mobiEMR Community Caseload

mobiEMR Community Caseload Guide

A step-by-step guide on how to use the mobiEMR Community Caseload Mobile Application.

Editors

Editors	Changes Made	Update At
Benevolent Mudzinganyama	Added methodology, images and paging	06/12/2023
Benevolent Mudzinganyama	Caseload client, modified TOC and refactor pages	07/12/2023
Benevolent Mudzinganyam	Update Mobile Screenshots	08/07/202

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Introduction

What is mobiEMR

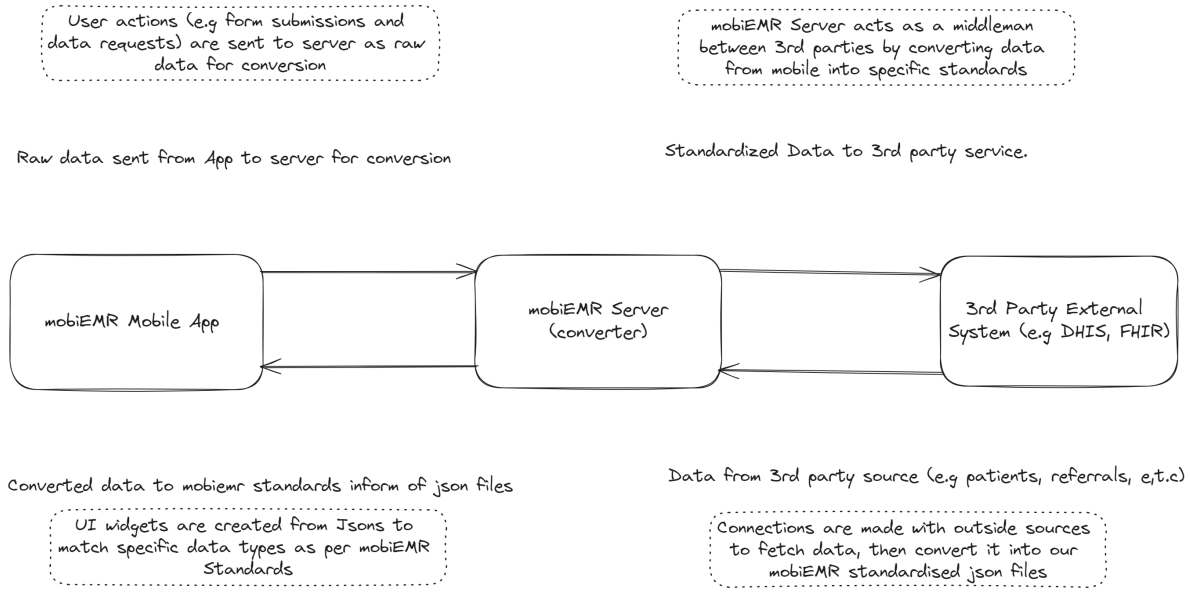
mobiEMR stands for Mobile Electronic Medical Records. It was developed to cater for a variety of services, mostly used as a Health Information Management System tool, but as a generic system, it can literary be applied in any use case.

Architecture

The mobiEMR was built on a flexible architecture which can convert any supplied raw data constructed in our specified JSON standards to re-usable UI widgets on the mobile application. For mobiEMR to work, 3 integrated components are required, namely:

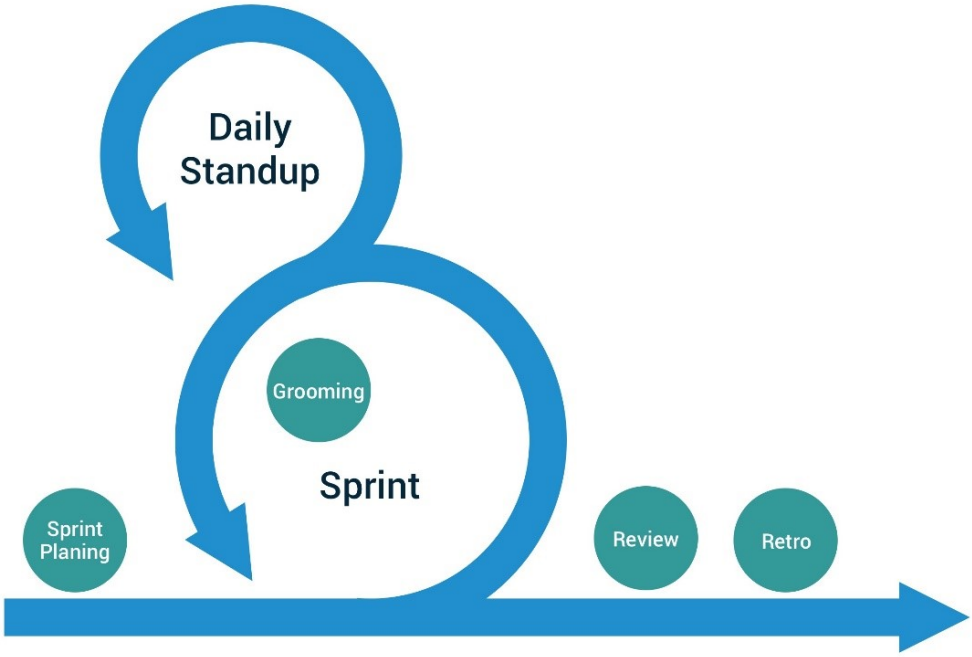
- mobiEMR Mobile App
- mobiEMR Server
- 3rd Party Servers

A diagram of how mobiEMR works below



Methodology

A key aspect of the project is that it is supporting the already ongoing initiative, and therefore should meet its objectives within a reasonable, but short time-frame. In this context, the rapid prototyping approach is necessary. The Scrum process will be adopted to enable rapid prototyping and frequent releases.



Scrum is an iterative agile process in which requirements are captured as User Stories. User Stories describe what users want. Every User Story should also have an acceptance criteria that will be used to check if the requirements have been met. User Stories are kept in the Product Backlog from which they will be assigned to a sprint.

Scrum dives the participants into a number of roles and teams.
There are four roles:

1. Scrum Master role is to coach the team on Scrum and assist the team when they issues that they need help resolving. A SCRUM certified developer will lead this aspect.
2. Product Owner role is to help the development team in decision making so that the product provides value to the organisation. Product owner needs to be someone with domain knowledge, interest in the success of the project and authority within the organisation. We would suggest NAC assumes this role.
3. A Developer is any member of the development team from designers, testers, software developers etc. In this context, there are a total of two developers, including the Scrum master and an Analyst programmer.

4. A Stakeholder is any one who has interest in the project from community users to managers. They can also be individuals with domain knowledge who can assist the team to solve problems or understand requirements.

There are three main group involved in scrum:

1. Development team made up of developers working on the project, including the Scrum Master.
2. Scrum team made of the Development team plus Product Owner.
3. Stakeholders individual with an interest in the project or have domain knowledge.

Scrum is organised around a Sprint. A Sprint is a fixed time-boxed period where the team takes a portion of the user stories and works on them. With the goal that all use stories taken on should be completed in the sprint. We have chosen two weeks as our sprint period.

During a Sprint there are five events/ceremonies. The events/ceremonies are meetings for the team priorities and manage user stories.

The ceremonies are:

1. Sprint planning this the first meeting. User Stories that are ready for development selected based on the priorities provided by the Product Owner. The number of User Stories taken depend on the Development team estimates. The Scrum team should attend and they can invite stakeholders as required.
2. Sprint review is done at the end of a sprint. In this meeting the work done is demoed to stakeholders and the team should solicit feedback. Scrum team and Stakeholders should attend this meeting.
3. Sprint retrospective is a meeting of the development team to fine tune its processes based on the feedback from the review and team members. Development team should attend this meeting.
4. Backlog refinement this meeting is used to discuss future work. Its main purpose is to analyse User Stories in the Product Backlog to ensure that the stories are well understood. If stories are too big or complex they can be broken down into multiple stories. Scrum team plus invited stakeholders are expected to attend.
5. Daily stand up this meeting is for the Development team to give updates to each other and help each other resolve issues. Each update is normally in the form of what was done yesterday, what is planned for today and any issues faced. The Development team should attend and the Product Owner may also attend. The Product Owner domain knowledge can be useful in resolving issues.

The Mobile Application

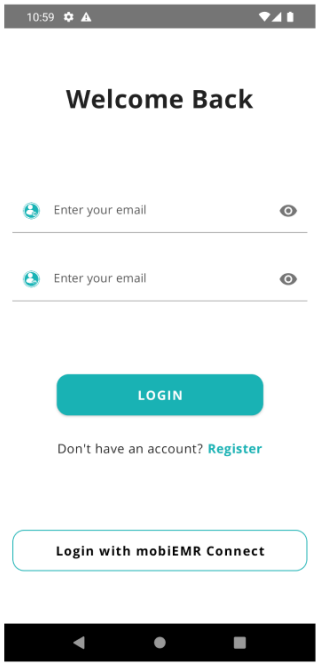
The mobile application support Android and was built with Kotlin Jetpack Compose Library. It acts as the front facing for the mobiEMR system. The UI is at most dynamic, and is constructed at runtime from the JSON descriptions which are received from the mobiEMR server.

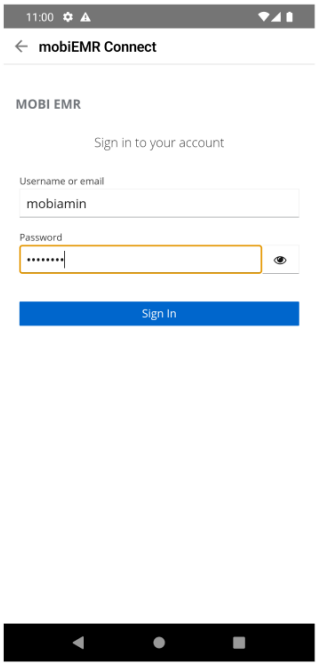
Mobile Navigation

Here is a detailed navigation around the mobiEMR mobile application in graphical presentation:

Authentication

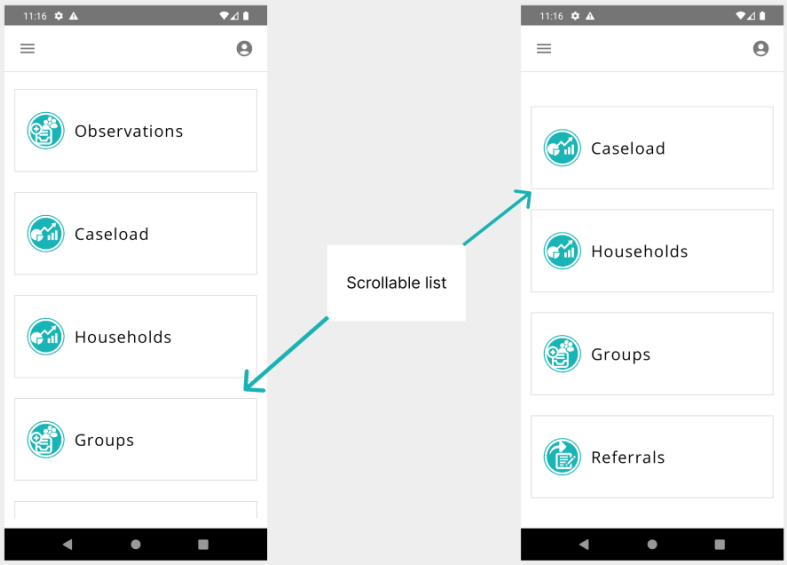
mobiEMR uses KeyCloak to secure services on the app and its fast single sign-on functionality. After registration, a client can choose to allow mobiEMR to access information from third-party services such as DHIS.





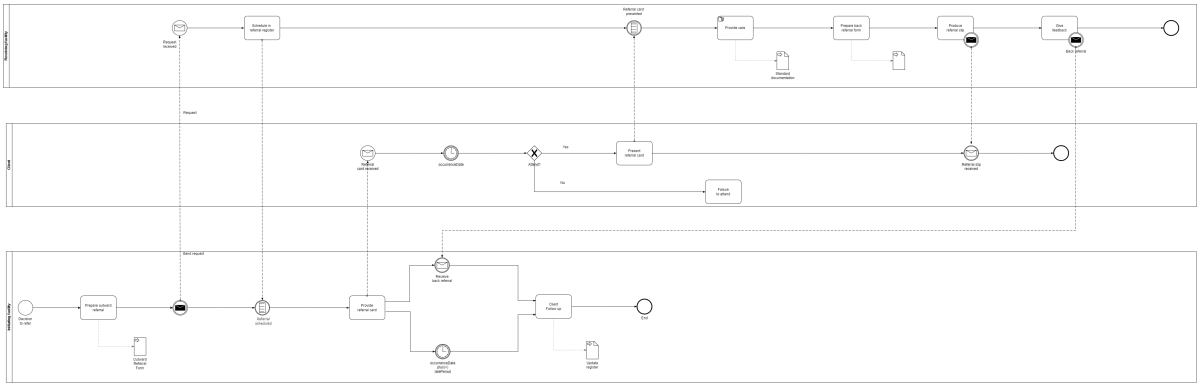
Home Screen

The app consists of 3 major screens, that is: Caseload, Cohorts and Referrals (outward and back referrals).

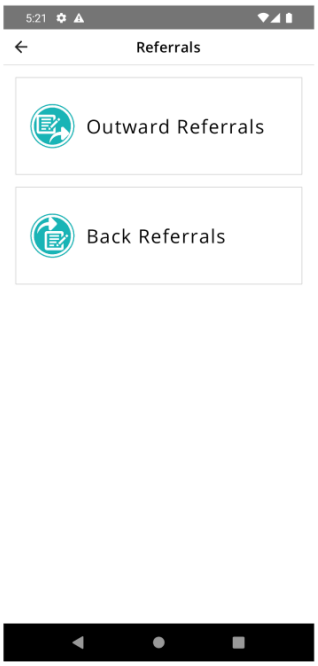


Referrals

A referrals is written order from your primary care doctor for you to see a specialist or get certain medical services from a specific person, department, or institution.

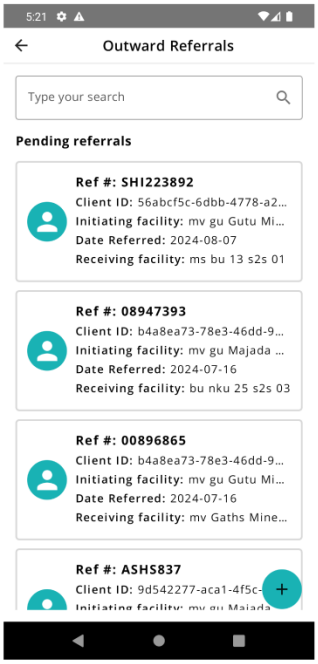


On mobiEMR we have two major referrals, the Outward and Back referrals.



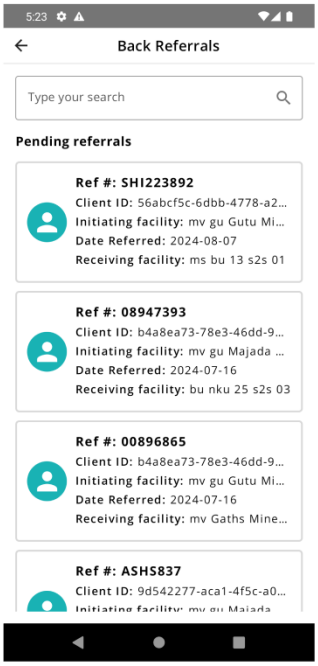
Outward Referrals

An Outward referral is a referral created by a client in mobiEMR to an external specialist (provider or organization) outside of our EMR network. A referral form must be completed and attached to the outward referral before sending it out.



Back Referrals

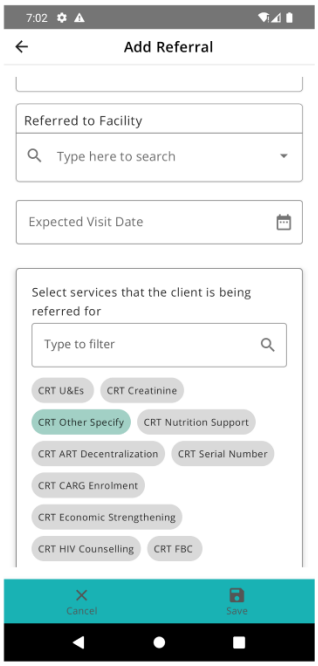
Back-referral mechanism begins with a letter of recommendation hospital doctor about the patient's condition being referred to a client on mobiEMR.

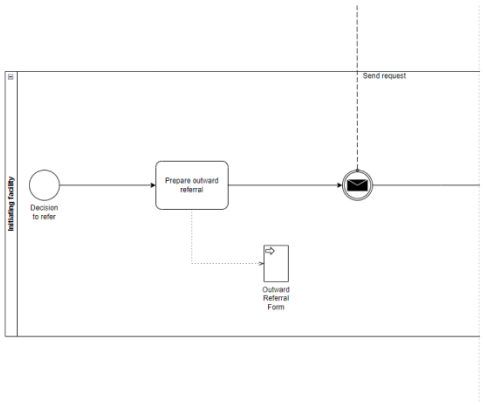


The Referral Process

Initiate Referral

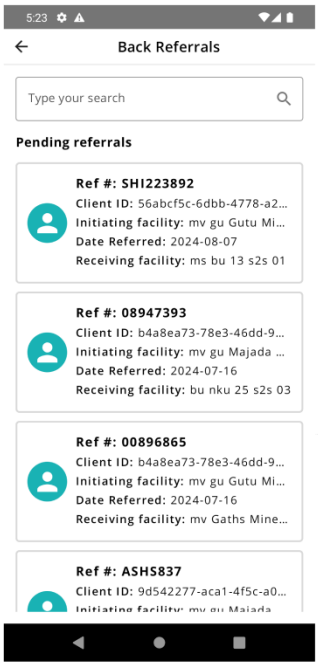
The referral initiative is started by preparing an outward referral form which is displayed as formed widgets on the mobile-end from the converted JSON file with specific requirements data fetched from the mobiEMR server.

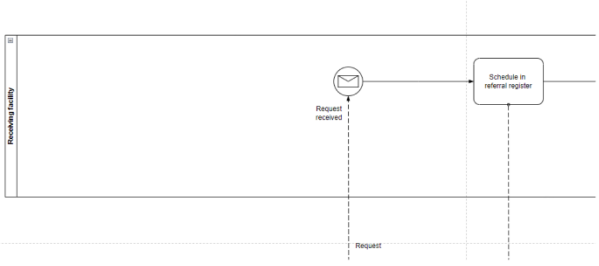




Receive Referral

After the initiating facility has sent a referral request, it is then received by the end-facility, who can now make a schedule in their referral register.



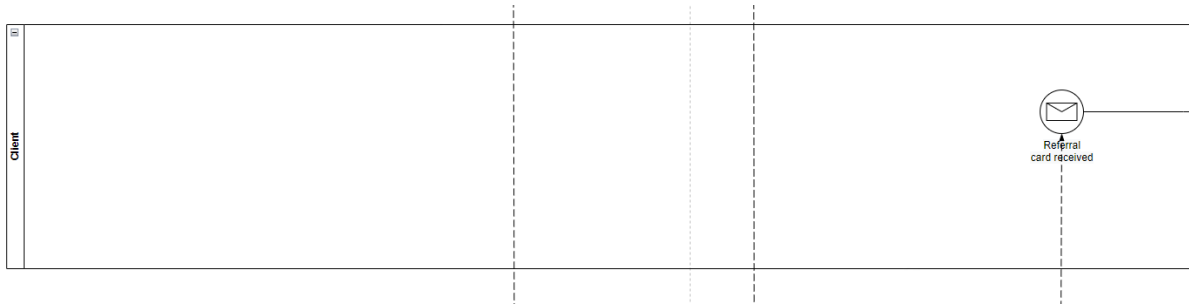


Notification and Referral Card

An event is then triggered as a notification in mobiEMR to the initiating facility that the referral has been received and scheduled.

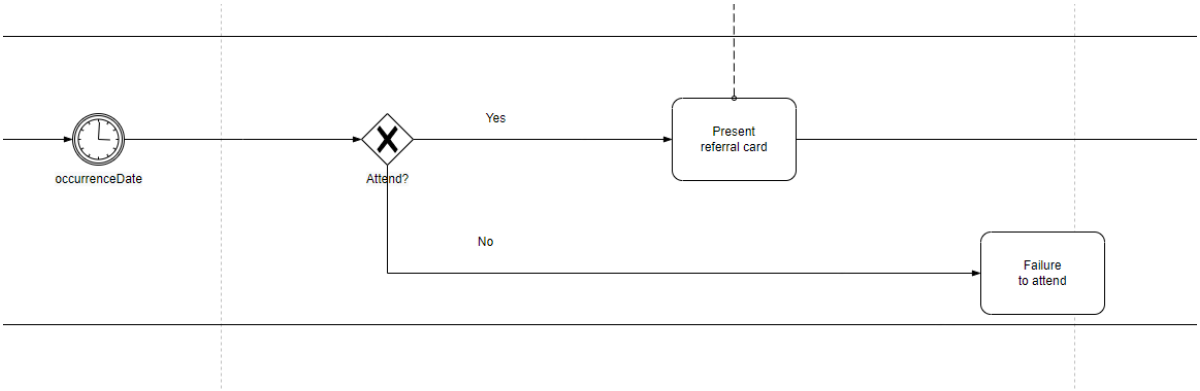
Referral Card

The client being referred is then issued a timestamped referral card at which they can decide to opt for the referral session or cancel the whole process at once.



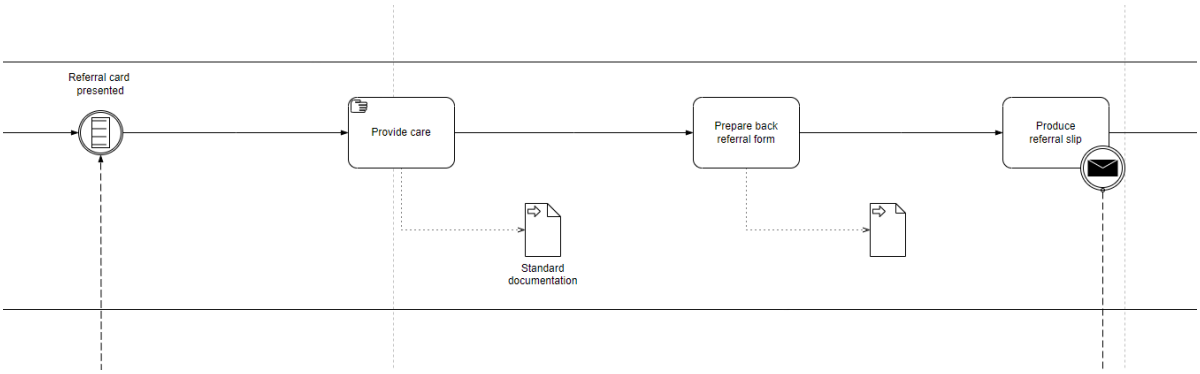
Decision To Continue Referral

If they decide to proceed, a valid referral card is presented to the receiving facility to confirm the identity of the referred client.



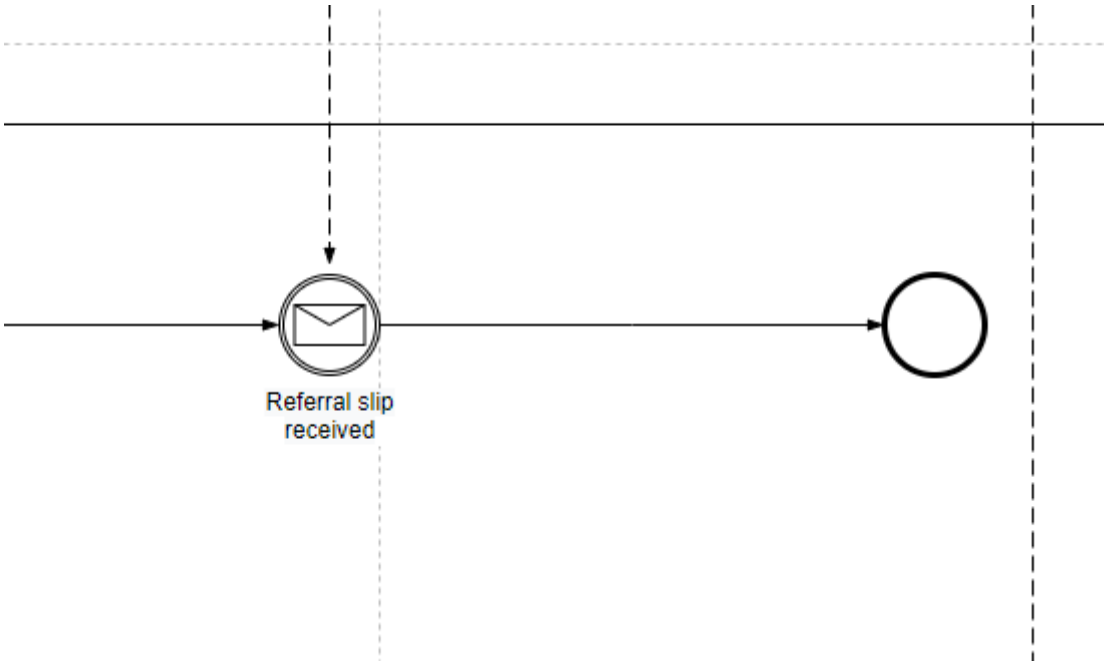
Provide Care

Checks are performed by mobiEMR and care is given to the referred client alongside a preserved standard filing to keep the event stored for future reference. Then, a back referral is created on mobiEMR.



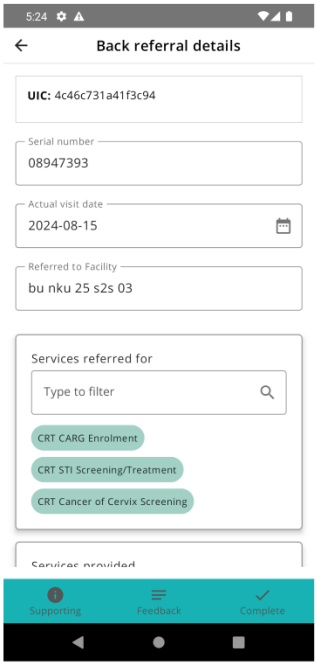
Client Referral Slip

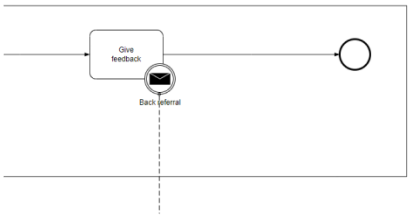
This include a separate referral slip with the process results sent to the referred client.



Back Referral

The back referral form is forwarded to the initiating facility as feedback for the whole procedure.



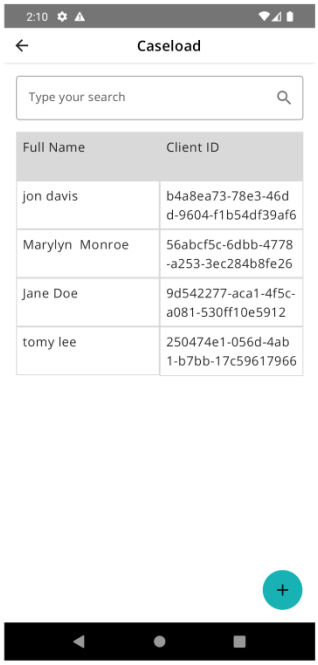


Complete Referral

A back referral is received with information on how the whole process has played out. The facility can now do follow-ups with its referred client and updates the referral register. We can now say, the referral process is complete.

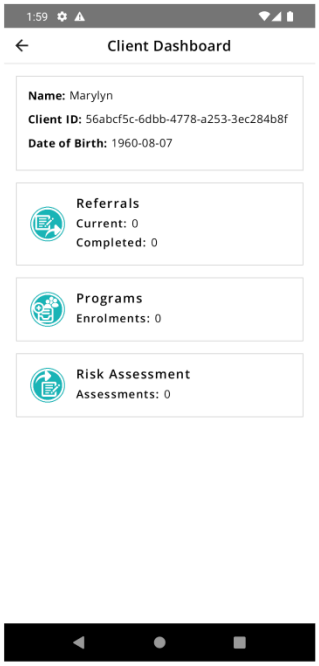
Caseload

The caseload service provides community workers with a list of patients they manage in a table format. The table can be searched, filtered, and its contents are downloadable for external reference in excel format.



Individual Caseload

The patients under each caseload can be expanded further to view more information, which include certain programs enrolled and the organization unit they are listed under.

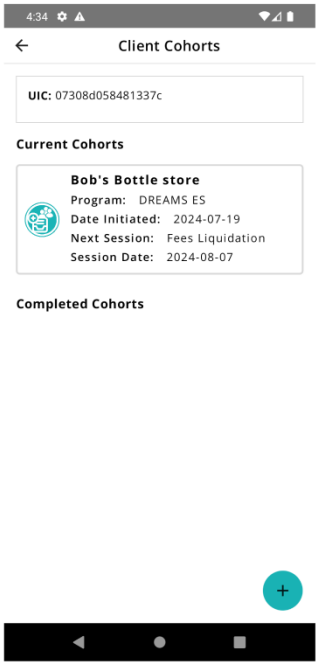


Client Referrals

The client referrals are referrals listed under each client

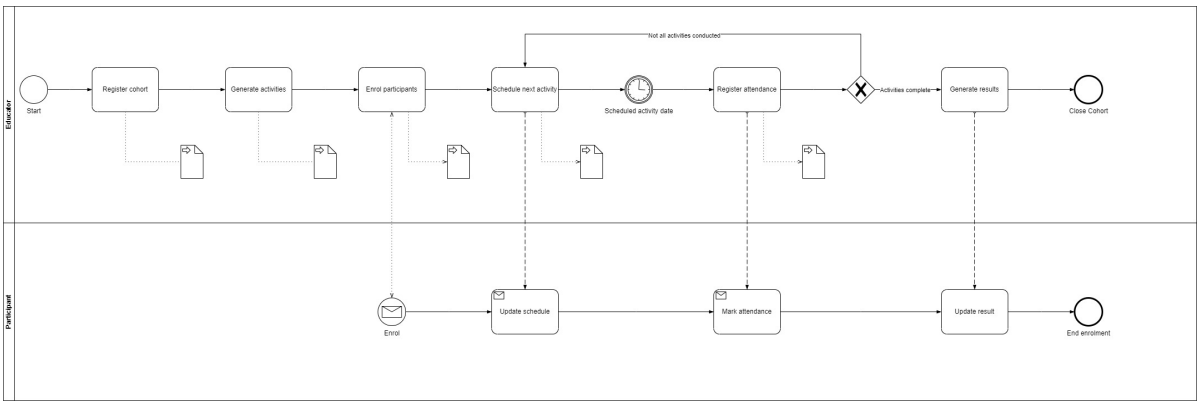
Client Cohorts

These are cohorts which a client has been enrolled into.



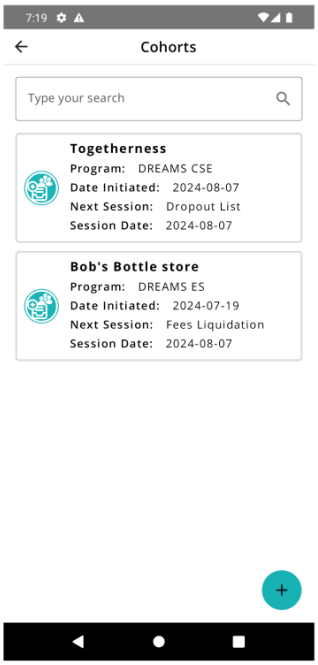
Cohorts

Cohorts are community groups managed by the community worker. The processes of a cohort are shown below the following diagram.



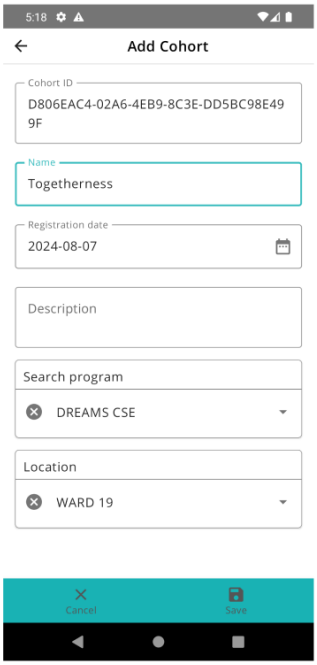
Cohorts List

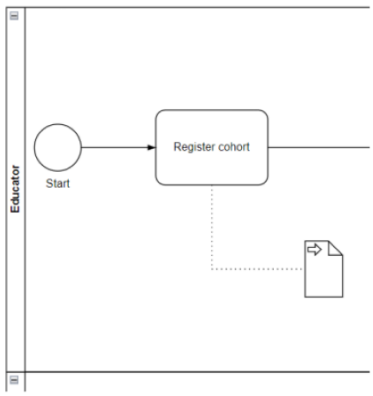
They are displayed in an infinity list under the cohort screen.



Add New Cohort

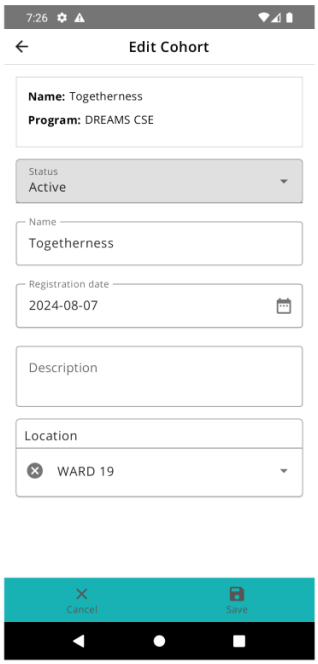
Adding a new cohort on mobiEMR is done by clicking the Add FAB, then completing the cohort form, that's it.





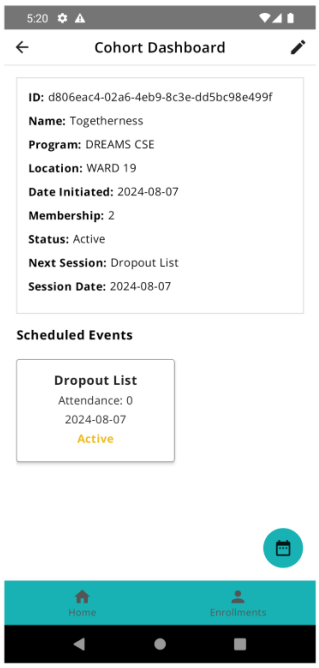
Edit Cohort

To edit a cohort, click on the Edit FAB on the dashboard, and update fields mearnt for editing.



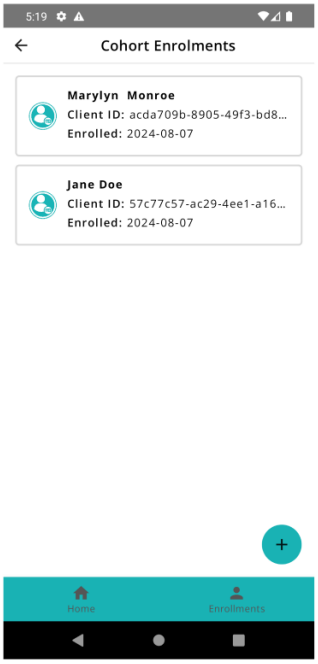
Cohort Dashboard

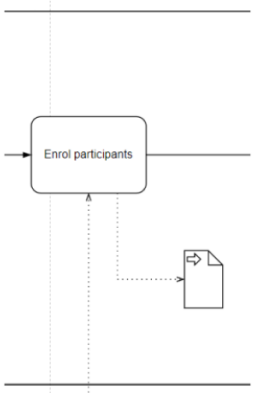
The dashboard provides full information on the cohort, including a horizontal scrollable list of scheduled events registered under the cohort and a bottom navigation menu with navigation to an enrollments screen.



Cohort Enrolments

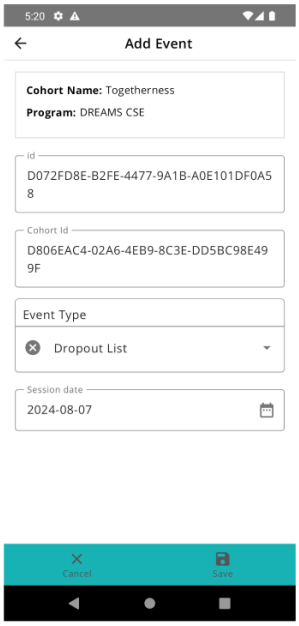
Enrolments are members registered under the cohort. The manager can add new members to the cohort and also has the ability to remove members.

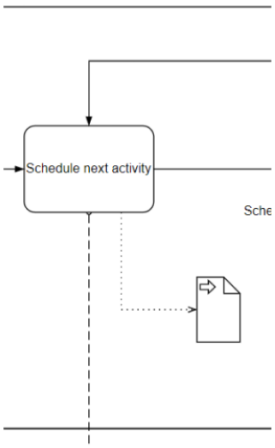




Cohort Events

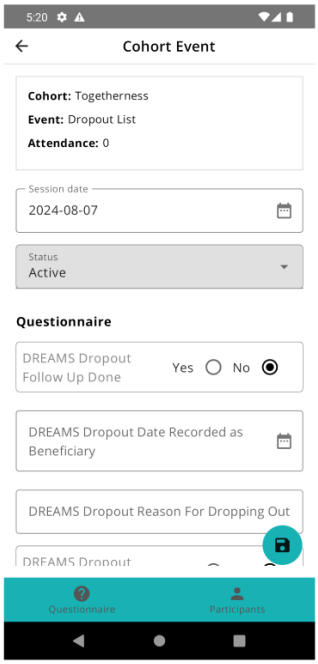
Sessions or Events are periodic activities that are created by cohort managers and attended by belonging members in groups.





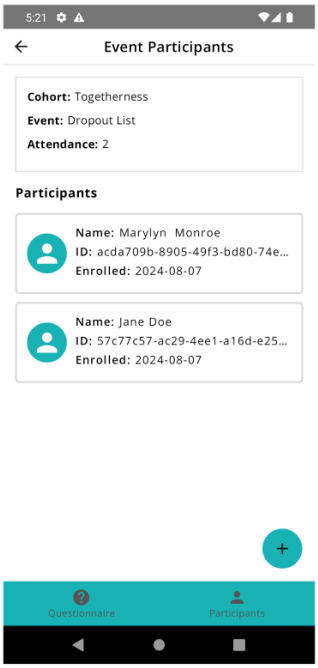
Cohort Event

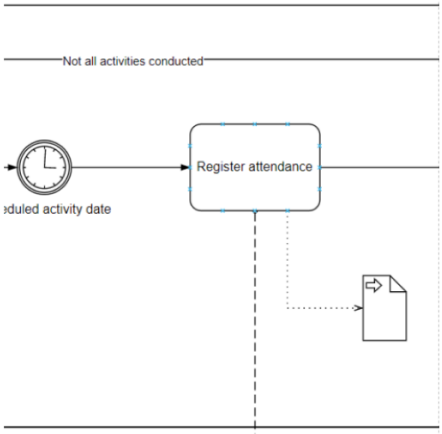
The manager can answer the questionnaire on for the event.



Cohort Event Participation

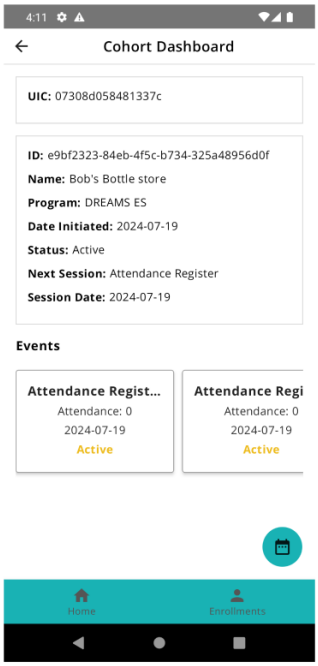
The manager can mark attendance register after every session and also cancel the entire session if the need arise.





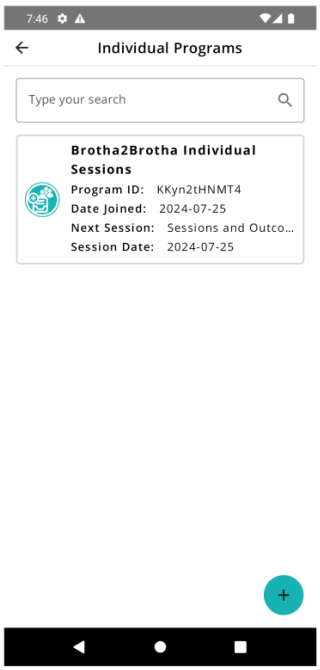
Cohort Member Dashboard

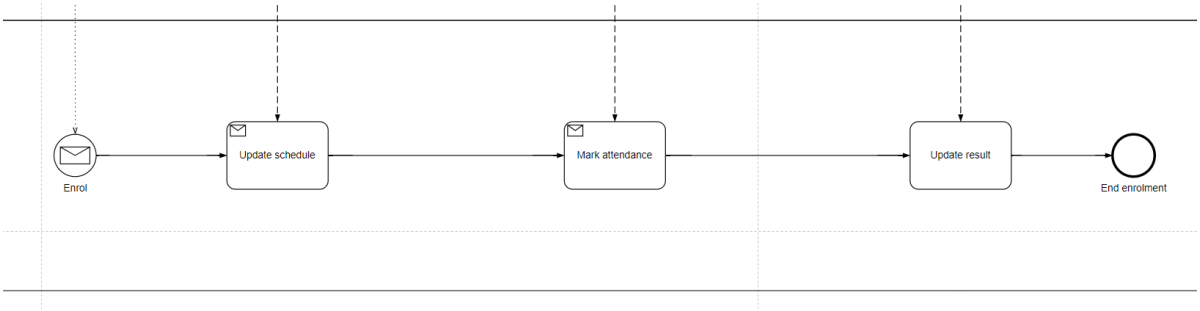
The dashboard encompasses everything about the member, from personal details, sessions/activities that the member is registered. A button to un-enroll the member is available on the dashboard and also a FAB to schedule an activity.



Member Individual Sessions

Members can have individual sessions separate from group sessions, that are managed by their assigned community workers to monitor member progress.



Update Member Session

After each individual session, a manager can update the session to reflect the progress made with the member for example adding notes and attendances.