



सत्यमेव जयते

Ministry of Health and Family Welfare  
Government of India



**User Manual for Mobile Application of the Sentinel Surveillance**

on

**Air Pollution related Illnesses**

under

**The National Programme on Climate Change and Human Health**

in

**NOADS Mobile App  
Operational Guidelines**



**National Programme  
on Climate Change  
and Human Health**



राष्ट्रीय स्वास्थ्य मिशन



**National Centre  
for Disease Control**  
Government of India

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## 1. Importance of Web Based Surveillance System on Air Pollution Related Illnesses

Air pollution is considered as an important public health concern in the country. People exposed to air pollution may seek increasingly the healthcare services, emergency visits, medications and equipments usages, hospital admissions. 'Air pollution and its Health Impacts' is considered an important climate sensitive disease under National Programme on Climate Change and Human Health (NPCCHH). The programme envisages establishing a sensitive and flexible surveillance system to monitor impacts of air pollution on health in the country. Subsequently, the programme has initiated acute respiratory illness (ARI) Sentinel Surveillance in the context of Air pollution in 2017 from selected sentinel hospitals in Delhi and at present, the surveillance is expanding to establish in other State/UTs in the country. This will in turn help the authorities to take data driven approach to mitigate the adverse impacts of air pollution.

Traditional passive surveillance systems typically rely on data submitted to the relevant public health authority by various healthcare providers. This process is often expensive and substantial delays between an event and notifications are common, resulting in an incomplete account of disease epidemiology. Such limitations of traditional surveillance systems are a shared concern worldwide. The Internet has revolutionized efficient health-related communication and epidemic intelligence. This system captures real time data from different sources with epidemiologic relevance, which play critical role in identification of early events and situational preparedness by offering current, highly local information about any disease. These systems not only monitor and predict disease transmission but also provide a user interface, and aid in visualization for an easier understanding and manoeuvring of the operation.

## 2. ABOUT NOADS

National outdoor air quality and disease surveillance (NOADS) platform is the web enabled surveillance system for air quality and its health impact. It is developed and maintained by the National program for climate change and human health under National centre for disease control, Ministry of Health and Family Welfare, Government of India. NOADS will be used by health representatives at different planes across the country to register patient with different disease condition like acute respiratory infection, cardiovascular illnesses, cerebrovascular illnesses etc. relevant to air quality. This will also allow users to report information on various types of tests done, record treatment details outcome of the treatment and current air quality indicators of that specific location. The major function of NOADS is to serve as national surveillance system on air quality and health.

## 3. GOAL OF THE DOCUMENT

This document proposes use of web based standard surveillance protocol throughout the country will enable health professionals to understand how the epidemiological transmission of this problem is going on.

#### 4. OBJECTIVES OF THIS MANUAL

The overarching goal of web-based surveillance is to minimize the impact of the air pollution by providing useful information to public health authorities so they may better plan appropriate control and intervention measures, allocate health resources, and make case management recommendations.

The purpose of this document is to facilitate the end users, i.e., the hospital nodal officers, clinicians, health care staff involved in the NOADS surveillance to seamlessly use the application for transferring the surveillance data to the next level. As stated above,

This manual contains the following details

- Hardware and software requirements
- Steps to download the app
- Manual on the collection of data
- Manual on synchronising the data

#### 5. ROLE OF DIFFERENT STAKEHOLDERS AT VARIOUS LEVEL OF IMPLEMENTATION

This application should be used by, Hospital Nodal officer (HNO), Emergency room in-charges, Duty doctors, Emergency room staff or anyone trained in the reporting of the NOADS to report patient data with different disease conditions relevant to air quality, information on various types of tests done, record treatment details and outcome of the treatment given.

## 6. INSTALLATION OF THE MOBILE APP- NOADS?

### 6.1 HARDWARE AND SOFTWARE REQUIREMENTS OF THE DEVICE

- Hardware-
  - **Smart phones** with Android operating system (OS)/ IOS can run the application.
- Software-
  - The minimum Android version should be 4.0.3 and above to avail all the features in the application.
  - Minimum IOS version (later)
- Internet Connectivity to download the NOADS mobile app in the smart phone

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### 6.2. STEPS TO DOWNLOAD THE APP IN THE SMART PHONE

**Step-1:** Open the app from the two options as shown below

- The link provided by the programme officials
- The Google Play/Apple store
  - Search NOADS on Google Play in Android mobile or Apple Store for IOS
  - Select Application (NOADS)

**Step-2:** Install & Open the mobile App.

**Step-3:** Login with provided credentials (Username and Password) by the programme officials

**Step-4:** Use the latest version of the mobile app

## 7. PROCEDURE TO USE THIS MOBILE APP

This section describes about the sequential step-by-step process (10 steps) for users in the mobile application to register the cases reported in the Emergency Department (presently) of the surveillance sentinel hospital. This will help to understand and use the same application.

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FLOW OF INFORMATION IN THE MOBILE APP- NOADS – 10 STEPS

### 11 STEPS OF USING THE MOBILE APP

**1. Home Page**

**2. Login Page**

**3. Main Menu**

**4. Add Patient Details**

**5. Patient List**

**6. Daily Cases**

**7. City Air Quality**

**8. Dashboard**

**9. Synchronise**

**10. Help**

**11. Logout**

After installing the Mobile App, the home screen of the app. will appear as shown below. This is the Splash Screen which shows two features-

- the NPCCHH logo (in Hindi)
- Name of the Mobile Application – NOADS
- NPCCHH

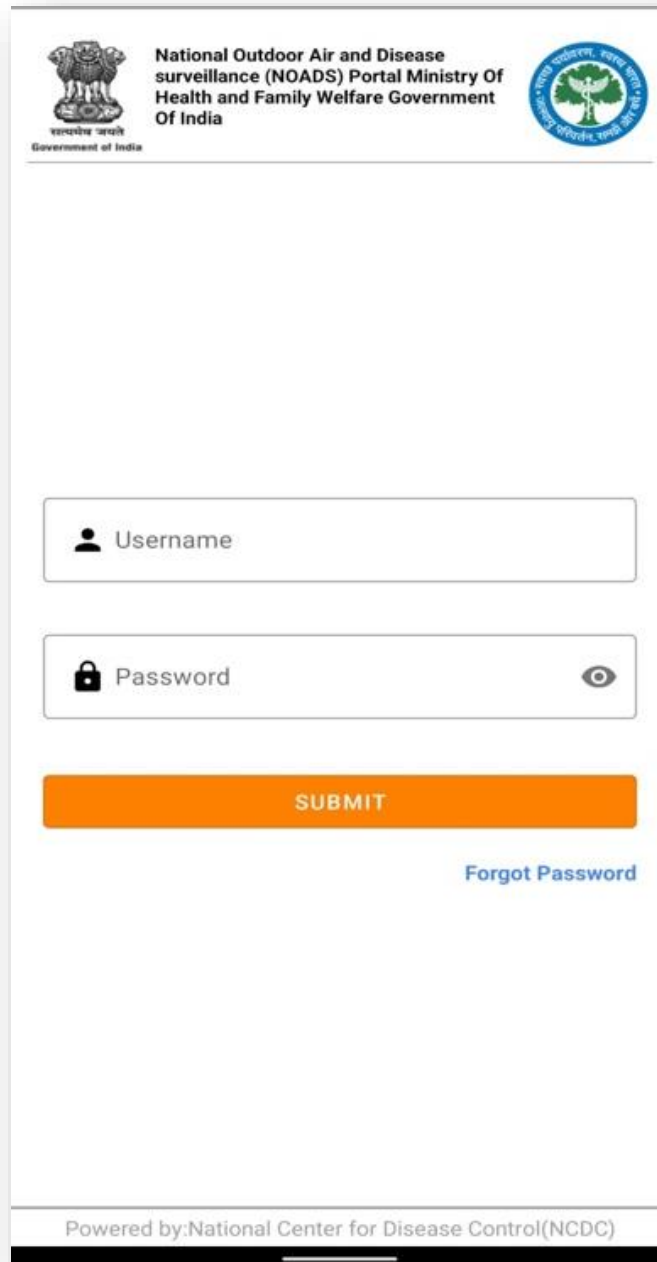


## 7.2 STEP 2 – PROCEDURE TO LOGIN THE APP

Sentinel hospitals with ongoing surveillance on air pollution related illnesses will be provided with unique username and login password credentials for each of the hospital by the NPCCHH programme officials.

- Access the application by entering the unique Username and Password (case- sensitive)
- Next, click on **Submit** button to access the application.

➤ Note- If password is forgotten, click 'Forgot Password' link. The password will be sent to the registered email id of the respective hospital.

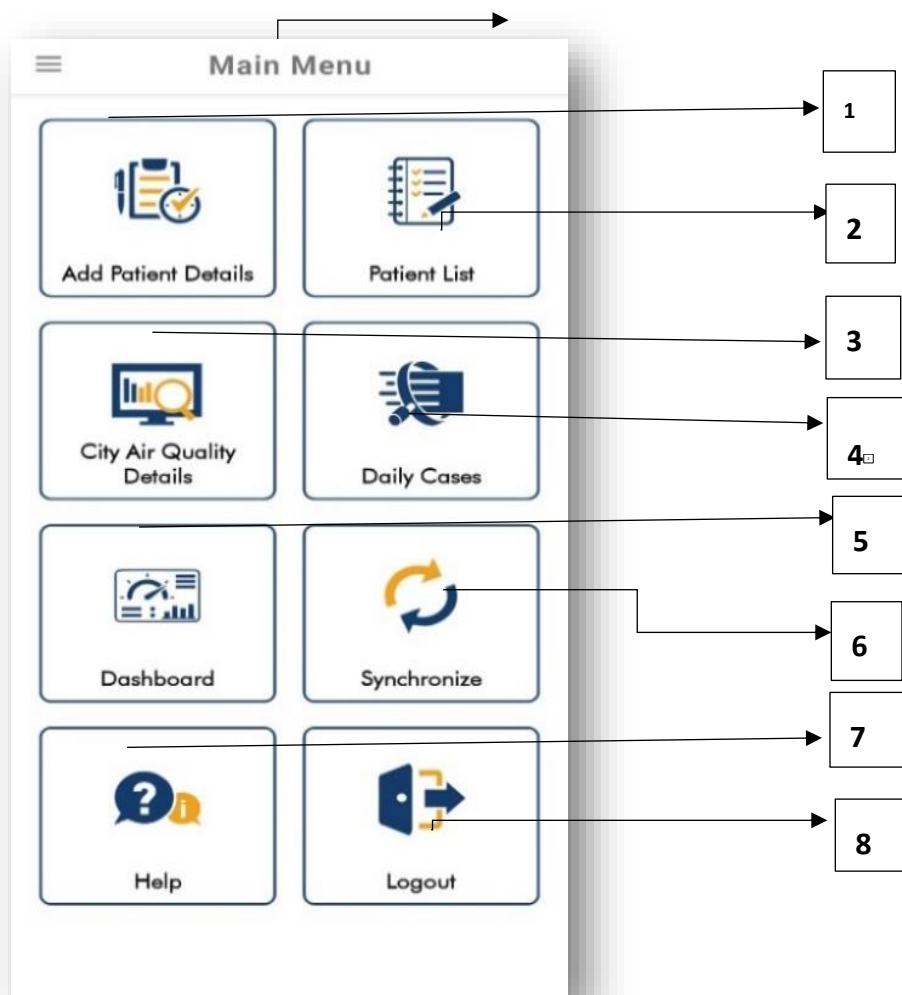


The screenshot displays the login interface for the National Outdoor Air and Disease Surveillance (NOADS) Portal. At the top, the Government of India emblem is on the left, and the text 'National Outdoor Air and Disease surveillance (NOADS) Portal Ministry Of Health and Family Welfare Government Of India' is centered. To the right is the NOADS logo. Below the header, there are two input fields: 'Username' with a person icon and 'Password' with a lock icon and a toggle eye icon. An orange 'SUBMIT' button is positioned below the password field. A blue link labeled 'Forgot Password' is located at the bottom right of the form area. At the very bottom, a footer states 'Powered by: National Center for Disease Control (NCDC)'.

### 7.3 STEP 3- FEATURES IN THE MAIN MENU DISPLAY OF THE APP

After successful login, the Main Menu page of the app will be displayed with 8 sub-menus as shown below. On clicking any of the sub- menus, you will be navigated to the specific page.

1. **Add Patient Details:** This interface is to collect information about patient but its detailed process is explained in section 7.4
2. **Patient List:** This interface displays the list of patients but it is explained in section 3.5
3. **City Air Quality Details:** This activity displays information about city air quality and it is explained in section 6
4. **Daily Cases:** Count of total emergency cases in different departments are displaying on this screen, explained in section 3.7
5. **Dashboard:** This interface displays the dashboard of cases, explained in section 8
6. **Synchronise:** This key is used to upload data to server, explained in section 9
7. **Help:** This is help screen, present in section 10
8. **Logout:** This is logout screen, present in section 11



In this step, it is to click the 'add patient details' in the main menu and it will display next the 'Add Patient' page showing parameters about patients to record. The details are shown as below in the screenshot.

Here, eight patient information - first name, age, gender, state, district, sub district, resident status, emergency type are mandatory fields (marked as Red Asterisks) to be filled to move to the next page. These are shown in the screenshot (Right)

- **Name:** The first name (essential), middle name and last name of the patient are to be entered.
- **Age:** If age of patient
  - <1 year, User to click 'Yes'
  - >1 Year, User to click 'No' and enter age up to 2 digits and only in completed years (numbers).
- **Gender:** User to select male, female and Transgender options
- **Mobile Number** – Contact number of the Patient or the attendant
- **Residence status of the patient in the city:**
  - Permanent: User to click 'Permanent' option
  - **Visitor:** User to click 'Visitor' and to choose an option from the dropdown list of 4 options provided

← Add Patient

**Patient First Name \***

**Patient Middle Name**

**Patient Last Name**

**Is age less than one year ? \***

Yes  No

**Gender \***

Select Gender ▾

**Mobile Number**

**Permanent Resident or Visitor in this City? \***

Permanent  Visitor

■ ● ◀

- **State of Residence:** User to select an option from the drop- down list of 36 options provided.
  - **District of Residence:** User to select an option from the drop- down list based on the state selected above
  - **Sub-district:** User to select an option from the drop- down list based on the district selected above
  - **Block:** User to select an option from the drop- down list based on the sub-district selected above, this option applies for the urban districts
  - **Village:** User to select an option from the drop- down list based on the sub-district selected above, this option applies for the rural districts
  - **Ward number:** For the urban blocks the ward number to be selected from the dropdown list
  - **House number:** User to enter the house number of the patient
  - **Pin code:** The pin code of residence to be entered
- **Emergency Type:** An option to select from the four emergency types as in the drop- down list i.e. General, Medicine, Respiratory and Paediatric.

Once required details in this page are entered, the user can move to the next page by clicking “Next” button.

←

## Add Patient

**State\***

Select State
▼

**District\***

Select District
▼

**Sub District\***

Select Sub District
▼

**Block / ULB**

Select Block
▼

**Village**

Select Village
▼

**Ward Number**

Select Ward Number
▼

**House Number**

**Pin Code**

**Emergency Type\***

Select Emergency Type
▼

Next

THIS PAGE SHOWS TWO SECTIONS – SYMPTOMS AND PROVISIONAL DIAGNOSIS OF THE CASES

In this page- 'Provisional Diagnostic Screen' is displayed as in the right side. This section is very important as it will give the type of air pollution related illnesses reported in the Emergency Department.

- **Select Symptom(s):** 16 symptoms (Right) suggestive for considering the provisional diagnosis on respiratory, cardiovascular and cerebrovascular diseases are displayed in this interface.
  - Users to select one or more presenting symptom (s) of the cases reported (multiple options allowed)
- **Provisional Diagnosis:** It has three levels- first level Diagnosis, second level Diagnosis, third level Diagnosis.
- First Level has 3 categories- Respiratory, Cardiovascular and Cerebrovascular (Multiple options can be selected)
- Second level narrows down to the illnesses on respiratory, cardiovascular and cerebrovascular. Up to three conditions from the drop- down list may be selected.
- Third level is the diagnosis of the cases provided by the attending doctor

← Provisional Diagnostic

**Select Symptom \***

Breathing issue       Chest Pain

Cough       Sore Throat

Fever       Morning Sneezing

Nasal Congestion       Fast Breathing

Wheezing       Palpitation

Chest Tightness       Headache

Giddiness       Limb Weakness

Facial Deviation       Seizures

**First provisional diagnosis**

**Level 1 \***


Choose Type of Diagnosis ▼

**Level 2**

Choose Type of Diagnosis ▼

**Level 3 \***

Choose Type of Diagnosis ▼



One such example of the three levels of diagnosis for the cases are illustrated as shown below-

EXAMPLE OF DROP DOWN FOR RESPIRATORY PROVISIONAL DIAGNOSIS

Level 1	Level 2	Level 3
Respiratory	Acute upper respiratory tract infection	Acute nasopharyngitis [common cold]
		Acute sinusitis
		Acute maxillary sinusitis
		Acute frontal sinusitis
		Acute ethmoidal sinusitis
		Acute sphenoidal sinusitis
		Acute pansinusitis
		Acute pharyngitis
		Acute tonsillitis
		Acute laryngitis and tracheitis
		Acute laryngitis
		Acute tracheitis
		Acute laryngotracheitis
		Acute obstructive laryngitis [croup] and epiglottitis
		Acute obstructive laryngitis [croup]
Acute epiglottitis		
Acute laryngo-pharyngitis		

EXAMPLE OF DROP DOWN FOR CARDIOVASCULAR PROVISIONAL DIAGNOSIS

Level 1	Level 2	Level 3
Cardiovascular	Acute rheumatic fever	Acute rheumatic endocarditis
		Acute rheumatic myocarditis
		Acute rheumatic pericarditis
		Rheumatic chorea
		Rheumatic fever with heart involvement
		Rheumatic fever without mention of heart involvement

EXAMPLE OF DROP DOWN FOR CEREBROVASCULAR PROVISIONAL DIAGNOSIS

Level 1	Level 2	Level 3
Cerebrovascular	Other non-traumatic intracranial haemorrhage	Intra cranial haemorrhage, unspecified
		Nontraumatic extradural haemorrhage
		Nontraumatic subdural haemorrhage
		Other nontraumatic intracranial haemorrhage

### 7.4.3 INTERVENTION DETAILS ON THE CASES REPORTED IN EMERGENCY DEPARTMENT

- This section consists of the following:

- Patient Hospital Admission
- Nebulisation given
- Ventilation required
  - Invasive
  - Non-invasive
- *Facility name, code and reporting date are prefilled (Not required to fill)*
- Date of hospital visit
- Reporting Officer

## ← Diagnostic Details

**Patient Admitted:**\*

Yes  No

**Nebulization Given**\*

Yes  No

**Invasive Ventilation**\*

Yes  No

**Non – Invasive Ventilation**\*

Yes  No

**Facility Code**

100001

**Facility Name**

GGH-GUNTUR

**Visit Date**

**Visit Date**

**Reporting Date**

2022-08-05

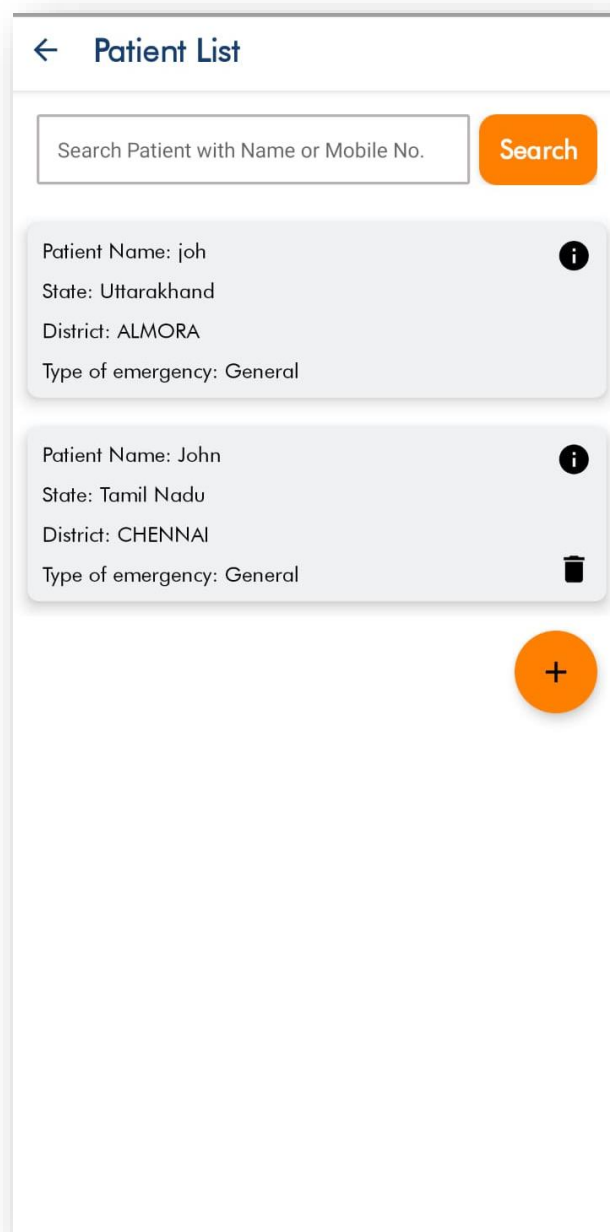
**Reporting Officer**\*

Select Reporting Officer ▾

**Submit**

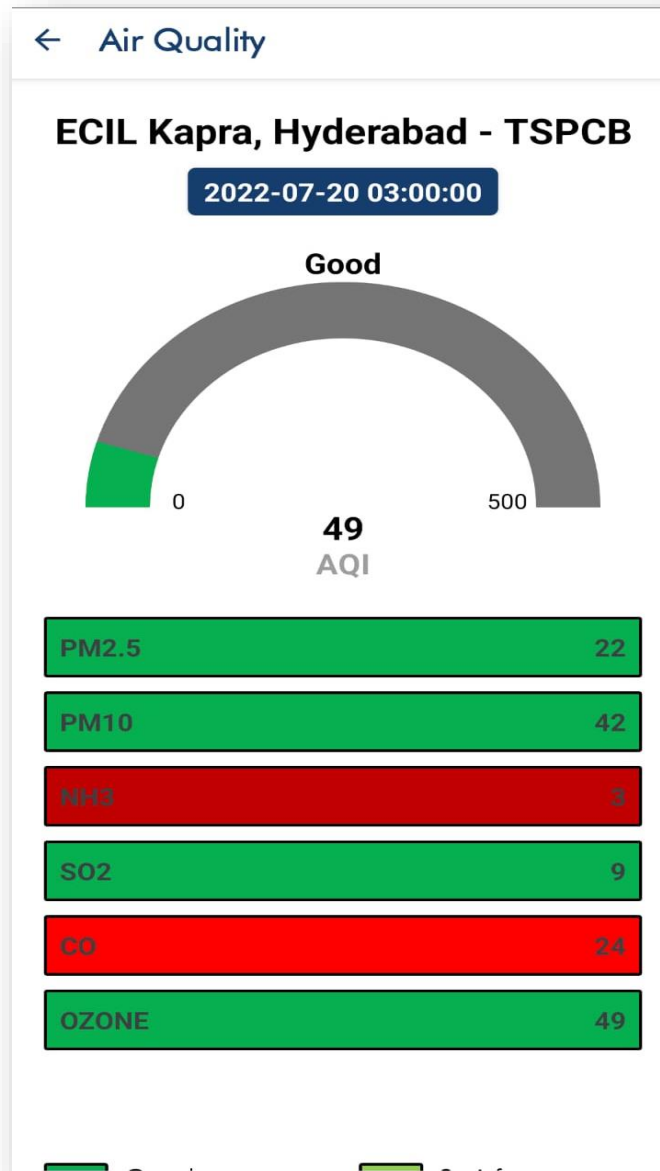
## 7.5 STEP 5- PATIENT LIST REPORTED IN THE HOSPITAL EMERGENCY DEPARTMENT

- This page allows the users to examine the patient details and can take actions of editing (adding or deleting) the already filled details of the patients.
- Editing option is allowed for 24 hours after registering of case details in the app.
- Particular entry can be searched using the patient's name or mobile number.



## 7.6 STEP 6- CITY AIR QUALITY DETAILS IN AQI AND AIR POLLUTANTS

This page gives an information about the air quality details of the city in which the hospital is located and this can also give an information of the air pollution level of the city to the users.



## 7.7 STEP 7- DAILY CASES (TOTAL) REPORTED TO HOSPITAL EMERGENCY DEPARTMENT

In this section, it shows the total number of hospital emergency cases reported from all the reporting departments. It has given the provisions of entering the numbers in four options where applicable- General Emergency, Medicine, Paediatrics, Respiratory Medicine. (It includes all the cases reported to the hospital emergency department- both air pollution related illnesses and others)

- A facility has to enter the total number of hospital emergency cases only once per day
- If the facility wants to edit it, they can re-enter the details and save the edited total number for the same day. However, the latest entry will be saved for the day in the app.

Daily Total Emergency Cases	
Reporting At: 21-07-2022 10:29:49	
General	1
Respiratory	0
Pediatric	0
Medicine	0
Total Case	1

Save

## 7.8 STEP 8- DASHBOARD SHOWING TOTAL NUMBER OF HOSPITAL EMERGENCY CASES

In this page, the dashboard in the mobile app is meant to show the total daily number of hospital emergency cases reported.

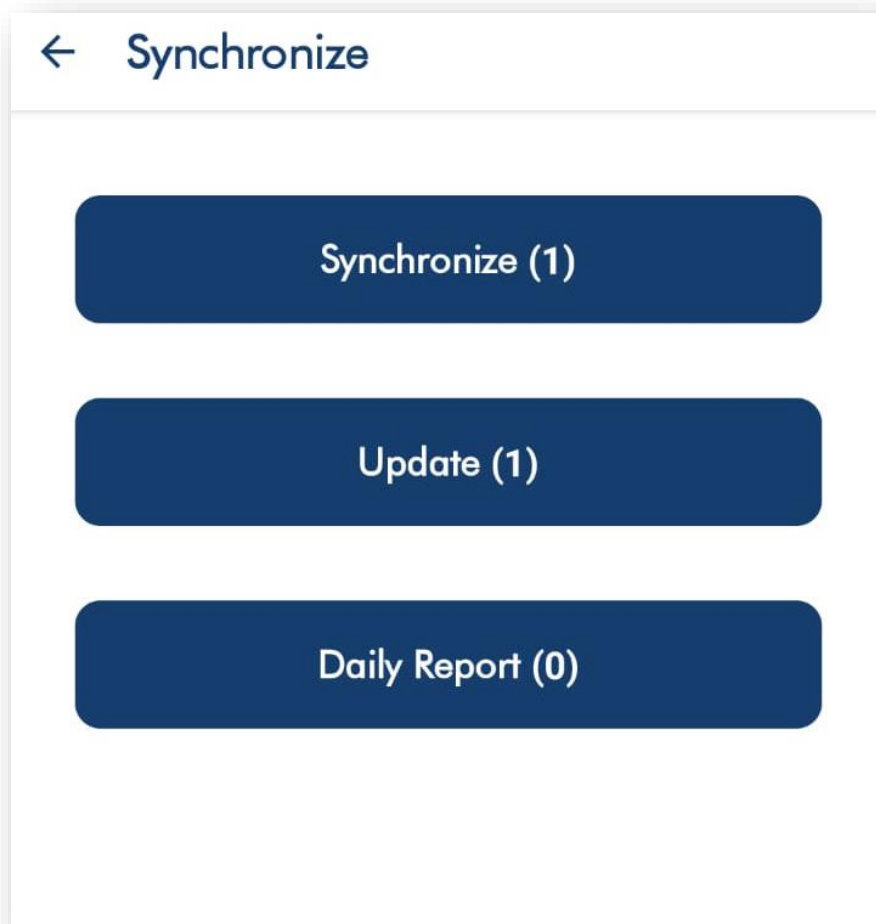


The screenshot shows a mobile app interface with a white background. At the top left, there is a blue back arrow icon followed by the text 'Total Cases' in a dark blue font. Below this is a table with two columns: 'Date' and 'Total Cases'. The table has a green header row and one data row. The data row shows the date '21-07-2022' and the number '1'.

Date	Total Cases
21-07-2022	1

There are 3 options under this section

- Synchronize: This function will enable reporting of newly entered patient data to the system.
- Update: This function will enable synchronization of updated data that was edited after submission.
- Daily report: The system is synchronized on a daily basis.
  - Once a calendar day is completed, the report will be generated based on the data entered into the application on that particular day.



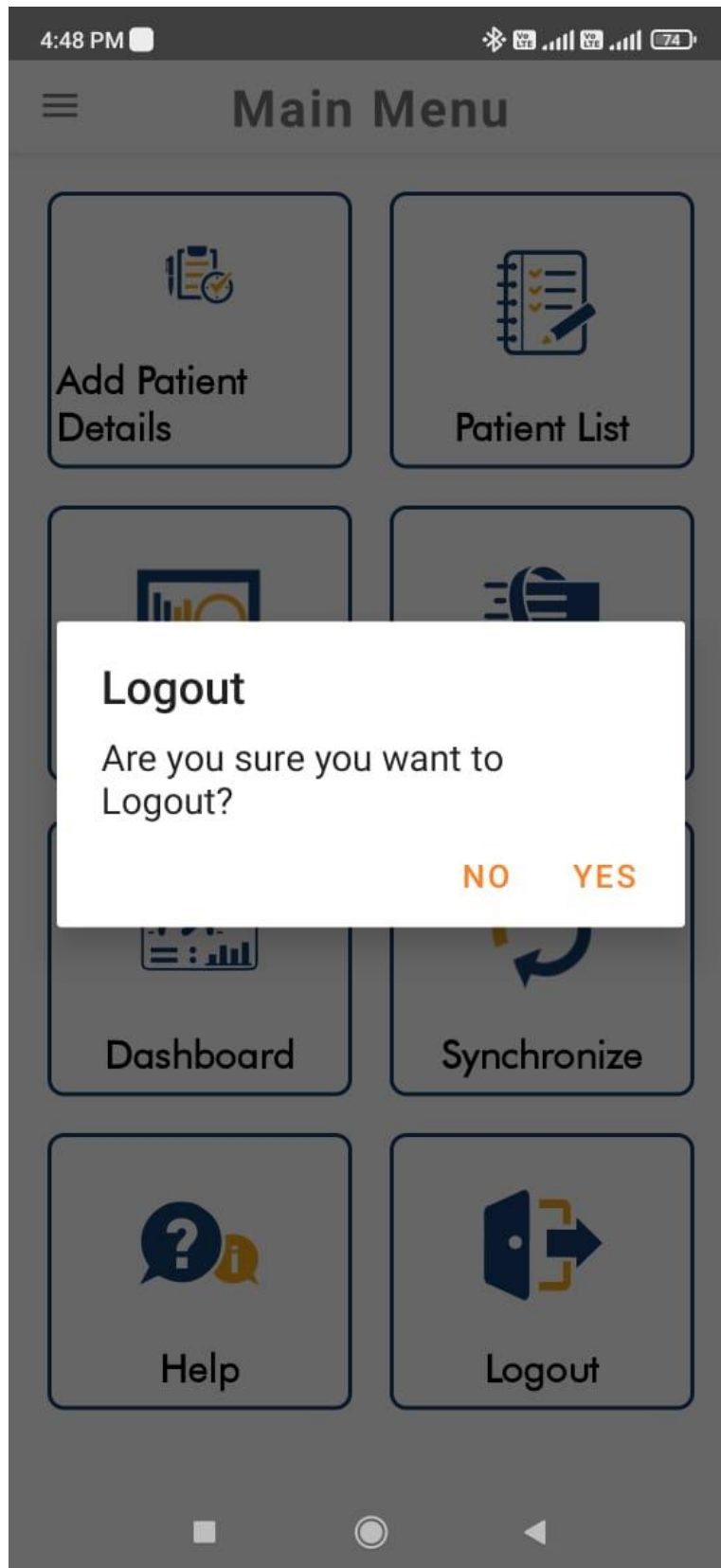
## 7.9 STEP 10- HELP (MOBILE APP TECHNICAL ISSUES) IF ANY NEEDED BY USERS

The 'HELP' section is meant for app users while operating in registering the emergency cases for the surveillance purposes.

- If any technical query about the function of the application, any technical issues and bugs to the help centre at state level.
  - Mobile number provide may be contacted-
  - Email
  - Download user manual for mobile app

## 7.10 STEP 11- LOGOUT OF THE MOBILE APP

If another user wants to enter from same device this option may be used.



## NEXT STEPS

Once patient related data is entered into this application the DNOCC will be able to access all the data to analyze on monthly basis. The report shall be shared with respective SNOCC to be compiled and further shared with NCDC. This will provide a data driven approach in takin appropriate actions and policy changes at state as well as national level.

