



**Vision**

## **Documentation**

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**Version 1.0**

**05/10/2020**

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# 1. Introduction

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This User Manual (UM) provides the information necessary for Staff and administration to effectively use the Vision web application. It begins with an explanation on how to set up the system, with the provision of two options. The user can either access the system via the URL provided, where only a google chrome browser is required. Alternatively, the user can run the system via localhost, which requires detailed set up requirements, as provided in the next section. Once the necessary information is provided to start and access the system, the manual goes on to explain how the system is used. The sedation clinic, general practice and admin panel components are explained separately, with an explanation on how to use each significant action. Finally, information regarding error messages and validation that appear throughout the system are explained.

## Config:

There exists a .env config file in the root directory of the vision-server folder. This file is used to store all secrets and credentials. The server will use these variables. By default, it is set to connect to the central database stored on UCT servers.

## Authorisation constraints:

For the general practice component, signed in staff will only be able to view the records and create an appointment for patients who are assigned to them (where the administrator has created the link – see *section 3.4.5*). Additionally, in the sedation clinic, signed in staff members will only be able to view their assigned patient's past general practice visits.

## Compatibility constraints:

The normal system is compatible across all screens, including desktop, tablet and mobile. Use developer tools to test the screen on different screen sizes – using toggle device toolbar.

For tablets, the app is only compatible horizontally. For mobile, the app is only compatible vertically. The admin panel is only compatible on desktop and tablet.

Additionally, there is certain functionality that only works on a Google Chrome browser. For now, the system is thus only compatible with Google Chrome.

## Troubleshooting:

If there is an error in the application, try these troubleshooting techniques.

- Clear local storage in your browser
- Log out of the system (if you can)
- Check that your VPN is connected (if connecting to the centralised database)
- Contact someone from the team if the issue persists

**Note:** Try not to use the admin panel and normal system simultaneously. Please sign out of the one system prior to signing in to the other.

## 2. Getting Started

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### 2.1 Set-up Considerations

There are two options on how the system can be used. The system can either be run on the UCT servers, or it can be run on localhost. Both options require a Google Chrome browser.

#### Option 1 – Running application remotely:

For the first option, running the application on UCT servers, the only requirements are a Google Chrome browser, and internet connection.

#### Option 2 - Running application locally:

Alternatively, for the second option, running the system on localhost, the set-up considerations are described below.

1. **Install Node.js:** The first step is to download the Node.js installer for your operating system. This can be downloaded from <https://nodejs.org/en/download/>. Once downloaded, run the Node.js installer and follow the steps to complete the installation. NPM package manager should be installed along with Node.js, which will be used to install dependencies and run the application. If using Windows operating system, make sure to add the appropriate path variable in environmental variables. This should be done by adding ;C:\Program Files\nodejs\ to the end of your Path variable on the 'User variable' section of the environmental variables on system properties.
2. **Install dependencies:** For both the web application and the web server, using terminal/command prompt, navigate to the respective root directory. For the web app, it is vision-webapp and for the server, it is vision-server. Within the root directory, install the necessary modules by entering `npm install --save` in the terminal. This will update the package.json file with the necessary dependencies.
3. **Connect to central database:** Included in the vision-server folder is a .env file and a config file which includes the necessary credentials to connect to the centralised database, stored on UCT servers. For this connection to be made, it is a requirement to be connected to the UCT VPN. To install AnyConnect and make the connection, an installation guide is provided here: <http://www.icts.uct.ac.za/AnyConnect>
4. **[Optional] Create and Connect to local database:** If you wish to create a local version of the database, and connect to that, the following can be done. Make sure to install both MySQL client and MySQL server, along with MySQL workbench. On MySQL workbench, make a new database connection, connecting to localhost. Within the newly created local instance, create a new schema called vision\_database. Select the schema and run the SQL submitted along with the code to create all tables. Make sure to change the credentials in the .env file relevant to what you just created, and change host to localhost. To create an admin user on your local database instance, use POSTMAN to fire off the endpoint: <http://localhost:9000/api/admin/auth/register> with a JSON body including the following keys: username, fullname, admin\_role, contact\_number, email, admin\_password along with their associated values – Ensure the server is running.

## 2.2 User Access Considerations

There will be two levels of users, namely staff members and administrators. The administrators will have access to the 'Admin Panel' which will allow them to create accounts for staff members and determine which staff members have access to which patient's information.

To access the admin panel, an already existing account has been created on the centralised database. The following credentials can be used to sign into the admin account:

Username: 'admin'

Password: 'admin'

If you chose to create a local database connection, make sure to use the admin credentials you specified when creating the admin account, using Postman (or any other API toolchain) as previously described.

Once in the admin panel, you will be able to create a general user account (staff member) for yourself. The HBCSA will be your username. Follow the Register Staff instruction in section 3.4.1 to create the staff account. Upon registration success, an email will be sent to the email address you entered, prompting you to set your password. Upon clicking the link, you will be navigated to a change password screen. Once you have set your password, you can then log into the normal system using the HBCSA number as your username, and the password you recently entered.

## 2.3 Accessing the System

### Option 1 – Running application remotely:

If running the application through UCT servers, the following links can be used to access the system.

**Normal app:** The link: <https://vms.cs.uct.ac.za/signin> will direct you to the sign in page for the normal application. To authenticate and enter the system, see *Section 2.2* above.

**Admin panel:** The link: [https://vms.cs.uct.ac.za/Admin/Vision/Administrator/protected\\_auth/](https://vms.cs.uct.ac.za/Admin/Vision/Administrator/protected_auth/) will direct you to the sign in page for the admin panel. To authenticate and enter the admin panel, see *Section 2.2* above.

### Option 2 – Running application locally:

If running the application through localhost, the following can be done to access the system.

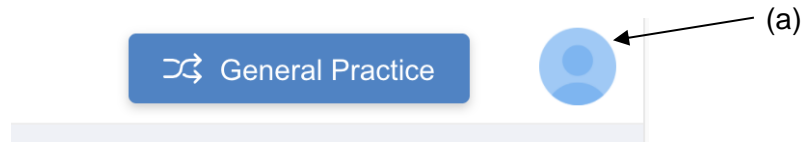
**Start the server:** On terminal/command prompt, navigate to the root directory of the vision-server folder. Enter the command `npm start` which will subsequently run the server.js file and gain access to the .env file. The application will listen on port 9000. If successful, the server will log 'Listening on port 9000' and 'Database connection established'. If these messages are logged, you know the server is running fine. If an error gets printed, it is probably a result of the database connection failing. If connecting to the central database, check that the UCT VPN is connected, and make sure that the .env file is there and populated. If connecting to your locally created database, double check your credentials in the .env file. Otherwise, it may be a configuration issue.

If the compilation fails because it can't find a specific module, it is probably because that module hasn't been installed. Make sure to install it using `npm install [name of module] --save`

Once authenticated, you will be navigated to the dashboard of the sedation clinic.

## 2.4 Exiting the System

To exit the system, press the round profile icon found in the top right of the screen, as shown by (a) in Figure 1. A dropdown menu will appear, with the option to 'Sign out'.



If running the system remotely, simply close the browser when you are done. If running the system locally, in terminal/command prompt, enter 'Ctrl C' to end the process.

## 2.5 Testing the System

To run the functional JEST tests, the following can be done for each application. Make sure to end the application process before running the tests.

### Frontend application:

In terminal/command prompt, navigate to the root directory of vision-webapp. Then enter `npm test`. Subsequently, press 'a' to show all of the tests. The tests should then be displayed. Hit 'Ctrl c' when wanting to terminate the testing process.

### Backend application:

Prior to running the tests on the backend, make sure to change the database name in the `.env` file from `vision_database` to `vision_test_database`. This is important because the tests reflect in the database. Following this, in terminal/command prompt, navigate to the root directory of vision-server. Enter `npm test`, which should subsequently run all test suites. **NB:** Remember to change the database name back to `vision_database` when you are finished testing. Hit 'Ctrl c' when to terminate the testing process.

### 3. Using the System

The following sub-sections provide detailed, step-by-step instructions on how to use the various features of the Vision Web Application.

#### 3.1 Sedation Clinic

##### 3.1.1 Register Patient

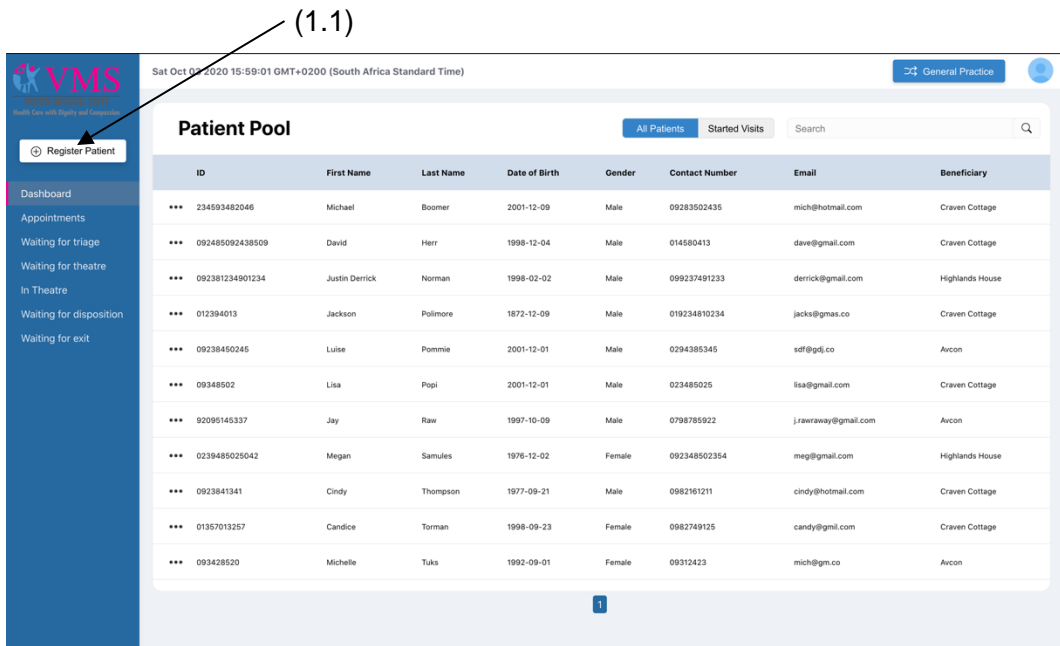
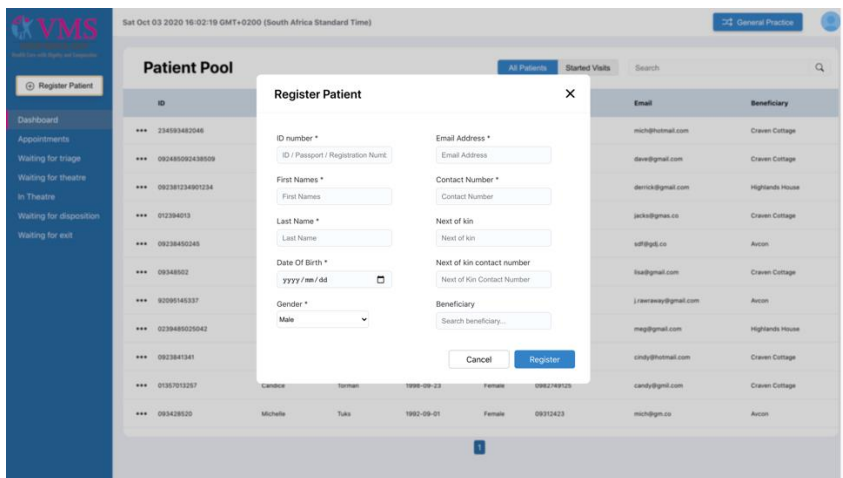


Figure 1: Register patient

To register a patient, press the button labelled (1.1) in Figure 1. A modal, as seen in Figure 2, will then appear. Fill in the appropriate patient information and press 'Register.' A confirmation modal will then appear. If you believe the details you entered are correct, press 'Confirm.' The patient is now registered and should be reflected in the dashboard patients table.



### 3.1.2 Creating/Booking appointments

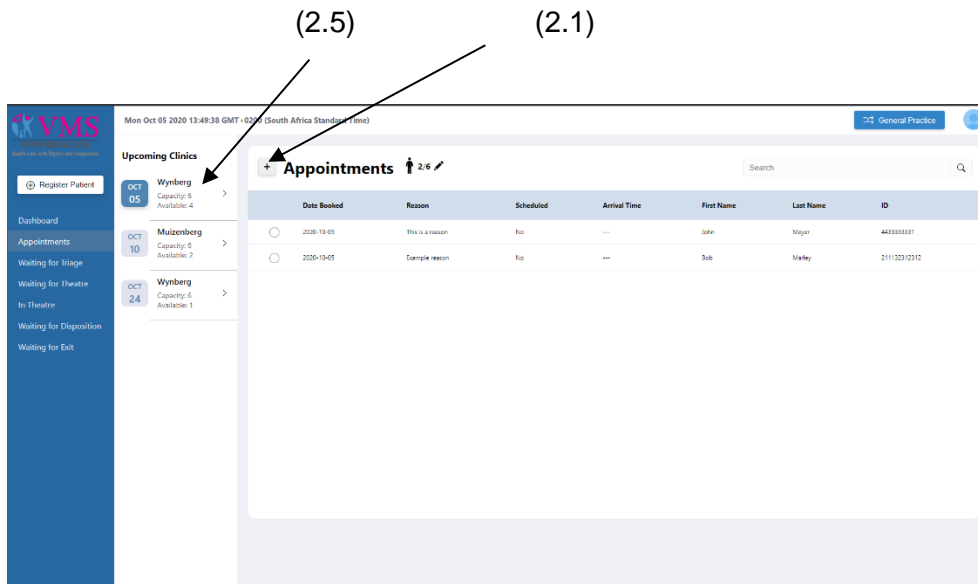


Figure 3: Creating appointments

To create an appointment, navigate to the appointments tab as seen on the navigation bar. Select your desired clinic on the left, and then press the button labelled (2.1) in Figure 3. A modal, as seen in Figure 4, will appear, with the selected clinic as the default option.

To view all the appointments for a particular clinic, select the clinic card, shown by (2.5) in Figure 3. The upcoming clinics are created in the admin panel.

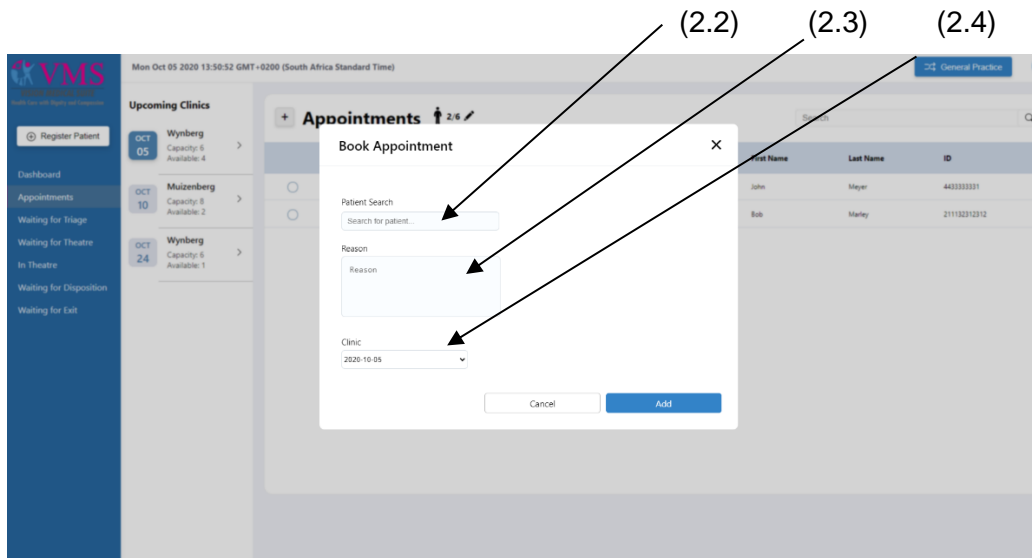


Figure 4: Booking appointment



To search for the patient who you intend on booking the appointment for, begin typing their name in the field labelled (2.2) in Figure 4 above. A dropdown with a list of patients matching your search will appear. **Make sure that you click on the patient's name in the dropdown list**, as this is how the system identifies which patient the appointment is being booked for.

Enter a reason for the appointment in the field labelled (2.3) and click the date you wish to book the appointment for in the dropdown labelled (2.4). The default date will be the date of the clinic you selected on the left. Then press the 'Add' button, which will prompt a confirmation modal, and press 'Confirm' to book the appointment. It should now appear in the appointments table associated with the selected clinic. **It is compulsory to enter information into fields (2.2) and (2.3)**

### 3.1.3 Changing Clinic Capacity

Sat Oct 03 2020 16:21:38 GMT+0200 (South Africa Standard Time)

**Upcoming Clinics**

- OCT 02** Gauteng  
Capacity: 90  
Available: 84
- OCT 03** Nottingham  
Capacity: 1  
Available: 0

**Appointments** 1/1

Date Booked	Reason	Scheduled	Priority Level
2020-10-03	Checkup	1	---

Figure 6: Edit clinic capacity

To change the capacity of your selected clinic, press the pencil labelled (4.1) in Figure 6. A modal will appear with a field allowing you to change the capacity of the clinic. Press the 'Save' button to confirm this change. The capacity and available spots should then be reflected on the clinic card.

### 3.1.4 Edit, Delete, Check-in & Start appointment

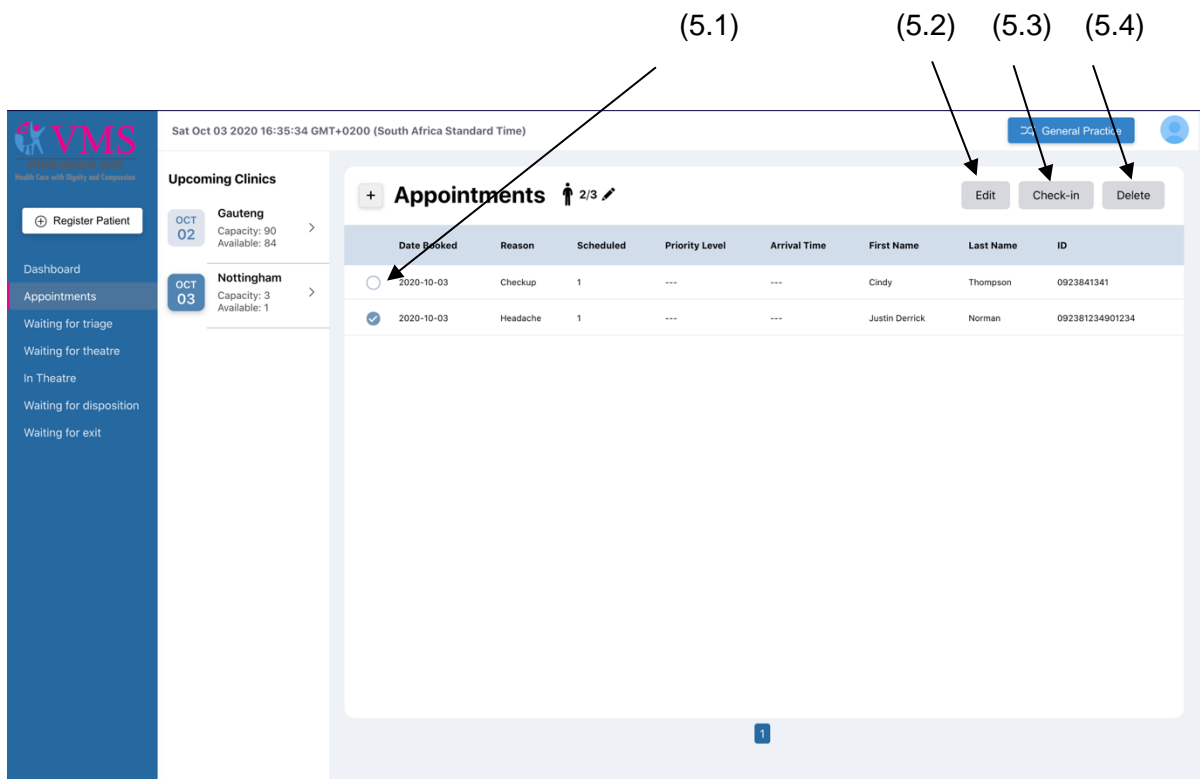


Figure 7: Appointment actions

To view the options to edit, delete, check-in and start an appointment, press the circle labelled (5.1) in Figure 7, for a specific appointment.

- To **edit** a patient, press the button labelled (5.2) in Figure 7, which will prompt a similar modal to what you saw when booking the appointment (as seen in figure 4). You will have the option to edit the appointment information. Press the 'Save' button followed by the 'Confirm' button to save the changes.
- To **delete** a booking, press the button labelled (5.4) in Figure 7. This will prompt a confirmation modal, and press 'Confirm' to permanently delete the booking. The appointment should then disappear from the list.
- To **check-in** a patient, press the button labelled (5.3) in Figure 7. This will log the arrival time of the patient and reflect on the selected appointment row.

**Note:** A patient can only be checked-in on the day of the clinic that they have been booked for. Ie if the clinic date is the same as the current date. So make sure that there is a clinic scheduled for todays date when you wish to start a visit.

d) In order to **start a visit**, a patient needs to have already been checked-in. (The check-in process can be found in 5(c) above.)

If the patient is checked in, select the circle labelled (5.1) for a particular appointment, and press the button labelled (5.5) in Figure 8 below. Once this button is pressed, the patient will be moved to the ‘Waiting for Triage’ phase in the hospital. This phase can be found on the left navigation bar as indicated by (5.6) in Figure 8. Additionally, you will be able to view the patient and associated visit information in the Dashboard – in the ‘Started Visits’ tab.

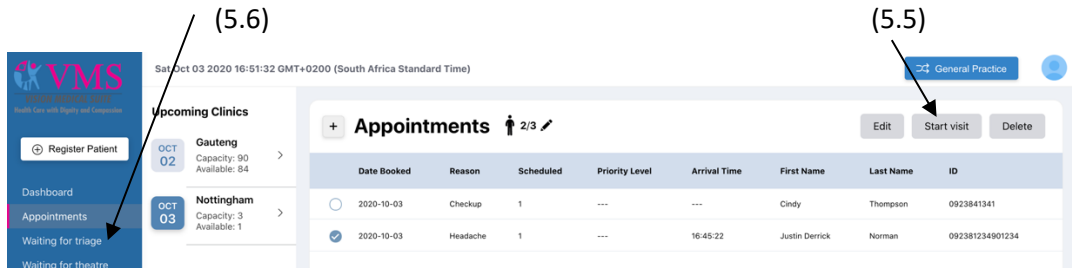


Figure 8: Start visit

### 3.1.5 Capture Patient Information

At each stage of the patient’s visit, staff will have the option to capture patient information. To access these options, press the three dots labelled (6.1) in Figure 9. When this is pressed, the dropdown as shown in Figure 10 will appear.

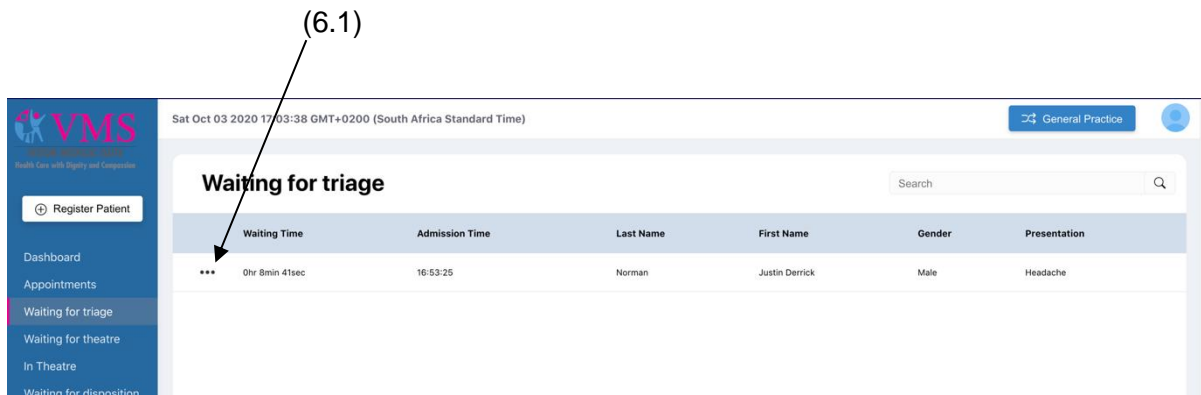


Figure 9: Options button

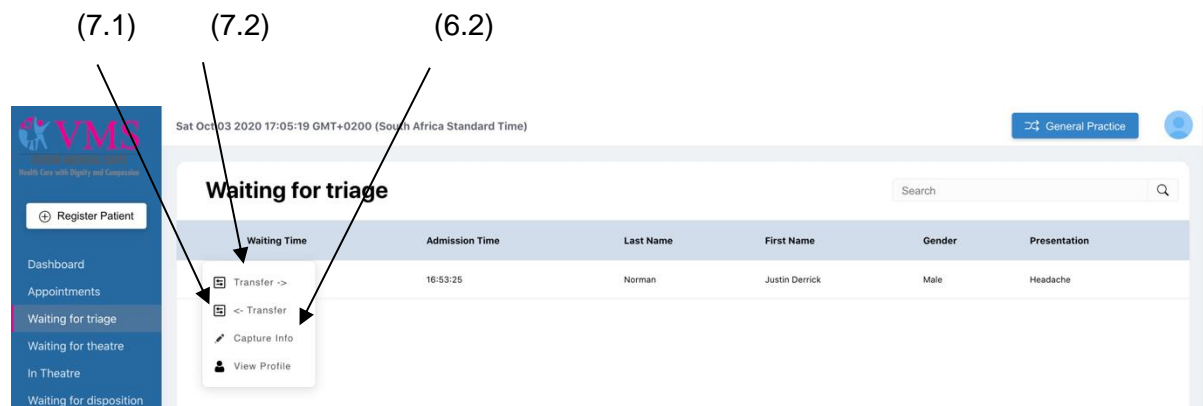


Figure 10: Dropdown menu

To view the visit form information for the selected patient, press the 'Capture Info' label as shown by (6.2) in Figure 10. This will redirect you to the appropriate form that needs to be filled in at the respective stage of the visit. An example form can be seen in figure 11. You also have the option to select other tabs which display the forms for each phase.

### 3.1.6 Moving Patients between phases

In order to move patients between stages of their visit, one must press the buttons labelled (7.1) or (7.2), as seen in Figure 10.

If you want to move the patient to the next stage of their visit, press the label 'Transfer ->' as shown by (7.2). For example, if the patient is in 'Waiting for Triage', and this button is pressed, they will be moved to 'Waiting for Theatre'.

If you want to move the patient to the previous stage of their visit, press the label '<- Transfer' as shown by (7.1). For example, if the patient is in 'Waiting for Theatre', and this button is pressed, they will be moved to 'Waiting for Triage'.

**Note:** If this button is pressed when the patient is in 'Waiting for Triage', the visit will be cancelled, and the patient will be moved back to the appointments table. The user will then need to start their visit again whenever desired.

### 3.1.7 Saving form information

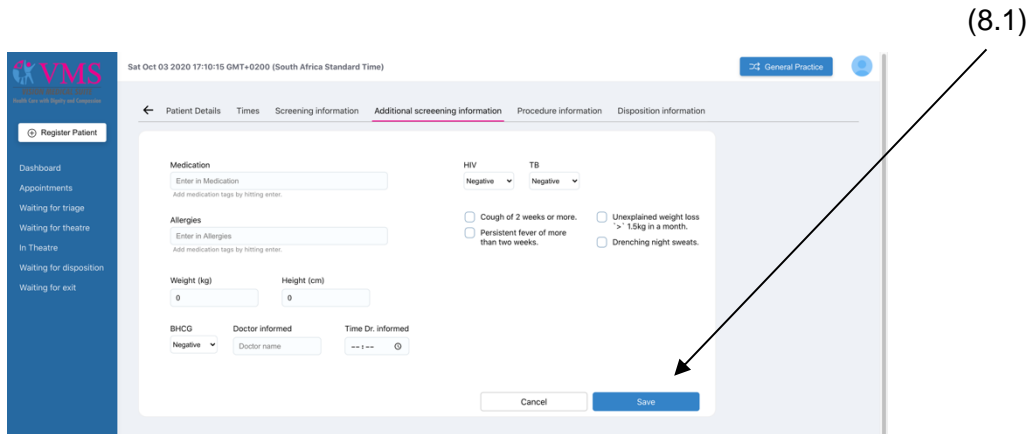


Figure 11: Patient Form

Figure 11 displays an example of an information capture form. As seen on the top, the additional screening information form is selected. You can also change between the other nav items, displaying the respective form. Once all information is entered, you can save the data entered in the form by pressing the blue ‘Save’ button as indicated by (8.1) in Figure 11.

### 3.1.8 Completing patient visit

In order to complete a patient’s visit, the patient must be moved to the ‘Waiting for exit’ stage. The user must then press the options button, as shown by (9.1) in Figure 12.



Figure 12: Exit options



Figure 13: Exit Dropdown

Press the 'Exit' label, as seen by (9.2) in Figure 13. A modal will then appear, as seen in Figure 14. Select where this patient needs to be exited to, and press 'Save' to complete their visit. If the user selects the option 'Hospital', a new dropdown will appear with all the hospital options.

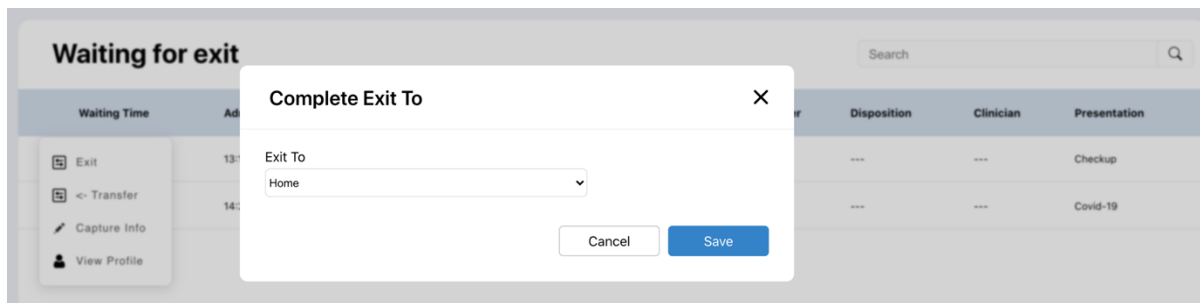


Figure 14: Exit modal

### 3.1.9 Find patient location

To locate where the patient is in the current clinic, navigate to the Dashboard, and press the 'Started Visits' button, as indicated by (10.1) in Figure 15. You will know if it is selected if it is highlighted in blue.

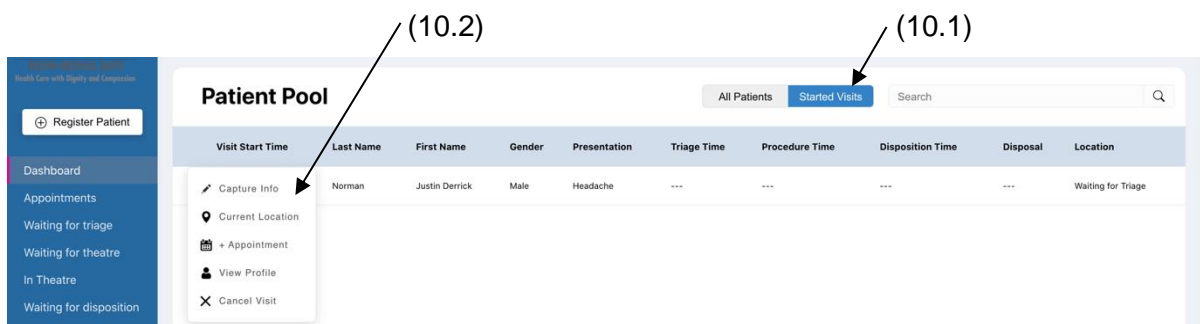


Figure 15: Patient location

Then press the 'Current Location' label as shown by (10.2). This will redirect you to the stage where the patient is currently in.

## 3.2 General Practice

### 3.2.1 Navigate to the general practice

The application will start in the sedation clinic by default. To switch to the general practice component, press the button labelled (11.1) in Figure 16.



Figure 16: Component switch button

On the mobile application, to navigate to the general practice press the hamburger menu labelled (11.2) in Figure 17. Then press the button as shown by (11.3) in Figure 18.

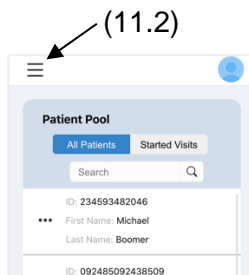


Figure 17: Mobile hamburger menu

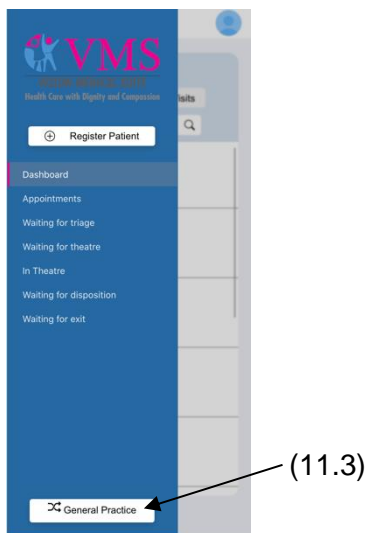


Figure 18: Mobile navigation bar

## 3.2.2 Book Appointment

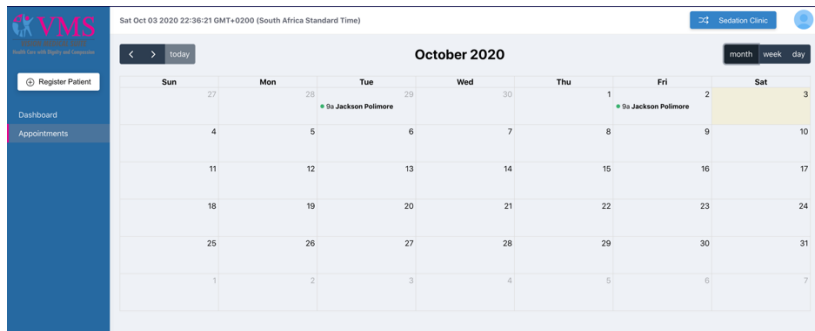


Figure 19: Appointment calendar by month

The general practice displays a full calendar interface as seen above in figure 19, accessed by selecting the appointments tab on the nav bar. To book an appointment, select any of the date blocks in the calendar, and you will be directed to the hourly view of that particular day. To manipulate the time for the appointment, select a starting time and drag your mouse down till the time which will define the end time of the appointment. Once the time which you would like to book the appointment for is selected, a modal will appear, as seen in Figure 20.

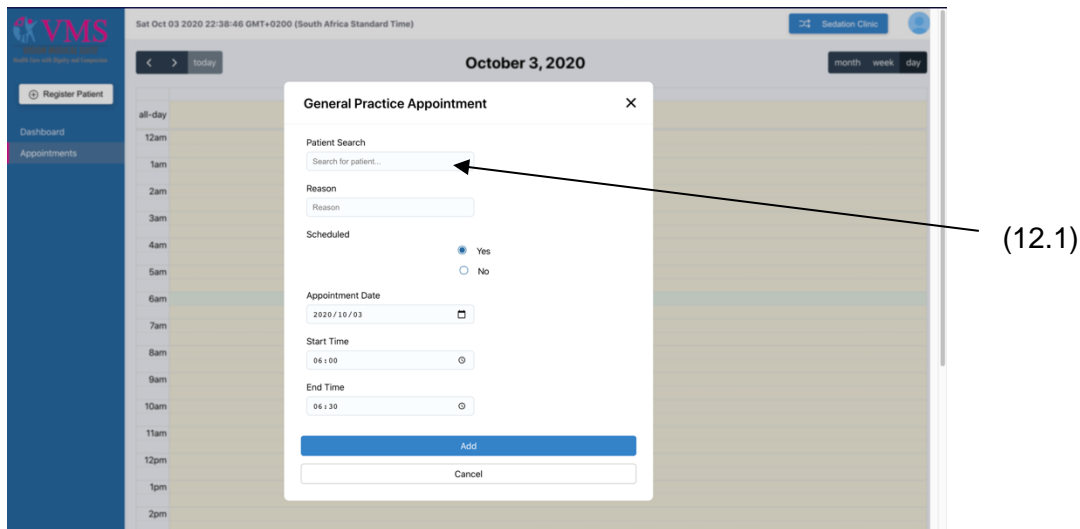


Figure 20: Book GP appointment

To search for the patient who you intend on booking the appointment for, start typing their name in the field labelled (12.1) in Figure 20 above. A dropdown with a list of patients matching your search will appear. **Make sure that you click on the patient's name in the dropdown list**, as this is how the system identifies which patient is booking an appointment.

**Note:** You will only be able to search through the patients who are assigned to your staff account, as discussed previously in the authorisation constraints.

Enter a reason for the appointment, then press the 'Add' button, followed by the 'Confirm' button, to book the appointment.



### 3.2.3 Start / edit / delete appointment

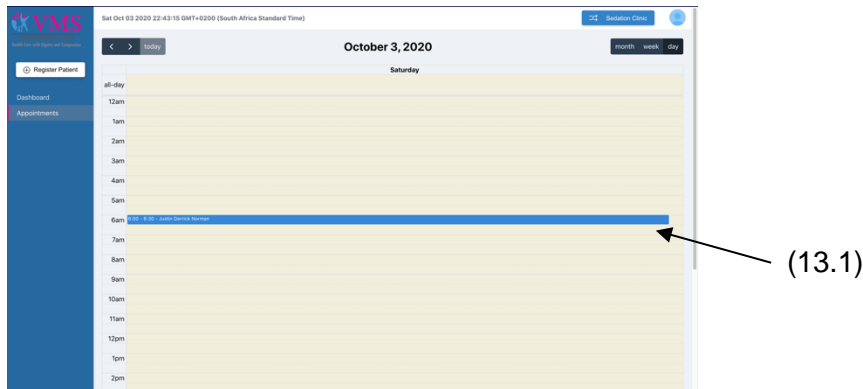


Figure 21: Appointment view

To view the options to start/delete/edit appointment, press the appointment you wish to perform one of these actions on. Once pressed, a modal, as shown in Figure 22, will appear.

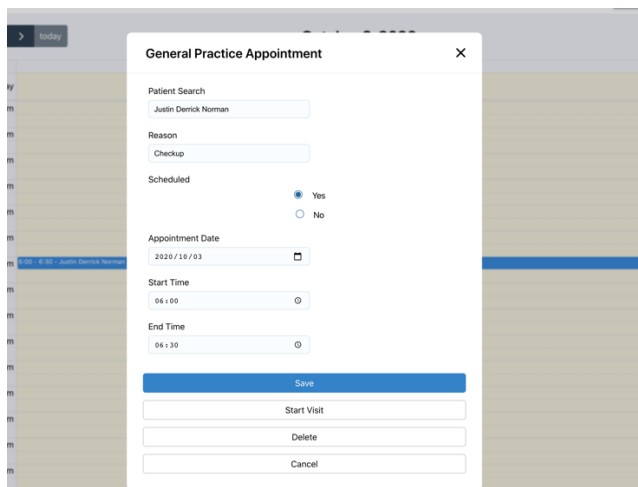


Figure 22: Start/Delete/Edit appointment modal

To **edit** the appointment, simply change whichever details you need to change, and press the 'Save' button. Alternatively, you can edit an appointment by dragging it on the calendar interface – changing the time or the date.

To **delete** the appointment, press the 'Delete' button, followed by the 'Confirm' button.

To **start** the visit, press the 'Start Visit' button. The appointment will now be green. When the visit is started it will appear in the 'started visits' table in the dashboard, as shown in figure 23.

**Note:** The 'Start visit' button will not be visible if the current date is not the same date as the date the appointment was booked for. Thus, an appointment can only be started on the day of the booking.

### 3.2.4 Capture Patient information

Navigate to the dashboard, and press the 'started visits' as shown by (14.1)

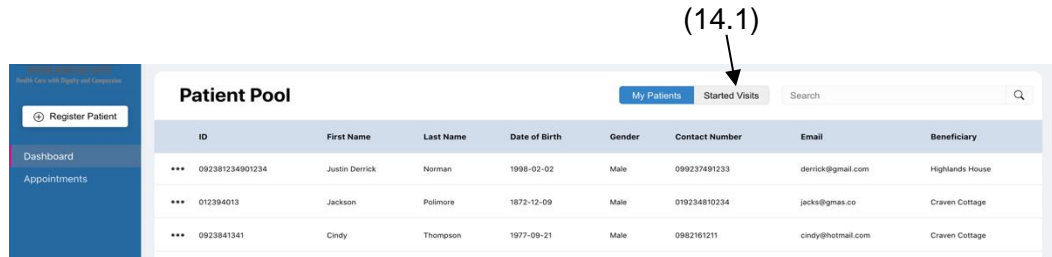


Figure 23: Started visits toggle

Then press the three dots in the patient row, as shown by (14.2). Then a dropdown will appear, and press 'Capture Info' as shown by (14.3). You will then be directed to the visit forms which are similar to the example provided for sedation clinics.



Figure 24: Capture visit forms

### 3.2.5 Capture medication

Treatment form: To add medication, press the button labelled (15.1) in Figure 25 below. A modal will appear. Fill in the information and press 'Save' to add the medication to the table.

**Note:** In order to permanently save the medication, you are required to press the 'Save' button labelled (15.2)

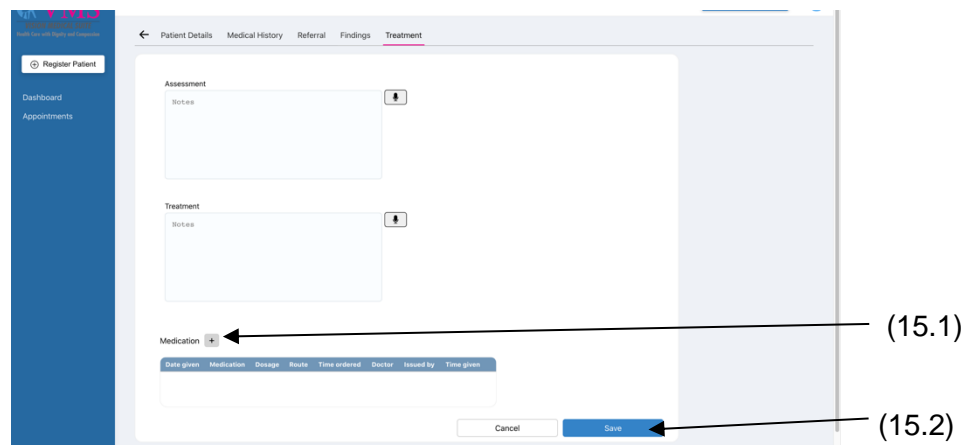


Figure 25: Medication button

### 3.3 General

These can be found throughout the web application

#### 3.3.1 Feedback

Throughout the web application, when you complete a function, it will show one of these three success messages when the action was successfully completed on the frontend and the backend.



Figure 26: Feedback messages

#### 3.3.2 Patient Profile

At any point in time, on any patient table, users are able to press the three dots, as shown by (16.2) in Figure 27, and then press the 'View Profile' label as shown by (16.3).

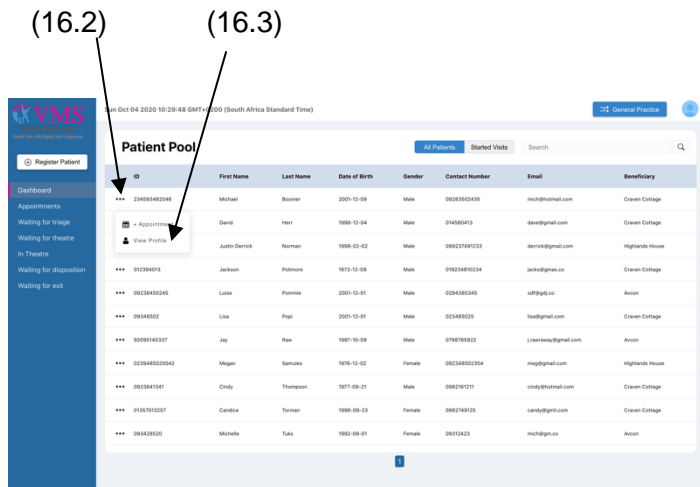


Figure 27: View Profile button

This will direct the user to the patient's profile, where they can view and edit all the patient's details; and toggle between the patient's past sedation clinic and general practice visit records by pressing (16.4) and (16.5) respectively in figure 28.

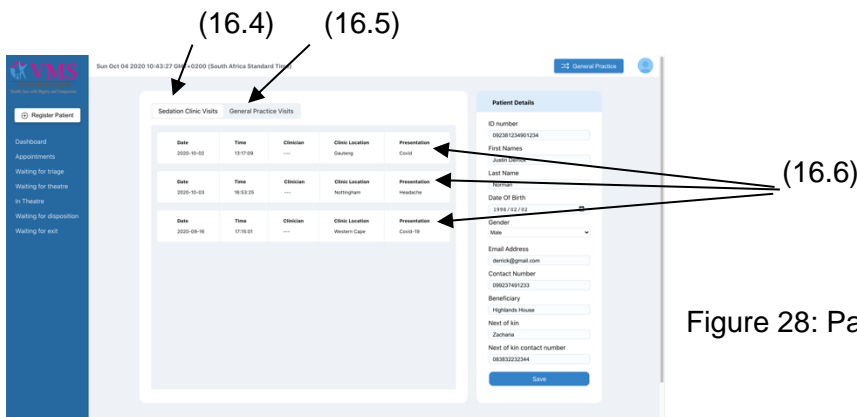


Figure 28: Patient profile

To view the details of a past hospital visit, press any of the blocks shown by (16.6), and you will be redirected to the forms of that specific visit.

### 3.3.3 Voice-to-text

Voice to text is available when you see a microphone button next to a text area, as shown in Figure 29.

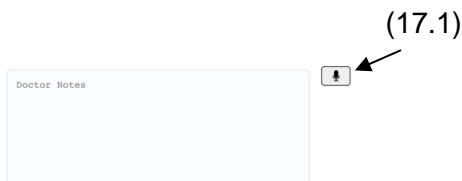


Figure 29: Voice to text button

To start recording your voice note, press the microphone button labelled (17.1), and the button will change to a red square, as seen in Figure 30. This shows that the voice memo is recording. Once you stop speaking, the text will be displayed in the corresponding text area. Make sure to click the red square when you are finished with the voice to text.



Figure 30: Recording button

### 3.3.4 Search bar

Throughout the application there are search bars present, as seen in Figure 32. This allows you to search for patients or staff, depending on the table. Simply start typing the name, surname, email, ID number or affiliated beneficiary (if searching for patient) of that patient or staff member, and the table below the search bar will automatically be filtered to match your search.

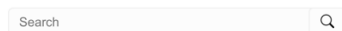


Figure 32: Search bar

### 3.3.5 Staff profile

To view the staff profile, press the round profile icon found in the top right of the screen, as shown by (18.1) in Figure 1. A dropdown menu will appear, with the option 'My Profile'. Press on the option to view the profile of the staff member currently logged in.

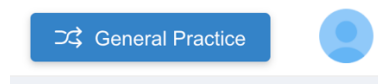


Figure 33: Staff profile

### 3.3.6 Mobile navigation bar

On the mobile application, to view the navigation menu, press the hamburger menu labelled (19.1) in Figure 34. The navigation bar, as seen in Figure 35 will then appear.

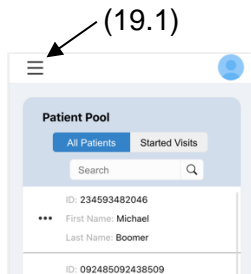


Figure 34: Mobile hamburger menu

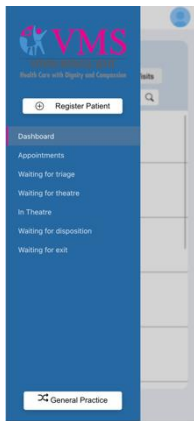


Figure 35: Mobile navigation bar

### 3.3.7 Edit / Delete information

Whenever you see an edit pencil (20.1) it means that you can edit the information specific to that data item. Click on the pencil to be directed to the edit screen.

Whenever you see a delete bin (20.2), it means that you can delete the information specific to that data item. Click on the bin to delete the data item.

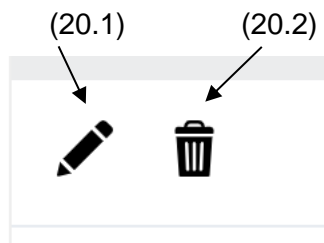


Figure 36: Edit/Delete buttons

### 3.3.8 Pagination

There is a maximum of 15 data items shown per page in each table. The page numbers can be found at the bottom of every table. When there are more than 15 data items in the table, a new page will be created and so on. Simply press on the page number you wish to visit or press the 'Next' button to go to the next page, or the 'Prev' button to go to the previous page. When you select a page number, it will load and display the information in that particular range.

## 3.4 Admin Panel

### 3.4.1 Register Staff

To register a staff member, press the button labelled (21.1) in Figure 36.

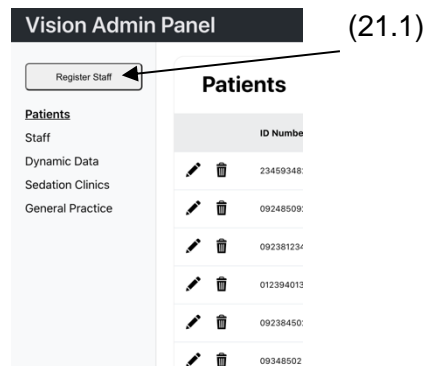


Figure 37: Register staff member button

This will redirect you to a form which will require you to fill in all the specified fields. Once these fields have been filled in, press the blue 'Register' button to register the staff member. This will send an email to the staff member's entered email address, with a link for them to set their password.

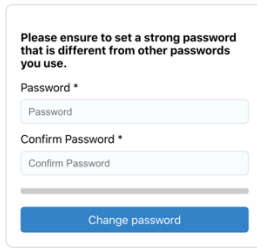
### 3.4.2 Set staff member password

Once the admin has created an account on behalf of the staff member, the staff member will receive an email with a body similar to Figure 37.

Click the link to change your password!  
[http://localhost:3000/registerstaff/changepassword?auth=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VybmFiZSI6ImJpY2h0cmQlLjYyb2xlljoZG9jdG9yIiwiaWF0IjoxNjAxODA0OTI4LjJleHAiOiJlMDE4MDY3Mjh9.YKb-CIPJnAsa060OcdMDCmQNKoeIv\\_cuH9LVGnHZZLM](http://localhost:3000/registerstaff/changepassword?auth=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VybmFiZSI6ImJpY2h0cmQlLjYyb2xlljoZG9jdG9yIiwiaWF0IjoxNjAxODA0OTI4LjJleHAiOiJlMDE4MDY3Mjh9.YKb-CIPJnAsa060OcdMDCmQNKoeIv_cuH9LVGnHZZLM)

Figure 37: Set password link

When the recipient clicks the link, they will be directed to a page (Figure 38) which will require them to set their password. Once the user submits a valid password that matches their confirmed password, they will be redirected to the application sign in page, where they are now able to sign in using their HBCSA number as their username, and their newly set password.



Please ensure to set a strong password that is different from other passwords you use.

Password \*

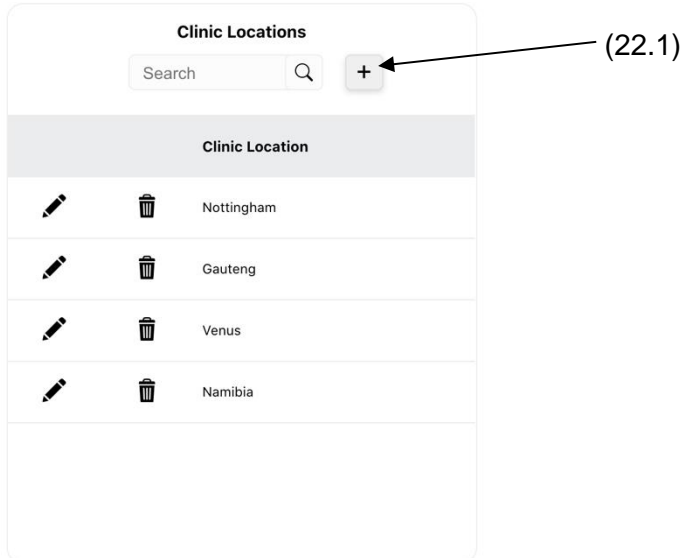
Confirm Password \*

Figure 38: Change password

### 3.4.3 Dynamic data

Navigate to the dynamic data, found on the side navigation bar on the left of the screen. In order to add dynamic data, press the '+' button next to the search bar, as indicated by (22.1) in Figure 39.



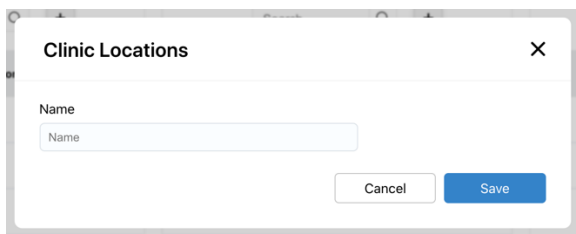
Clinic Locations

Search    (22.1)

Clinic Location	
<input type="button" value="Pencil"/>	<input type="button" value="Trash"/> Nottingham
<input type="button" value="Pencil"/>	<input type="button" value="Trash"/> Gauteng
<input type="button" value="Pencil"/>	<input type="button" value="Trash"/> Venus
<input type="button" value="Pencil"/>	<input type="button" value="Trash"/> Namibia

Figure 39: Add dynamic data button

A modal will appear, as shown in Figure 40. Enter the relevant information in the labelled fields and press the 'Save' button.



Clinic Locations

Name

Figure 40: Add dynamic data modal.

In Figure 39, you can see a pencil icon and a bin icon. As previously mentioned in 3.3.8, this means you can either edit or delete the dynamic data item.

Dynamic data is for adding/editing and deleting data that gets used throughout the application – either populating drop down boxes or suggested searches.

### 3.4.4 Add, Edit or End Sedation Clinic

Navigate to the sedation clinics tab on the navigation bar to the left of the screen. Then press the button labelled (23.1) in Figure 41.

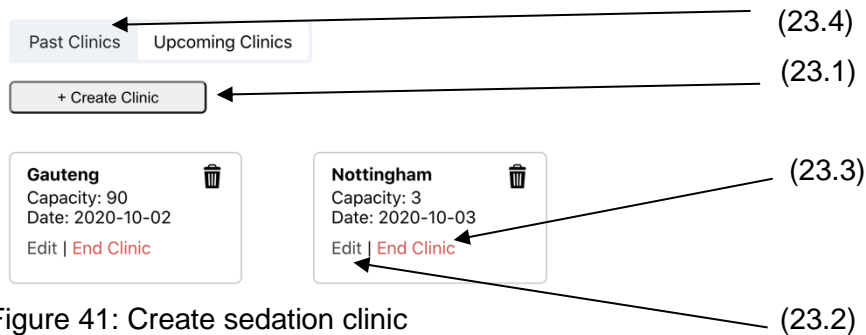


Figure 41: Create sedation clinic

This will toggle a modal to appear, as seen in Figure 42. Fill in the relevant information and click Save. All upcoming clinics created will be displayed in the appointment section in the sedation clinic component of the normal app.

Figure 42: Add clinic modal

To **edit** a clinic, press 'Edit', as labelled by (23.2) in Figure 41. This will toggle a similar modal to the one seen in Figure 42. Change the information you wish to edit, and press 'Save' to confirm this change.

To **end** a clinic, press 'End Clinic', as labelled by (23.3) in Figure 41.

**Note:** The end clinic button will remove all patients that are still in the waiting lists, move all outstanding appointments (of the specific clinic) to the next available clinic (if there are spots available), and mark the clinic as complete – ie it will be moved to past clinics.

To **view past clinics**, press the 'Past Clinics' button, as labelled by (23.4)



### 3.4.5 Link patient to staff member

To link a patient to a staff member, begin by selecting the staff member which you want to link a patient to. The list of staff members can be found in the container as shown by (24.1) in Figure 43. The name highlighted in white is the selected staff member.

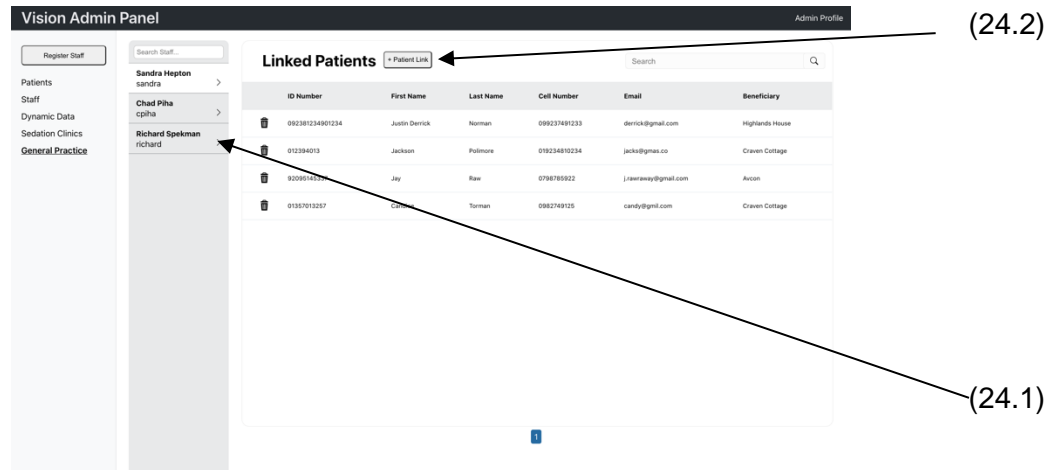


Figure 43: Patient Link screen

When the staff member is selected, a list of all of their patients will be displayed in the table.

Next, press the 'Patient Link' button, as shown by (24.2) in Figure 43. This will toggle a modal which contains a single input field, where you enter the name of the patient, as seen in Figure 44.

As you begin to type, a dropdown with a list of patients matching your search will appear. **Make sure that you click on the patient's name in the dropdown list**, as this is how the system identifies which patient the user intends on creating a link for.

Press the blue 'Add' button once you click on the patient from the dropdown. The patient will now appear in the table for that specific staff member.

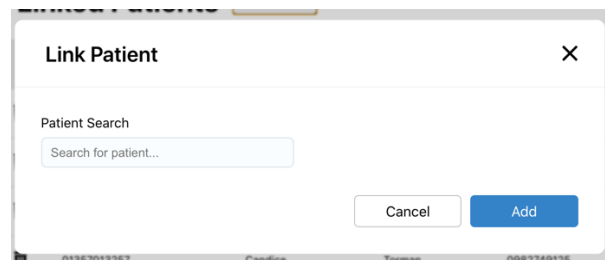


Figure 44: Link Patient modal

Once again, there is a bin in each patient row, which gives the user the option to delete the patient from the staff's list of linked patients – ultimately deleting the link between the patient and staff.

## 3.5 Error Messages

### 3.5.1 Appointment capacity reached

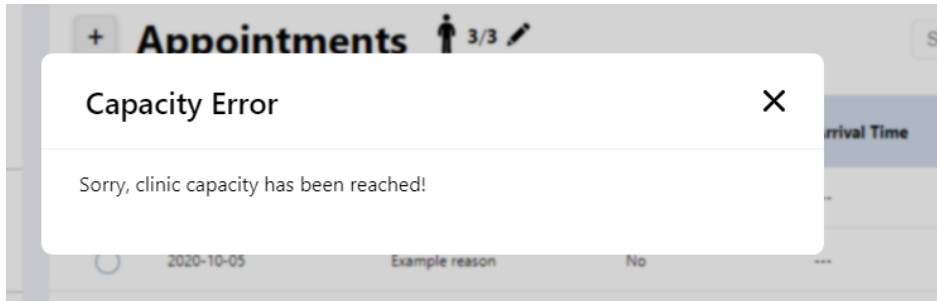


Figure 45: Clinic maximum capacity modal

If you press confirm, and the message displayed in Figure 45 appears, it means that the clinic has reached its maximum capacity of patients, and you can't add another appointment to that clinic. Change the capacity of the clinic or book the appointment on a different day.

### 3.5.2 Appointment already exists

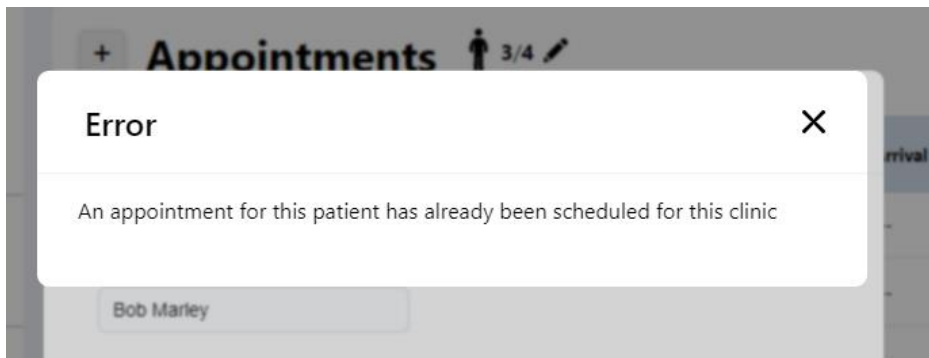


Figure 46: Duplicate appointment error modal

This error message will appear if you try book an appointment for a patient, and that patient already has an appointment scheduled for that clinic.

### 3.5.3 Creating duplicate clinics

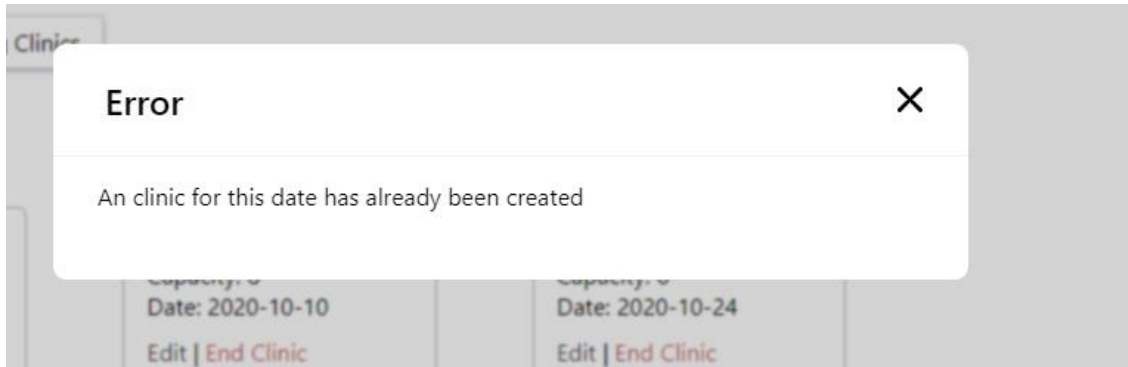


Figure 47: Duplicate clinic error modal

If you try schedule a sedation clinic for a date which already has a clinic scheduled, this error message will appear. Two or more clinics cannot be on the same day.

### 3.5.4 Linking patient to same staff

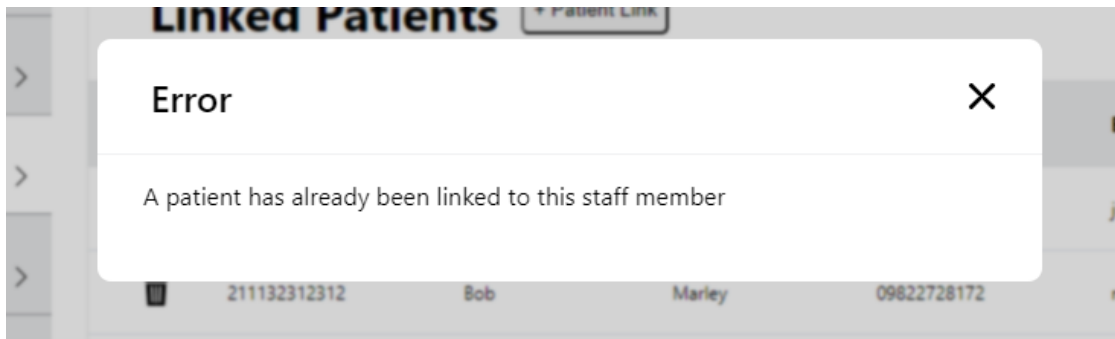


Figure 48: Duplicate patient linked to staff error modal

If you try link a patient to a staff member, where that patient has already been linked to that same staff member, this error message will be displayed.

### 3.5.5 Validation errors

Throughout the application, validation is implemented to ensure no bad requests are sent to the API. Across the application, validation will be displayed in the same format as seen in Figure 49, but with a different error message. The different validation errors that will come up are shown below.

ID number \*

d|

Input can only consist of numbers

Figure 49: Validation format

Validation Error	Meaning
<i>"Input can only consist of numbers"</i>	You can only type numbers in that field
<i>"This field is compulsory"</i>	You have to fill in this field
<i>"Invalid weight"</i>	The weight must be between 0 and 350kg.
<i>"Invalid contact number":</i>	The contact number is not real or is in an invalid format
<i>"Invalid height"</i>	The height must be between 0 and 250cm
<i>"Invalid email"</i>	Email of invalid format
<i>"Input can only consist of letters"</i>	Only letters can be typed in that field.
<i>"Input is too long"</i>	The length of all the characters in the field is too long.
<i>"Input is too short"</i>	The length of characters in the input field is too short to be valid.
<i>"Invalid date entered"</i>	The date is not valid
<i>"Incorrect username or password"</i>	The username and password combination does not exist
<i>"ID number already exists"</i>	There already exists a patient in the system with this ID number
<i>"Username already exists"</i>	There already exists a staff member in the system with this username

