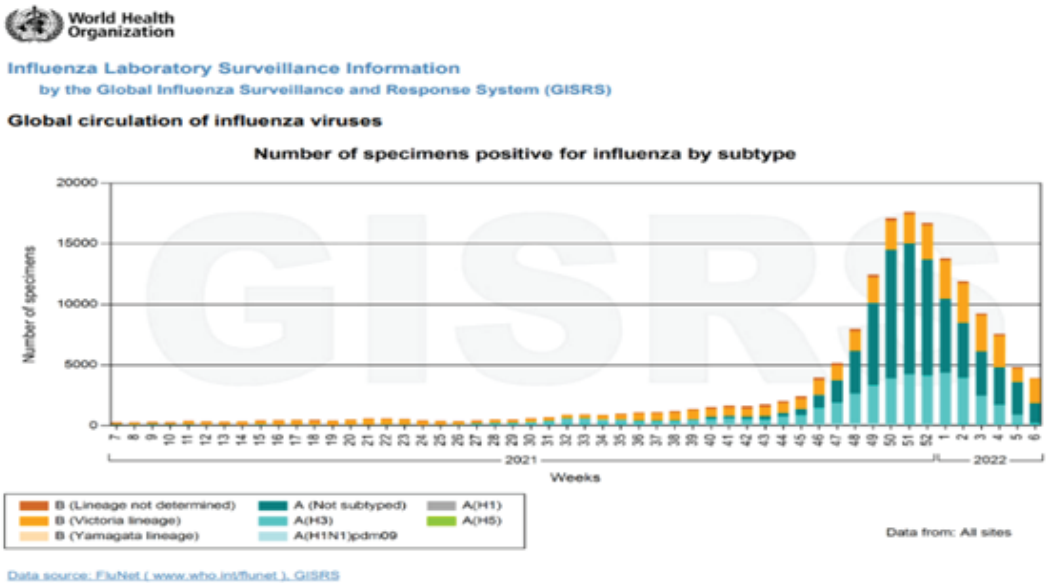
- After selecting the year and month from the drop-down bar and click on the “Submit” button, user will view the data of ILI (Influenza-Like Illness) and SARI (Severe Acute Respiratory Infections) according to the district.

Influenza Data Trend



Select the year from this drop-down bar to view the distribution of outbreak

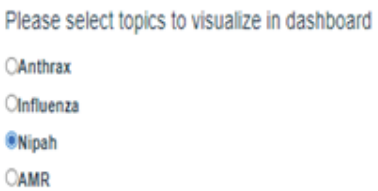
- This line chart shows the yearly trend of influenza in Bangladesh where **ILI & SARI** cases are visualized in two different color line graph. **X axis** contains month over that particular year selected in the above filtered.

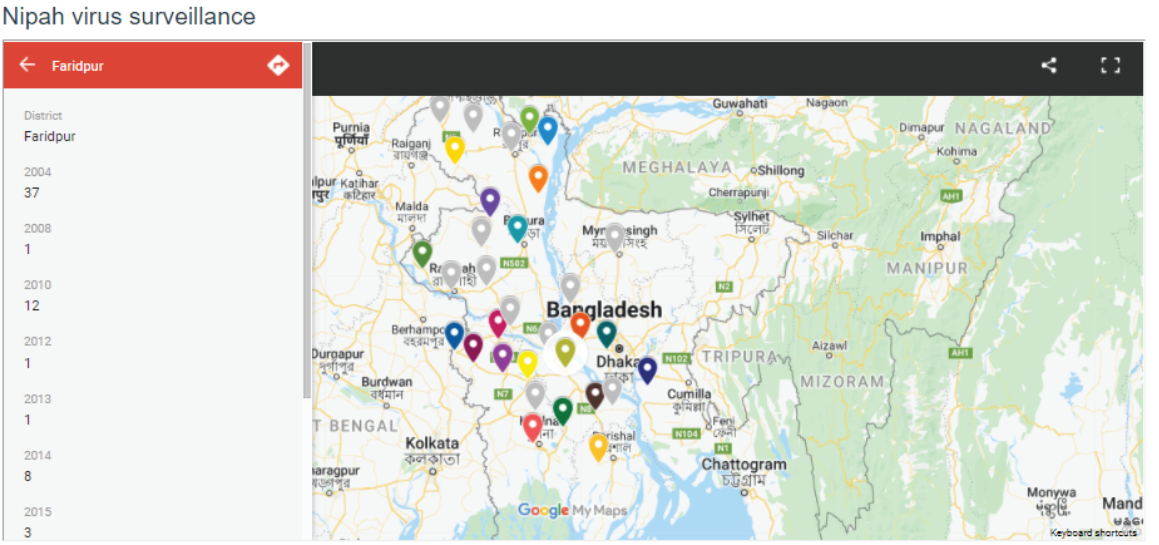


- National Influenza Centres (NICs) and other national influenza laboratories from 113 countries, areas or territories reported data to FluNet for the time period from 24 January 2022 to 06 February 2022* (data as of 2022-02-18 08:03:33 UTC). The WHO GISRS laboratories tested more than 490 516 specimens during that time period. A total of 12 368 were positive for influenza viruses, of which 8 423 (68.1%) were typed as influenza A and 3 945 (31.9%) as influenza B. Of the sub-typed influenza A viruses, 171 (6.4%) were influenza A(H1N1)pdm09 and 2 483 (93.6%) were influenza A(H3N2). Of the characterized B viruses, 4 (0.1%) belonged to the B-Yamagata lineage and 3 713 (99.9%) to the B-Victoria lineage. [Source: Laboratory confirmed data from the Global Influenza Surveillance and Response System (GISRS)

2.3. Nipah Virus

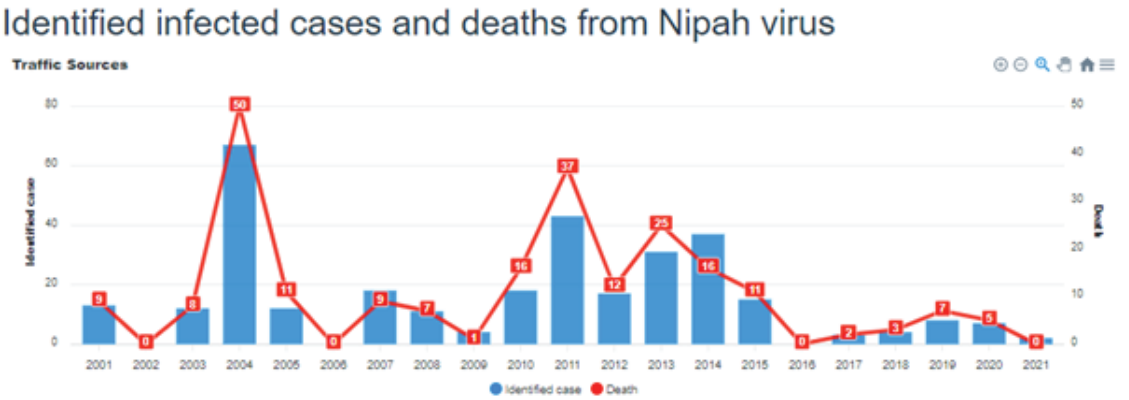
When user click on the Nipah radio button the bellow map will appear:





- When user click on a location marker on the map the data of the location will displayed on the left side.

Click on the Nipah event and the following panel will appear:



This event chart provides Nipah Virus information in graphical form. Any modifications on the map will update the charts accordingly.

Identified case: Identified cases chart is displayed as a bar graph (as above). The x-axis of the graph expresses the time scale and the y-axis represents the number of identified cases. Scrolling over the bars in the graph will provide a small summary box with identifies specific case details.

Deaths: Deaths chart is displayed as a line chart. The chart is labelled with the number of deaths in each year. Scrolling over the chart will provide a small summary box which identifies death details.

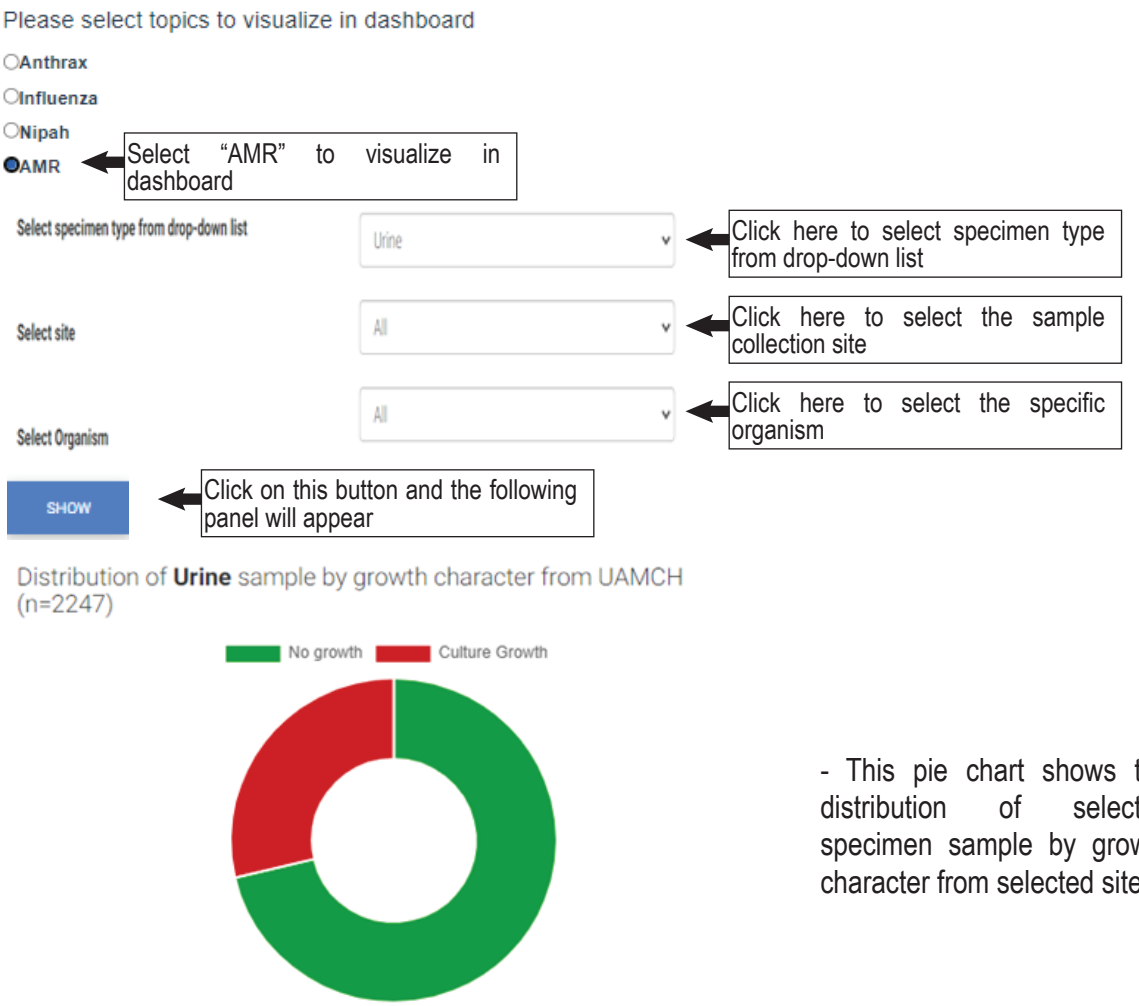
The legend to the below of the chart defines the color coding.

The “zoom/selection” panel on the left of the screen allows you to zoom in/out, and to select your area of interest.
The “layers” panel on the right hand side of the map gives a range of aspects that can be visualized even simultaneously.

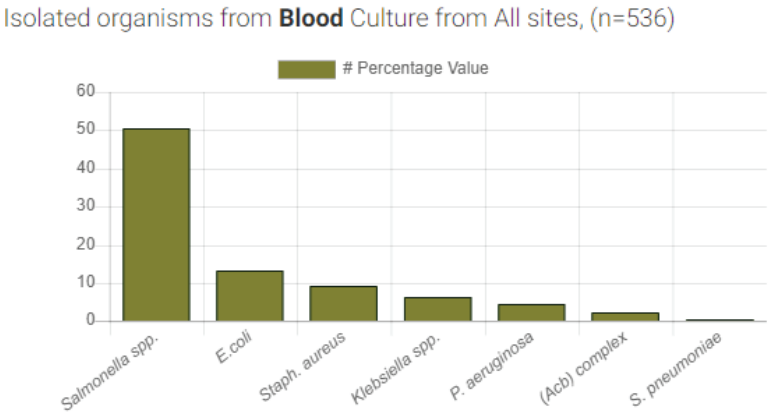
From the top right hand corner, you can choose whether or not the “zoom/selection” and “layers” panels are displayed using the and buttons respectively.

2.4. AMR

Here, user can view the “Antimicrobial Resistance (AMR) Surveillance” data of Bangladesh through filtering by ‘specimen type’, ‘site’ and ‘organism’.

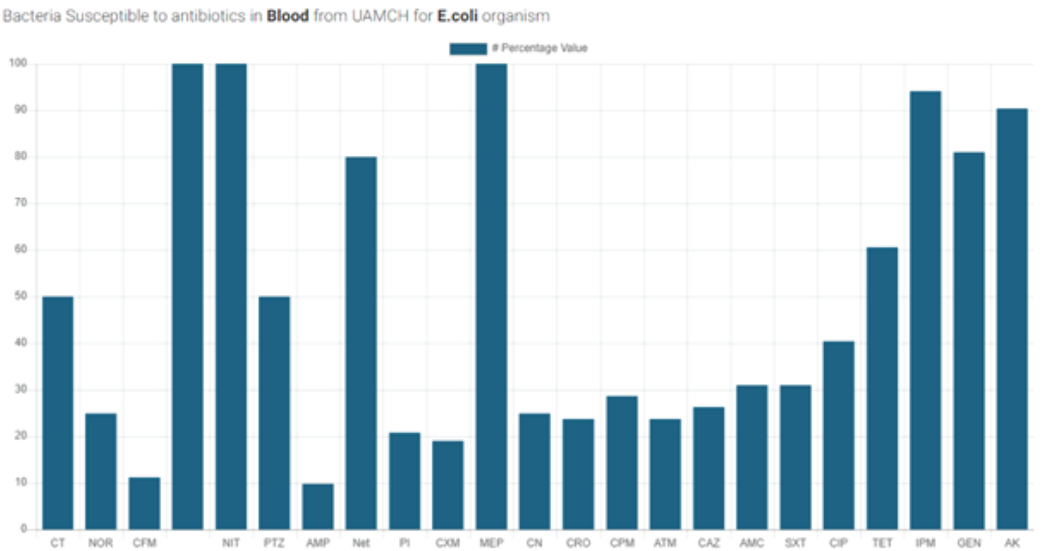


- This pie chart shows the distribution of selected specimen sample by growth character from selected site.



- This bar diagram shows the percentage value of isolated organisms from selected specimen culture from selected site.

ACB* = Acinetobacter calcoaceticus-Acinetobacter baumannii



- This diagram shows the percentage value of bacteria susceptible to antibiotics in selected specimen from selected site for selected organism.

vi. Conclusion

The OHEBSDD system is created in response to the growing need for one health (public health, animal health and wildlife) information worldwide gathering through sharing and is designed to support health services by facilitating local disease prevalence and incidence information. It also provides access to publications, manuals and other resources related to one health.

The OHEBSDD system is under continuous development and many new features are being developed including an event surveillance data module. In this book the OHEBSDD (IBS and EBS) database has been used over the past five years covering diseases such as Influenza virus infection, Nipah virus infection, Outbreak, Anthrax and AMR. The system has been made useful in facing the big challenge of the emergence of new diseases. This management dashboard will contribute in preparedness and development of multisectoral EIDs prevention and control plan.

Annex 1

List of Experts Group, Operational Manual Development

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Annex 2

Guidelines, SOPs & Operational Manual Development Collaborative Technical Working Group

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