

Kenya Electronic Medical Records(KenyaEMR +)

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Preliminaries

This chapter contains the Table of Contents, Acronyms and Abbreviations and Introduction to the user guide

Preliminaries

Table of Contents

Acronyms and Abbreviations

| | |
|-------|--|
| ANC | Antenatal Clinic |
| CPUs | County Proximate University |
| CCC | Comprehensive Care |
| CWC | Child Welfare Clinic |
| EHR | Electronic Health Record |
| EMR | Electronic Medical Record |
| FP | Family Planning |
| HRH | Human Resources for Health |
| HRIOs | Health Records Information Officers |
| ICT | Information and Communication Technology |
| IPD | In-Patient Department |
| KHIS | Kenya Health Information System |
| MCH | Mother and Child |
| MOH | Ministry of Health |
| NGO | Non-Governmental Organization |
| OPD | Out-Patient Department |
| PAC | Post Abortion Care |
| PNC | Postnatal clinic |
| PCN | Primary Care Network |
| SDIP | Service delivery implementing partners |

Introduction and Background

About KenyaEMR+ User Guide

This user guide provides directions for access and use of KenyaEMR+ system deployed in health facilities in Kenya. It details clinical workflows by a provider using KenyaEMR+ to facilitate efficient service delivery. KenyaEMR+ covers various service points including: registration, triage, Out-Patient Department (OPD), In-Patient Department (IPD), Specialist Clinics and other support services like billing. The guide also details how a user may retrieve various reports from the system for efficient clinical decision making.

Target Users

This user guide targets all users of KenyaEMR+ system including but not limited to the following;

1. Sub- County and county Human Resources for Health (HRH) (including Health Records Information Officers (HRIOs), Medical Superintendents, Doctors, Nurses, Clinical Officers, Pharmacists, Radiologists, Lab technicians)
2. County staff ICT officers, records officers, cashiers, accountants
3. NGOs working in the health industry.
4. Ministry of Health.

HealthIT Project

The HealthIT is a USAID funded digital health mechanism whose overall purpose is to strengthen national policies, strategies, standards and reporting related to Kenya's Health Information System (KHIS), so as to ultimately support county and national level health service provision. The main aim is to enhance achievements towards evidence-based decision making at both the national and county levels, through the adoption of HIS policies, standards and guidelines. Ultimately this contributes to the achievement of systems interoperability and best practice.

About Kenya EMR

The HealthIT's implementation strategy is to work with; Kenya Ministry of Health (MOH), County Governments, County Proximate Universities (CPU), Service Delivery Implementing Partners (SDIP) and Digital Health and Strategic Information Partners to deploy, expand, enhance and implement electronic health records with Kenya EMR as the core clinical service module to provide a facility- wide electronic system.

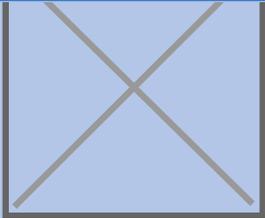
KenyaEMR+ is a tailored distribution of OpenMRS that follows the principles of digital development:

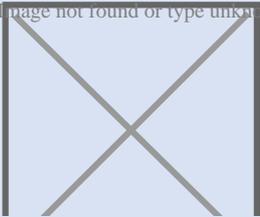
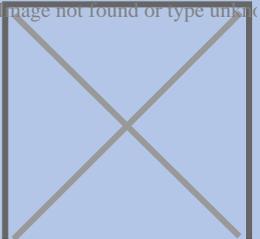
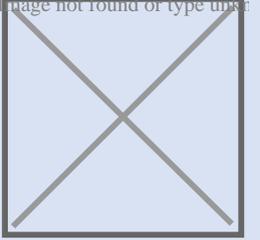
1. It is designed with the patient at the center of development
2. Understanding that in the current Kenyan healthcare Ecosystem there are several EHR systems, KenyaEMR+ has implemented data exchange and interoperability standards to allow for interoperability.
3. The system is modular, allowing for scalability
4. KenyaEMR+ is based on OpenMRS which an open-source software
5. With OpenMRS being open source, it allows for continuous improvement

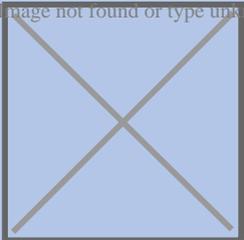
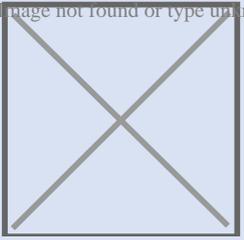
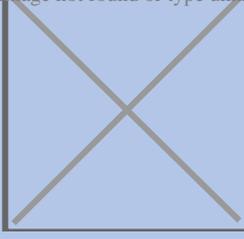
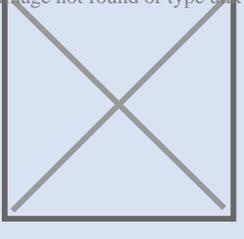
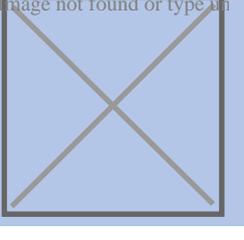
KenyaEMR+ platform is a patient centric electronic health record tool that is flexible, interoperable and scalable. It supports facility-wide functions of: clinical management, data management, clinical decision support reporting, lab information system, and inventory, billing and system management.

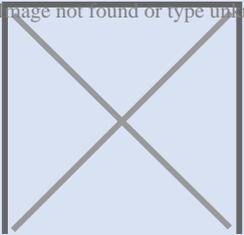
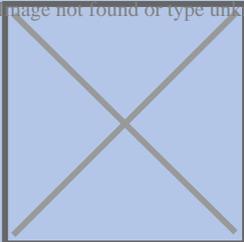
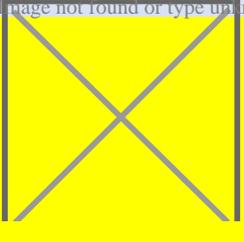
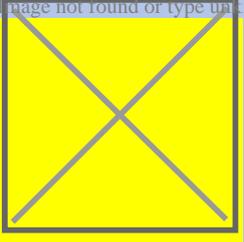
KenyaEMR+ System Overview

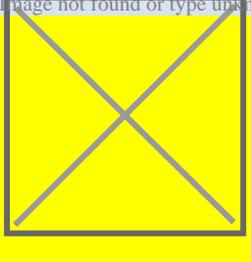
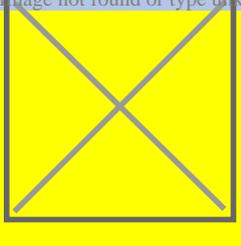
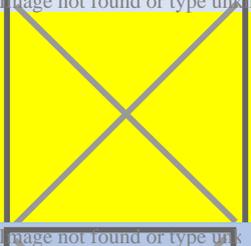
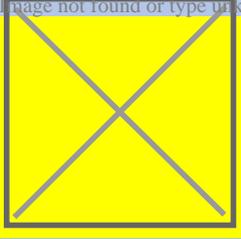
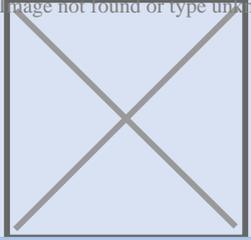
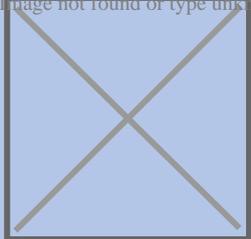
The KenyaEMR+ has 21 modules which facilitate service delivery in a health facility. The functionality of each module is described briefly in the table below. Respective icons for each of the modules as appears on KenyaEMR+ are also displayed.

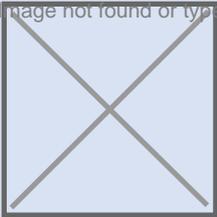
| | Module | Description | Module Icon |
|-----------|--------------|---|---|
| 1. | Registration | This module is used to register new patients. It is also used to find details of patients who had already been registered in the system |  |

| | Module | Description | Module Icon |
|----|------------------------------|--|--|
| 2. | Queue Patient | This module provides more information about the patient including the billing details, specified patient category (Paying, non-paying and special schemes), payment categories and room to visit. | Image not found or type unknown  |
| 3. | Triage | This module is used to enter the patient's vital information at the triage section of the facility | Image not found or type unknown  |
| 4. | Out-Patient Department (OPD) | The Outpatient Department, interfacing with several departments. This is the primary point of communication/care among the patient and the medical professionals/clinicians | Image not found or type unknown  |

| | Module | Description | Module Icon |
|----|------------|--|--|
| 5. | Billing | This module enables the patients to make various payments to different bills that are being charged on various services that are offered within the facility through the system. | Image not found or type unknown  |
| 6. | Inventory | The inventory module is used to manage Drugs and Other non-pharmaceutical items like syringes and bandages. | Image not found or type unknown  |
| 7. | Pharmacy | This module is used for drugs management and dispensation. | Image not found or type unknown  |
| 8. | Laboratory | This is where all investigations/tests are done and results posted | Image not found or type unknown  |
| 9. | Radiology | This department deals with imaging requests | Image not found or type unknown  |

| | Module | Description | Module Icon |
|-----|-----------------------------|--|---|
| 10. | Procedure Room | This module deals with carrying out procedures ordered by the doctor or clinician. It also gives a summary of patients who are due for procedures and who have already had procedures on a given number of days. |  Image not found or type unsupported |
| 11. | In-Patient Department (IPD) | This module takes care of patients in the wards. You can manage the wards, update patient vitals, prescribe drugs and request for investigations. |  Image not found or type unsupported |
| 12. | MCH Triage | This module is used to enter the patient's vital information at the triage section of the MCH |  Image not found or type unsupported |
| 13. | MCH Clinic | This is the module that holds all the MCH clients e.g. ANC / PNC / CWC and FP once they are sent from the MCH Triage |  Image not found or type unsupported |

| | Module | Description | Module Icon |
|-----|---------------|--|---|
| 14. | Delivery Room | This module is part of the MCH module and takes care of Mothers with their newborns |  Image not found or type unknown |
| 15. | MCH Stores | This module works like the inventory module and manages the items used in the MCH departments. |  Image not found or type unknown |
| 16. | PAC Room | The Post Abortion Care (PAC) Room module is used in Post abortion care |  Image not found or type unknown |
| 17. | Oncology | This module is used to manage cancer patients. |  Image not found or type unknown |
| 18. | Morgue | This module is used at the morgue section of the hospital |  Image not found or type unknown |
| 19. | Revenue | This gives summaries in revenue collected from patients and clients on a given day or days per department. |  Image not found or type unknown |

| | Module | Description | Module Icon |
|----|---------|--|---|
| 1. | Reports | This module enables a user to generate various report including MOH indicator forms as well as other module specific reports |  |

Authorized use of the system

Access to the system is based on user access rights. One must have a username and password to access the system. Users of the system have different privileges based on their roles in the system.

Organization of KenyaEMR+ User guide

This user guide is organized in four sections below;

Chapter 1: Introduction and Background,

Chapter 2: Getting Started on KenyaEMR+

Chapter 3: KenyaEMR+ modules and their features

Chapter 4: KenyaEMR+ reporting.

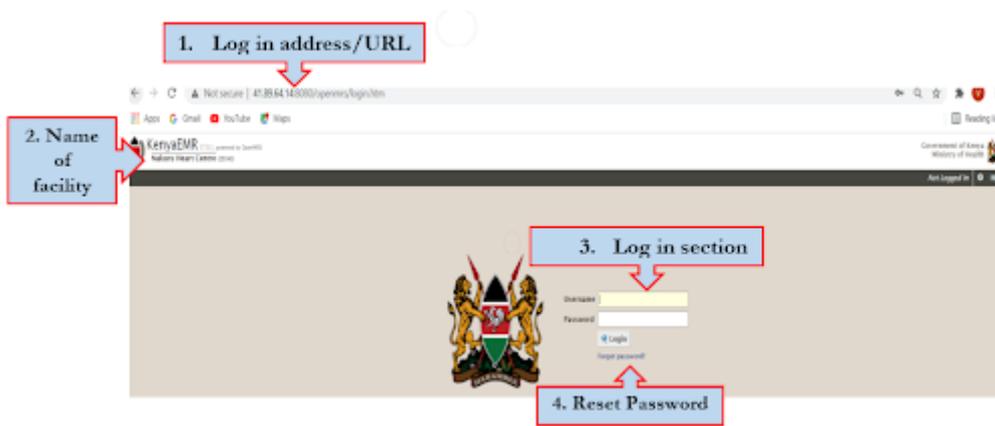
Getting Started on KenyaEMR+

Login

Sections below detail how to access and log in into KenyaEMR+

Login Screen Features

KenyaEMR+ Login screen appears as below. Pay attention to the four key features below;

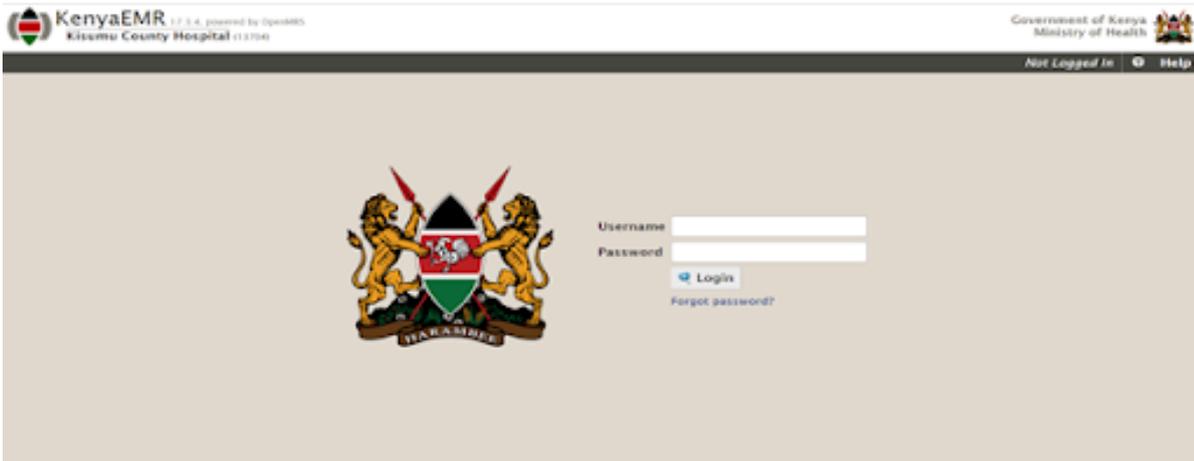


1. Login address/URL - this is the link you will follow or paste on a web browser to open KenyaEMR+ system
2. Name of the facility - the name of your health facility will display here
3. Login section - you will enter your login credentials here
4. Reset password - you will click here to reset/recover your password if you have forgotten

Login steps

To log into the KenyaEMR+ system, follow the steps below;

1. Follow the link <http://41.89.94.100:8080/openmrs/kenyaemr/userHome.page> (HealthIT test environment) or <http://localhost:8080/openmrs> on a local installation on your browser.



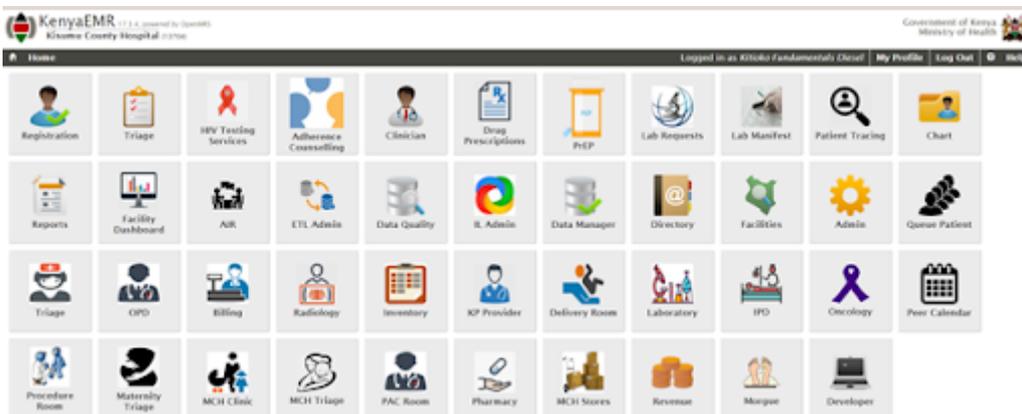
2. Enter your username
3. Enter your password
4. Click on 'Login' icon

Once you click the 'Login' button the Home page screen will appear.

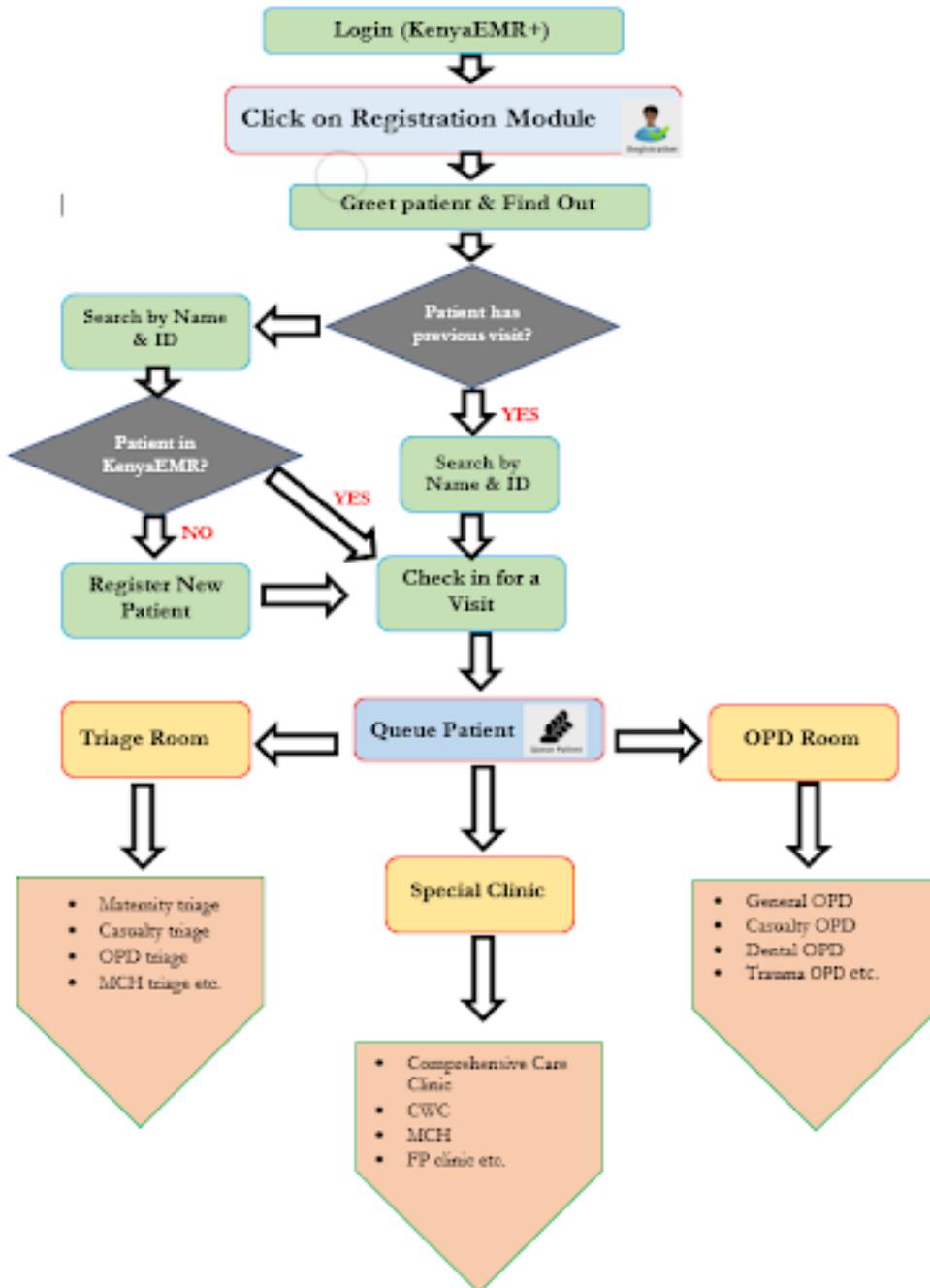
1. If you do not have login credentials, talk to the KenyaEMR+ champion or facility in-charge in your facility.
2. If you have forgotten your password, click on 'Forgot password?' on the Login screen and follow prompts to reset it.

Homepage

This page consists of all the modules available within the system. Each module can be accessed by clicking on its respective icon. Users will be able to only view and access the modules which they have been granted rights to access. The home page screen appears as below only showing modules a user has been granted access to.



KenyaEMR+ Workflow



Editing user profile

Users who have been granted access can edit their own profile and change password by clicking on 'My Profile' tab on top right of your screen as shown in the screenshot below;

<insert screenshot>

Once you click on 'My Profile' icon, the screen below will appear and it will enable a user do the following by clicking on respective sections;

1. Change password
2. Change secret question
3. Edit name, gender and contact details

<insert screenshot>

Once you complete editing your profile, click on the 'Home' icon at the top left of your screen to go back to the modules.

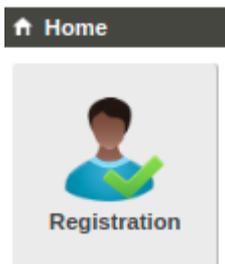
<insert screenshot>

KenyaEMR+ Modules and their Features

Registration

This module is used to register new patients. It is also used to find details of patients who are already registered in the system.

To access this module, click on the “registration” icon on the ‘Home’ page. Registration icon appears as displayed below.



Go to [Appendix 2: Registration Module Workflow](#) to access Registration module flow chart

Registration Module Features

When you click on the registration icon, a window will appear as per the screenshot below. There are four tabs on the registration module which enables a user to;

1. Find or create a patient - enables a user to find a patient already registered in the system or register a new patient
2. View scheduled patients - enables a user to view scheduled patients (patients with appointments)
3. View Active visits - allows a user to view patients currently receiving services in various clinics within a facility
4. View seen patients - allows a user view patients who have visited a facility in a given day whether still receiving a service or have left the facility

The four tabs on registration module are as shown on the screenshot below;

<insert screenshot>

The first step of a patient's journey in a facility begins at registration. First, find if the patient exists in the system, otherwise, create them as new patient.

Finding a Patient in the System

To find an existing patient, click on 'find or create patient' on the 'Registration' window and a window below will pop up as per screenshot below. You can search a patient by name or system patient ID in the steps below

1. Click on find or create patient on the Registration window.

<Insert Screenshot>

2. **Type in the patient ID or Name in the search box**

<Insert screenshot>

3. The patient's details will appear on the right side of your screen, select the exact patient by clicking on their name

4. On the Patient window that will pop up, click check-in for visit as per screenshot below

<insert screenshot>

This window also allows a user to;

1. Update obstetric information of a patient
2. Add relationships information for the patient
3. Enroll them to HIV, TB, IPT, MCH & Key population services.

5. **Select the preferred visit type, then finally submit.**

<Insert screenshot>

6. **Move to Queue Patient Module on the 'Home' screen to queue the patient**

Creating a New Patient

To register a new patient follow the steps below;

1. Click on 'find or create patient' on the 'Registration Module' as per screenshot below;

<Insert screenshot>

A new window will appear as per screenshot below.

2. Click on 'Create New patient' Tab to register a new patient

<insert screenshot>

A new window will pop providing you with 2 options as per screenshot below

<insert screenshot>

These two options provided to register a new patient will enable a user to;

Option 1: Register New Patient Tab- this tab is used to register a new patient who does not exist in the system

Option 2: Register Existing User to Patient Tab- this tab is used to register a new patient who exists as a user BUT not as a patient in the system. A good example is an employee in a health facility who is registered as a user to offer services to patients but is now seeking health services

Option 1: Register New patient

To register a new patient follow the steps below;

1. Click on 'register new patient' icon (Option 1), registration window below will pop up. Input patient information by clicking and typing on spaces provided alongside each information required. All fields marked with an asterisk (*) are mandatory fields.
2. Click create patient at the bottom right of the page to create the patient

<Insert Screenshot>

3. A new window as per screenshot below will pop up. Click on 'Check in for visit' Tab

<insert screenshot>

4. Select the preferred visit type, then finally submit.

<insert screenshot>

5. Move to Queue Patient Module on the 'Home' screen to queue the patient to respective queue

Option 2: Register existing user to patient

To register an existing user to patient, follow the steps below;

1. Click 'Register existing user to patient' icon (Option 2), the filter window below will pop and will enable you to search and pick an existing user.
2. Type in the staff name on the filter space provided and when their name appears, move your mouse pointer and select the user (staff) you want to register.

<insert screenshot>

3. When you select an existing user on the screen above to register as a new patient, then the registration window below will pop up with new user details which are already in the system populated in respective fields. Add any missing details of the patient

<insert screenshot>

4. Click on Save Changes to register existing user to patient

5. A new window as per screenshot below will pop up. Click on 'Check in for visit' Tab

<insert screenshot>

6. Then select the preferred visit type, then finally click on submit button.

<insert screenshot>

7. Move to Queue Patient Module on the 'Home' screen to queue the patient to respective queue

<insert screenshot>

Scheduled Patient

You can view scheduled patients according to the dates they are scheduled for visits by clicking on respective dates on the calendar. When you click on a date, the names of scheduled patients will display as per screenshot below;

<insert screenshot>

Queue Patient Module

This module provides more information about the patient including the billing details, specified patient category (Paying, non-paying and special schemes), payment categories. In this module a user is able to:

1. Search for patient
2. Enter patient details
3. Queue the patients for different rooms: Triage/OPD/Special Clinic etc

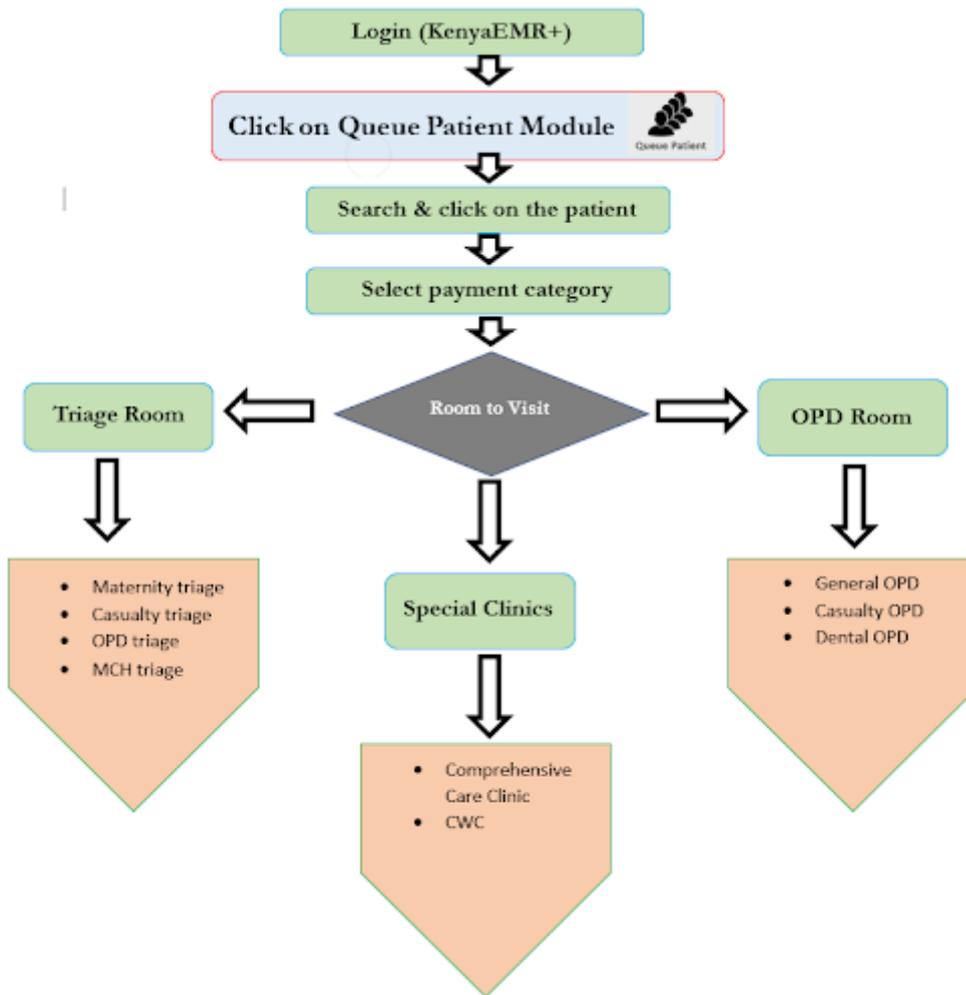
To access this module, click on the “Queue Patient” icon on ‘Home’ screen as displayed below

<insert screenshot>

Queue Patient Module Workflow

Go to [Appendix 3: Queue Patient Module Workflow](#) to view Queue Patient module workflow

The figure below illustrates the workflow in the queue patient module.



Search a Patient

On clicking the Queue patient icon, a user is able to search a patient by typing the first three characters of the patient name on the "ID or name" text box that is on the left-pane of the screen, This will display a list of possible patients that you are searching for, then click on the patient from the list below.

<insert screenshot>

Queue patients

After selecting the patient, you will be able to queue the patient according to;

1. Patients category
2. Paying category
3. Visit type
4. Room to visit
5. Visit information

By selecting the patient details accordingly, then click on the Green Finish button as per screenshot below;

<insert screenshot>

After selecting the details, click on the green 'finish' button on the above screen then a receipt will be displayed as appears below.

Click on the purple 'print' button to print the receipt which is issued to the patient.

<insert screenshot>

Triage Module

This module is used to enter the patient's vital information at the triage section of the facility

It is accessed by clicking the 'Triage' icon shown below on the 'home' screen.

<insert screenshot>

Triage Queue Page

This page appears when the triage page and from the "Select Queue" drop down menu, select the triage section.

Filter the name of the patient from the queue

<insert screenshot>

A user in the triage section enters the patients' vital information below:

1. Temperature* - mandatory field
2. Blood pressure
3. Body Mass Index
4. Circumference: MUAC, Chest and Abdomen
5. Room to visit * - mandatory field

Note: All the fields marked * are mandatory

<insert screenshot>

After entering the patients' vitals, click the finish button in green at the bottom left of your screen.

Note that the 'Finish' button will be activated only after filling in all fields marked with an asterisk (*).

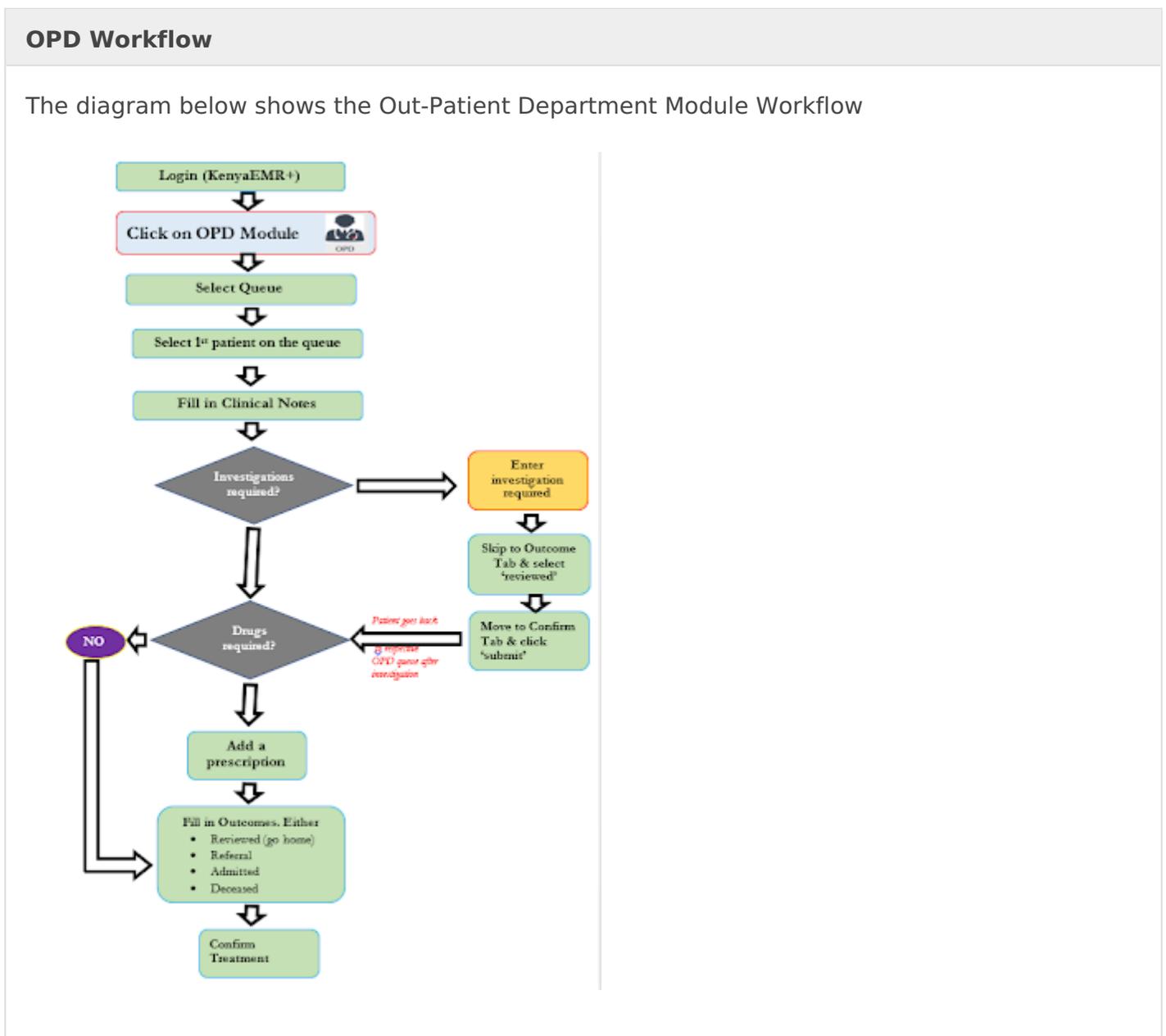
The patient will be queued in the OPD queue (respective queue selected under 'room to visit') as shown in screenshot below;

<insert screenshot>

Outpatient Department (OPD) Module

The Outpatient Department, interfacing with several departments, is where patient management is done. It is accessed by clicking the 'OPD' icon shown below on the 'home' screen.

<insert screenshot>



Billing Module

Inventory Module

Pharmacy Module

Laboratory Module

Procedure Room

Radiology

InPatient Department

KenyaEMR+ Modules and their Features

MCH Triage

Mother and Child Health Clinic(MCH)

Delivery Room

MCH Stores

Post Abortion Care (PAC) Module

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Oncology Module

Morgue Module

Indicator Reports

Indicator Reports

MoH 705A