GOVERNMENT OF THE

UNITED REPUBLIC OF TANZANIA





Government of Tanzania-Hospital Management Information System (GoT-HoMIS version 3.0)

User Manual v1





Ministry of Health
Community Development,
Gender, Elderly and children

Presidents Office Regional Administration
And Local Government
(PO-RALG)

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LIST OF ACRONYMS

EMR Electronic Medical Record

ENT Ear, Nose and Throat

GBV Gender Based Violence

GePG Government electronic Payment Gateway

GoT-HoMIS Government of Tanzania Hospital Management

Information System

IPD Inpatient Department

MRN Medical Record Number

MSD Medical Store Department

MTUHA Mfumo wa Taarifa za Uendeshaji wa Huduma Za Afya.

OPD Outpatient Department

PO-RALG President's Office – Regional Administration and Local

Government

RCH Reproductive Child Health

SAN Sequential Account Number

VAC Violence Against Children

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CHAPTER ONE

SYSTEM OVERVIEW

Government of the United Republic of Tanzania has acknowledged the importance of the use of technology in the health facilities to make them work effectively and with efficiency by changing the entire hospital process from paper to paper less.

President's Office – Regional Administration and Local Government (PO-RALG) in collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children, Kibaha Education Center (KEC) and the University of Mzumbe has come up with a software solution for hospital management named Government of Tanzania Hospital Management Information system (GoT-HoMIS).

GoT-HoMIS was initiated by the Kibaha Education Center (KEC) and Mzumbe University, GoT-HoMIS is developed using local expertise within the country.

Since its inception back in 2015. GoT-HoMIS has gone through version transitions and is now in v3.

GoT-HoMIS is an integrated information system that covers the aspects of Electronic Medical Record (EMR), management of MTUHA reports, Billing and recording, Laboratory Information system and inventory management.

Under EMR the system comprises of patient Registration, OPD, IPD, Operating theatre, Blood bank, Mortuary, Emergency and casualty.

Under MTUHA the system creates certain information and make the information mandatory during registration process so that a report can be sent to MTUHA.

For Billing and recording GoT-HoMIS does electronic payment through the use of Government Electronic Payment Gateway (GePG)

In Laboratory information system, the system automate the investigations requests and process involved in delivering the concerned department of the health facility

Under inventory management GoT-HoMIS provides functionality for requisition of medical supplies, purchase of items, stock management, automatic reorder level settings, online request for stock from main store to sub-store and dispensing points. The system control medical flow from MSD to respective patient.

CHAPTER TWO

2.1. System requirements.

The hardware and software requirements specifications enlist necessary requirements that are required to accomplish the process of system installation. Any system installation needs a conducive environment for its successful installation. Before installing a system, system requirements needs to be available in order to ease the installation process.

Before installing GoT-HoMIS there must be the following pre-requisites

Server Software Requirements:

GoT-HoMIS requires a few software on a server machine for it to operate smoothly. Although the system can be installed and run on a normal desktop/laptop computer with decent specifications, a Health Facility shall require a "server" dedicated to host the system in the facility Local Area Network (LAN). The following are software requirements on the server

- i. Modern Server Operating system (Linux/Window)
- ii. Web Server:- Apache
- iii. PHP Engine
- iv. MySQL Database (This and the above two can all be installed once by the XAMPP/LAMPP package)
- v. An editor on Windows platform (Recommended Notepad++)
- vi. PHP Dependence Manager (Composer)

Server Hardware requirements

- i. RAM at least 8GB
- ii. Hard disk at least 1 Terabyte
- iii. Internet Connection

Client Software Requirements:

Since GoT-HoMIS is a web based software, the only software required on the client is an up to date Chrome Browser.

Client Hardware Requirements:

i. At least 2GB RAM on Clients computers

- ii. Receipt Thermal printer (Preferably Epson ...)
- iii. (Small sticker) Barcode printer
- iv. Barcode reader

2.2 Installation

The installation process is as follows;

- i. Install XAMPP
- ii. Install browser e.g chrome
- iii. Install notepad ++
- iv. Install composer
- v. Copy folder containing GoT-HoMIS V3 and paste it to C:\xampp\htdocs\got_homis_v3
- vi. Open terminal/CMD
 - Change directory to root i.e cd /
 - Then go to xampp/mysql/bin

```
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\hp\cd /

C:\cd xampp

C:\xampp\mysql\cd bin

C:\xampp\mysql\bin\mysql -u root -p

Enter password:
Welcome to the MariaDB monitor. Commands end with; or \g.
Your MariaDB connection id is 2

Server version: 10.1.19-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [\((none\)])
```

• Create database

```
MariaDB [(none)]> create database got_homis;
Query OK, 1 row affected (0.00 sec)
MariaDB [(none)]>
```

- vii. Make sure xampp is turned on
- viii. Go to htdocs, open the folder containing the database, go to .env file and edit it with notepad++, then change the database name to ensure it is similar to the name of a database you created.
- ix. Configure and clear cache. The cache is cleared and configured as follows;

```
C:\Users\hp>cd/
C:\>cd xampp\htdocs\got_homis_live
C:\xampp\htdocs\got_homis_live>php artisan config:cache
```

- x. Database Migration and Seeding
 - ➤ Database Migration is the process of creating the database schema on the database name created in step (vi) above.
 - ➤ Database seeding is a simple way to add initial data sets into your database.

Database Migration steps:

```
C:\Windows\system32\cmd.exe

Microsoft Windows [Version 6.3.9600]
(c> 2013 Microsoft Corporation. All rights reserved.

C:\Users\hp>cd/

C:\>cd xampp

C:\xampp\cd htdocs

C:\xampp\htdocs>cd got_homis_live

C:\xampp\htdocs\got_homis_live>php artisan migrate 

Press enter
```

Database seeding steps:

Once migration is done, seed the database as follows;

```
C:\Windows\system32\cmd.exe

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\hp>cd/

C:\>cd xampp

C:\xampp\cd htdocs

C:\xampp\htdocs\cd got_homis_live

C:\xampp\htdocs\got_homis_live>php artisan db:seed

Press enter
```

Port assigning and virtual host declaration

If apache cannot be started on the default port (80), assign new port numbers as follows:

Open the folder; C:\xampp\apache\conf

Under config, open *httpd.config* with Notepad C++ then add or edit port numbers under the Port Listening configuration part.

For example

```
58 Listen 80
59 Listen 7070← Assign new port number
```

Then open folderExtra: C:\xampp\apache\conf\extra

vi. Edit httpd-vhosts.conf to declare a virtual host as illustrated from line 36 to 42.

For example

```
36 <VirtualHost *:7070>
37 ServerAdmin got-homis@tamisemi.go.tz
38 DocumentRoot "C:/xampp/htdocs/GoT-HoMIS/public"
39 ServerName locahost:7070
40 ##ErrorLog "logs/dummy-host2.example.com-error.log"
41 ##CustomLog "logs/dummy-host2.example.com-access.log" common
42 </VirtualHost>
```

Line 36 - 42 - Virtual Host with listening port number 7070.

Line 37: - Administrator Server email address.

Line 38: - Folder name where system file for the domain name are Stored.

Line 39: - Local IP Address of the server where the system will be launched.

Line 40: - Contains a record of critical errors that occurred during the Server operation.

Line 41: - Create custom domains for development in XAMPP.

i. Restart apache and make sure the port numbers you have assigned are visible on the Apache Service port numbers on the XAMPP panel

CHAPTER THREE

3.1 Introduction to (GoT – HoMIS) Modules

Each module and their functions available in GoT-HoMISv3 will be explained in details in this chapter.

A module is a software component or part of a program that contains one or more routines. One or more independently developed modules make up a complete program. Modules are categorized according to the functionalities. User role can be assigned/removed to a user according to the user privileges.

GoT-HoMIS consist of various users and their modules as follows;

Main Module	Description	User Role	Module Components
System	Used to handle various	System	DB Setup
Administration	settings and user	Administrator	• Item setup
	managements		Facility setup
			• Users list
			 Payment
			category setup
Main Pharmacy	Register and distribute	pharmacist	• Main
	items		pharmacy
Sub Store		Pharmacist	• Sub store
Dispensing	Dispense items	Pharmacist	• Dispensing
Cashier	Confirm payments	Cashier	Bill payment
			• POS
Accountant	Perform financial	Accountant	• Financial
	functions related to;		report
	accuracy, recording,		
	analysis and		
	presentation		
Social welfare	give exemption	Social	Social welfare
Mortuary		Mortuary	• Mortuary

Lab technologist	Assist physician in	Lab technologist	• Lab setting
	diagnosis by perform		• Sample
	tests		collection
			• Lab testing
Nurse		Nurse	• Ward
			management
			• Nursing care
			• Vital sign
			• Theatre
			• Anti natal
			 Post natal
			• Labour
			• Family
			planning
Doctor	Care and safety of	Doctor	• Inpatient
	patients		 Outpatient
Hospital Secretary		Hospital Secretary	• Environmental
			health
Hospital		Hospital	• Debtor
Administrator		Administrator	
Receptionist		Receptionist	• Reception
			• Emergency
			registration
Radiology		Radiologist	• Digital
			Radiography
			 Imaging
			department
Anaethesia		Anaethest	Anaethesia
Mtuha		Mtuha report	Mtuha report
Dental		Dentist	• Dental
Eye		Eye	• Eye
Paediatric		Paediatric	• Paediatric

Reproductive Child	RCH nurse	Reproductive
Health(RCH)		Child
		Health(RCH)
Orthopedic	Orthopedic	Orthopedic

SYSTEM ADMINISTRATOR

System Activation, User permission and Permission role.

Super user/super admin is the person in charge of all other users in the system. By default, the user who signs up first and creates the organization is the Super Administrator. The Super Administrator has the utmost privileges across the entire organization. Super user is capable of: Change the role of a User to Admin and vice versa. View, manage or Change the details for any organization. There can be only one Super Admin in the entire organization.

Thereafter, Administrator must login in to the system with the valid credentials. By Default username = admin@tamisemi.go.tz and password = 12345678. After login successfully Administrator activate system Views. System views are MySQL views which control different logics and process in the system. To activate system views click on *DB Setup* then open system activation Tab, on system activation Tab click the button **ACTIVATE.** As shown below.

Note:

System database activation is compulsory. It is a very important step because it enable items sales and user details account to be activated

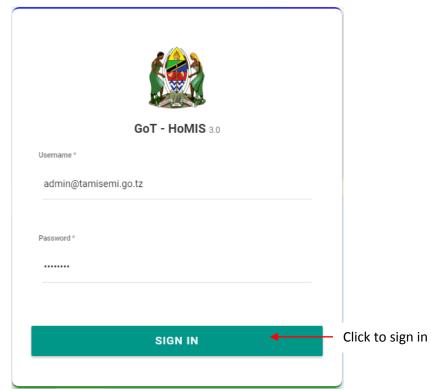
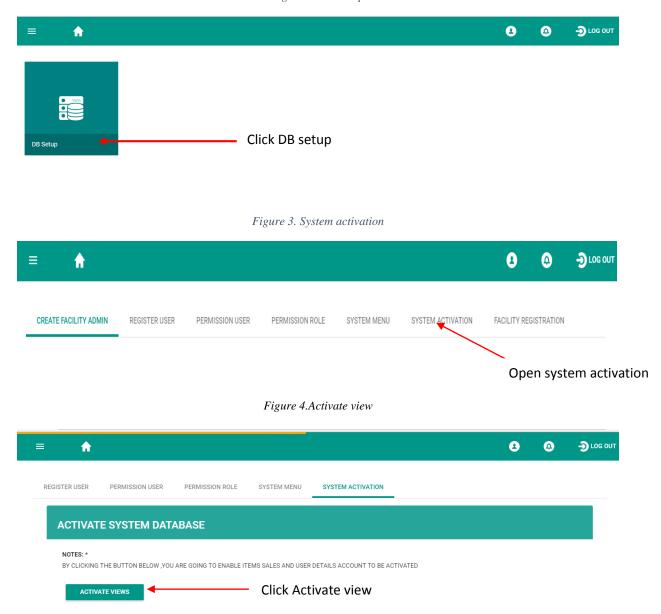


Figure 1.Administrator login page

Figure 2. DB Setup

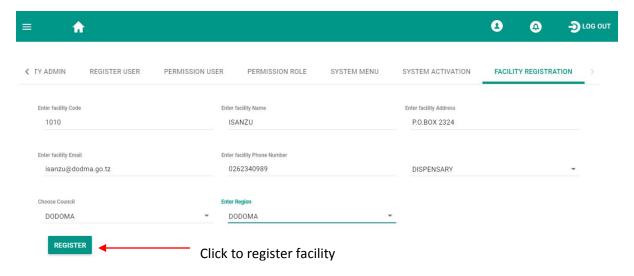


System will show the loading bar with progress on the top of the page. After finishing the activation system will show "SYSTEM DABABASE ACTIVATED".

NOTE: System views must be activated only once.

Afterwards, the administrator will be able to formulate the Facility. For the facility to be formulated, the administrator must open the DB Setup module, click on facility registration tab and register the facility details: Facility code, name, Address, email, phone number, facility type, council and region.

Figure 5. Facility registration



ITEM SETUP

Item setup enables users to *register* all items which are available in a facility. Item setup consist of 8 modules which are;

1. ITEM PRICE

This sub-module includes the price of all items of each payment categories. After creating the price of items. The created items with their prices are listed on item priced list.

Figure 6.item setup



Figure 7. Create item price

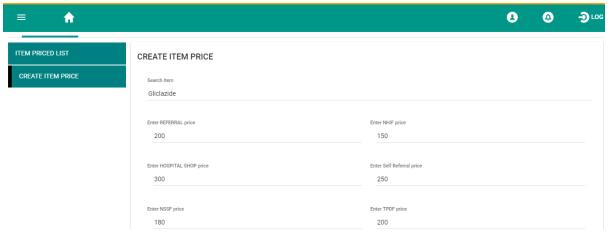
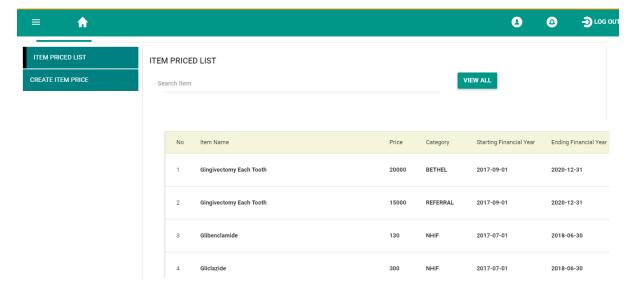


Figure 8.item price list



REGISTRATION

Register the item by entering the item name and choose its corresponding department.

Search the item name and choose the item category in order to map the registered item to a correct item category.

Search the item and choose the item sub category.

After items registration the registered items with the sub departments are listed and the items with their departments are listed on item list.

The system enable **edit** of registered items on item setup.

Figure 9. Item registration

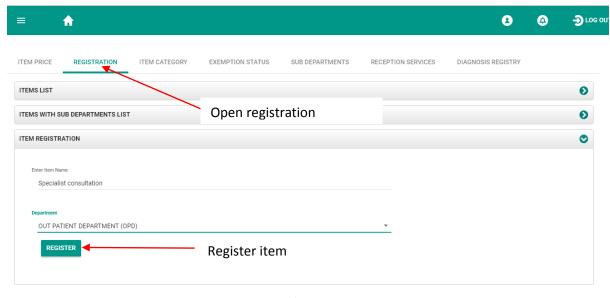


Figure 10.Item mapping

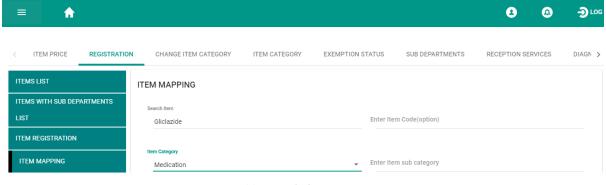
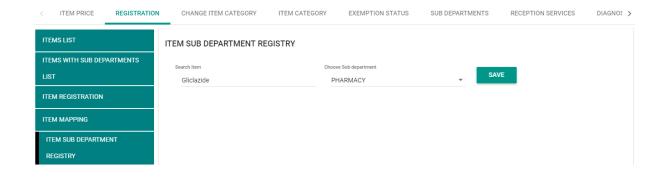


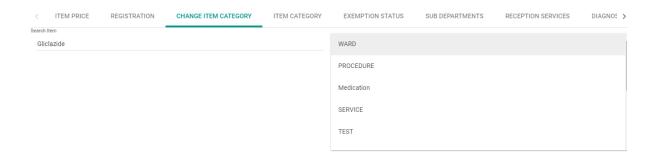
Figure 11.Item sub-department registry



CHANGE ITEM CATEGORY

Items assigned with incorrect categories are edited here by searching an item and choosing its correct category.

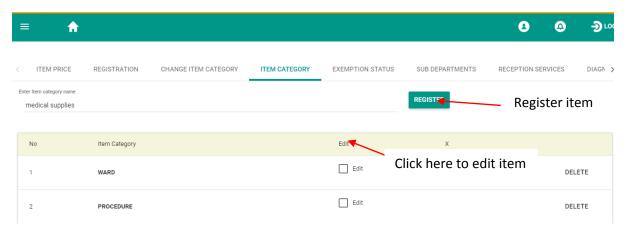
Figure 12. Change item category



ITEM CATEGORY

Item categories are registered and after registration, the registered items are listed below. The system gives an option to edit and to delete the item.

Figure 13. Item category

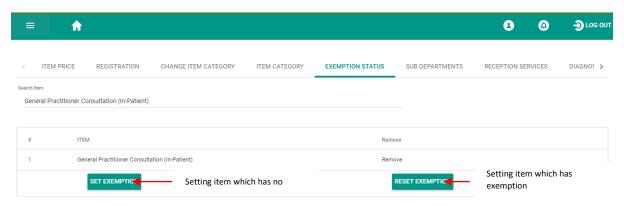


EXEMPTION STATUS

Items in a facility have different status, some items are considered as exempted items and others do not have exemption, thus requires a client to make payment for such an item.

System allows the search of items and assign it as an exemption item and to remove it from exemption item list.

Figure 14.Exemption status

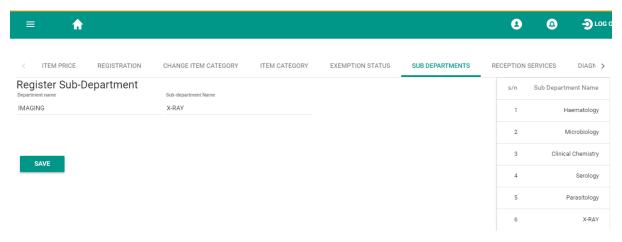


SUB DEPARTMENT

It enables sub departments to be registered and after registration the registered sub departments are listed at the right side of the page.

Sub departments are important for measuring performance and for report preparation.

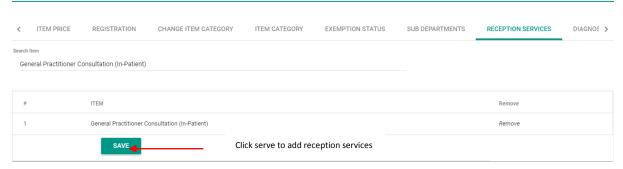
Figure 15.Sub department registration



RECEPTION SERVICES

It gives an option to search and to save services that needs to be viewed by the receptionist during patient/client registration.

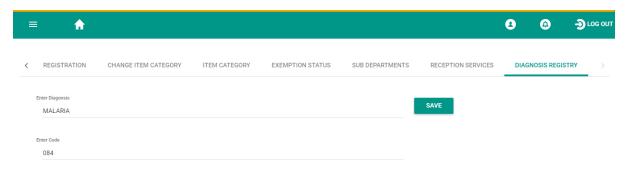
Figure 16. Reception services



DIAGNOSIS REGISTRY

It allows the registration of diagnosis and diagnosis code. After registration these diagnosis are viewed by the doctor and the doctor is able to assign these diagnosis to a patient.

Figure 17.Diagnosis registration



PAYMENT CATEGORY SETUP

Payment category is a module responsible for setting the payment sub-categories from User fee, Insurance or Exemption categories. After registering the payment subcategories, those payments will be listed in the patient payment category list

Figure 18.payment category setup

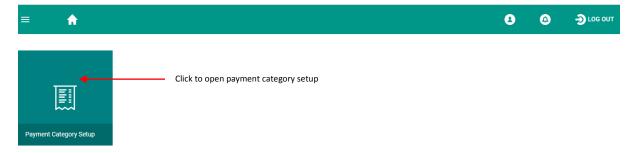
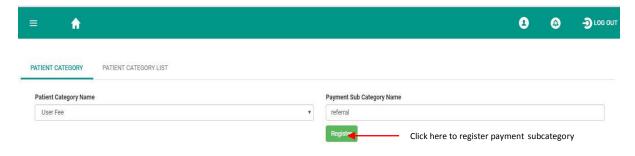


Figure 19. Payment sub-category



LAB SETTING

Lab setting is a module in the system which is used for registration of lab items. Lab setting consist of:

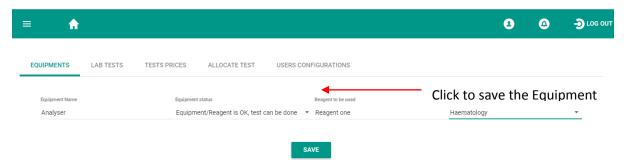
Figure 20. Lab setting



EQUIPMENTS

Under this sub module is where the lab equipment's are registered with the equipment status, reagent to be used and the sub department where that investigation will be carried. The equipment status is the determinants of whether the test will be taken or not if the status of an equipment is: Equipment/Reagent is OK, test can be done that means the test will be done but if the status is: Equipment has malfunctioned, test cannot be done, that means the test cannot be done.

Figure 21. Equipment registration



LAB TESTS

This part is where the test panel and its components as well as the single test are registered. Test panel is the group of tests all taken by a single equipment while single test is a test taken by a single equipment. N.B. The component of panel can be registered as a single test

Figure 22.Test panel registration

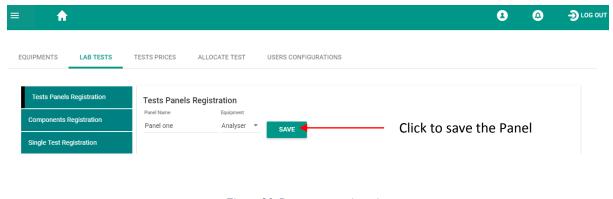


Figure 23. Component registration

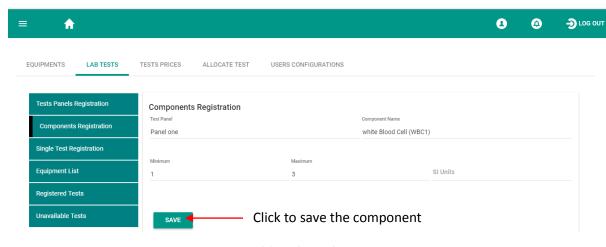
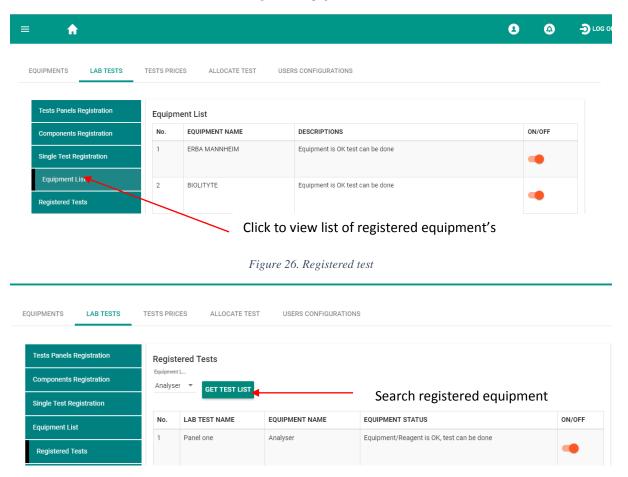


Figure 24.Single panel registration



Lab test sub module contains List of all registered equipment's, requested tests and unavailable tests are displayed under this sub module.

Figure 25. Equipment list

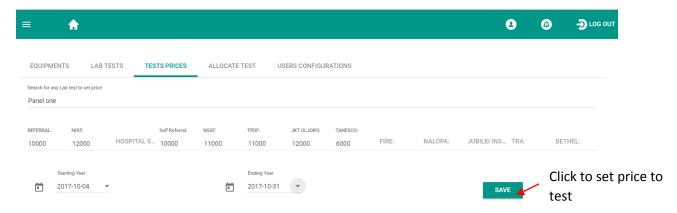


TEST PRICE

The price of all registered lab tests are set here, the

Prices are set corresponding to the facility user payment categories.

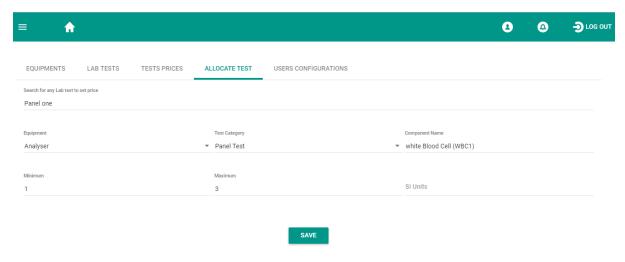
Figure 27.Test price



ALLOCATE TEST

This sub module allow the registered lab test to be searched, assigned an equipment and a test category.

Figure 28.Test allocation



Allocate test is also used to set the item price if the price was not set.

USER CONFIGURATION

It is where the access is given to a user responsible with a certain sub category so that he/she will be able to view all the lab tests sent to that sub-department.

JAMHURI YA MUUNGANO WA TANZANIA WIZARA YA AFYA NA MAENDELEO YA JAMII JINSIA, WAZEE NA WATOTO NO LIST AVAILABLE PLEASE ASSIGN BELOW Super Admin Search user to give access CANCEL

Figure 29. User Configuration

IMAGING DEPARTMENT

This module is responsible for registering imaging items to be viewed by the doctor during the diagnosis.

DEPARTMENTS

Click on Floating Button to open the imaging department set up. Register sub department in the radiology/imaging department by selecting the department name and write the corresponding sub department.

The list of all registered sub departments are listed under this sub category.



Figure 30. Sub department registration

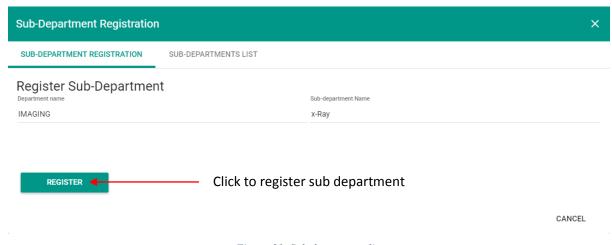
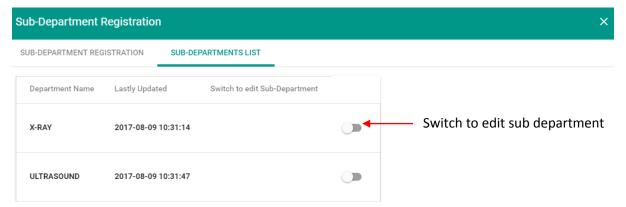


Figure 31. Sub department list

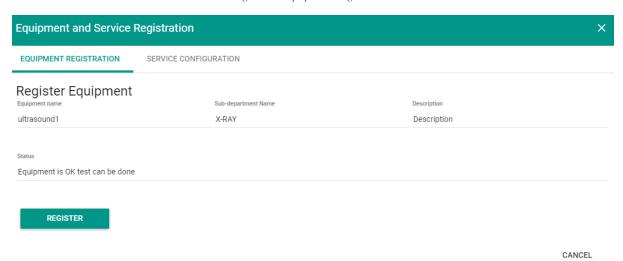


EQUIPMENT REGISTRATION AND SERVICE CONFIGUARATION

Equipment registration

Write the equipment name and search its sub department, write the description of that equipment and choose the equipment status. The equipment status is the determinant of whether a test can be conducted or not depending on whether Equipment is OK test can be done or Equipment has malfunctioned, test cannot be done.

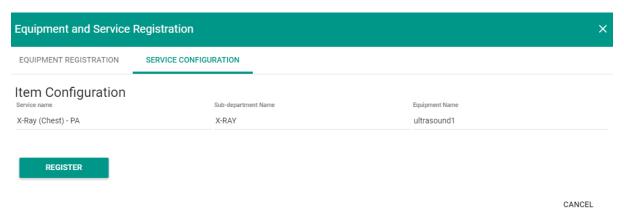
Figure 32. Equipment registration



SERVICE CONFIGURATION

Search service that was registered at item setup, choose sub department name and equipment name then register the service.

Figure 33. Service configuration



Registered equipment's in the imaging/ radiology department, services registered and the department reports are viewed here.

N.B. Services must be registered on Item setup for them to be searched in the imaging department.

MAIN PHARMACY, SUB STORE AND DISPENSING

Item record, receiving and issuing

PHARMACY

Pharmacy is a module in a system which is responsible for managing and dispensing drugs. It is the module which focus on safe and effective medication use. The system allow Pharmacist to inform patients in all aspects of their medicine including recommending types as well as administration route and dosages. Hospital pharmacist are responsible for monitoring the supply of all medicines used in the hospital and are in charge of purchasing, dispensing and quality testing their medication stock.

Pharmacy contains Main pharmacy, Sub store and Dispensing.

MAIN STORE (MAIN PHARMACY)

Main pharmacy consist of, setting Requisitions, Item record, receiving and issuing.

Figure 34. Main pharmacy



SETTING

The system is capable of creating store types (Main store, Sub store and Dispensing), to create vendors, and to create invoices as per invoice received and Item record

Figure 35. Store creation

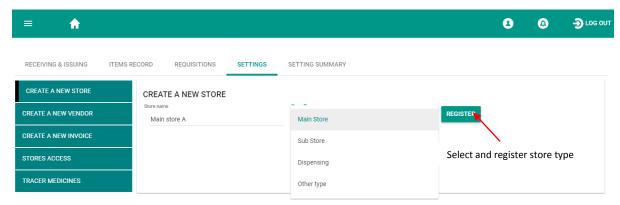
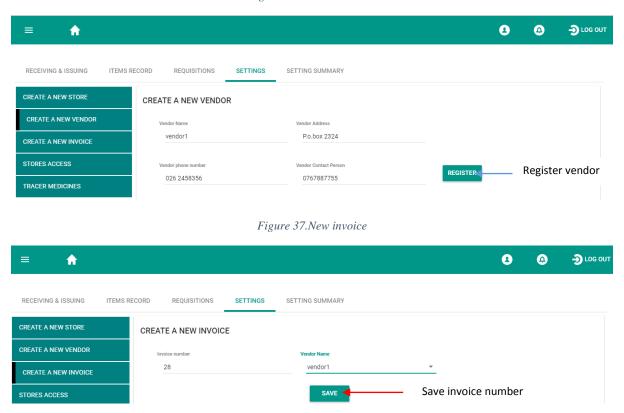
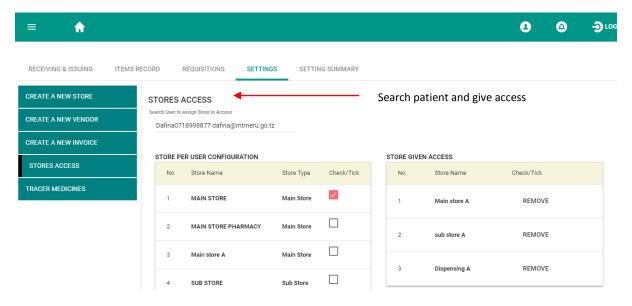


Figure 36.vendor creation

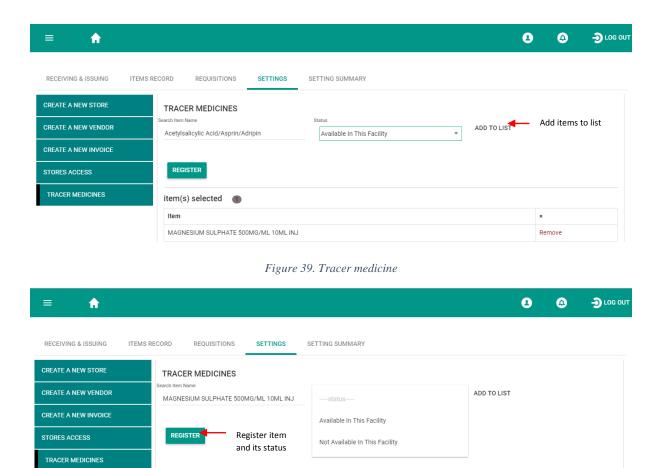


Store access are given to responsible users of a certain store by searching a user and assign the store access.

Figure 38. Store access



This part allows the tracer medicine to be registered by searching the specific items to be traced and the status of that items on whether the item is available or not available in the facility.



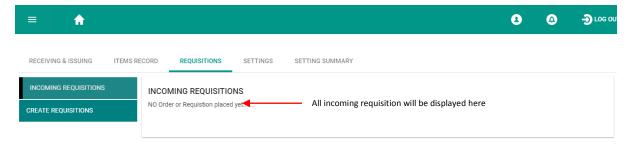
REQUISITIONS

In requisition is where the incoming requisition can be viewed and new requisition is created.

The system allows all requisitions to be added on the list then the items are saved at once.

Figure 40. Outgoing Requisition

Figure 41.Incoming requisition



ITEM RECORD

Store records, received and issued items, tracer medicine reports and the expired items are found under this sub module.

Store record

The system gives user an option to search a specific item or to view all stored item and view the store balance, to look at detailed report, reorder level and tracer medicine.

Figure 42. Store records

Detailed report describe all details of an item

Figure 43.Detailed report

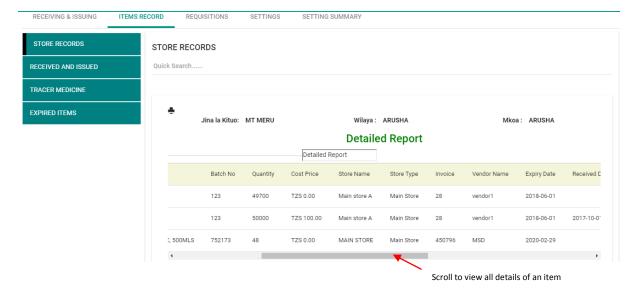
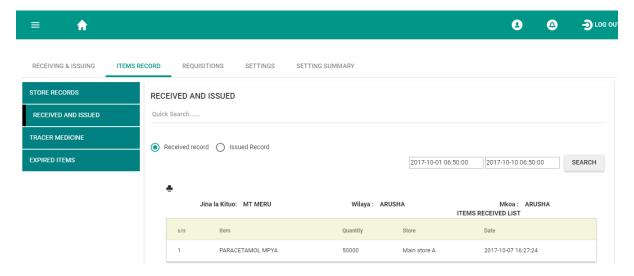


Figure 44. Received/issued items



RECEIVING AND ISSUING

Main store receive items from vendors and issuing items to sub store, dispensing or to another main store

Note: the system allows main store can issue items directly from main store to dispensing without passing to sub store.

The system gives an option to search specific items or to view all items by specifying the date, both for issued and received records.

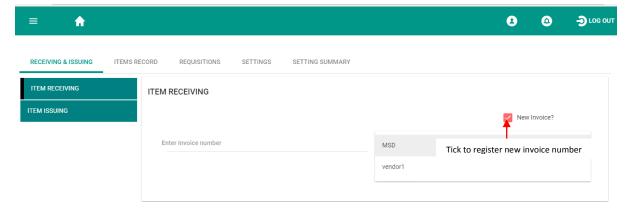
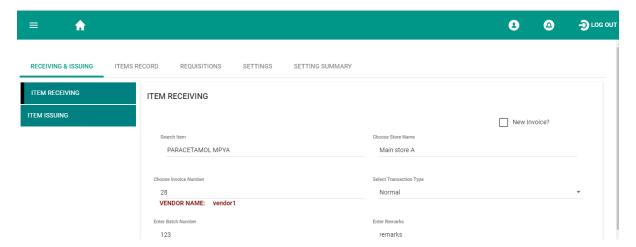


Figure 45. Item receiving



Add all the received items then save. The system automatically calculate total price of all items received.

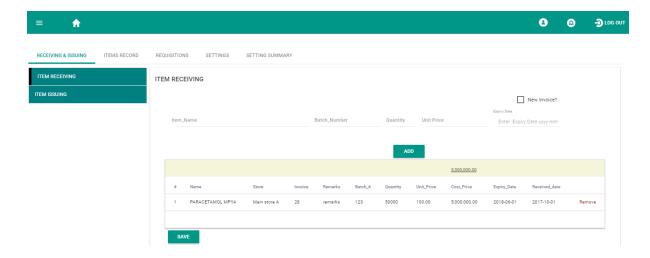
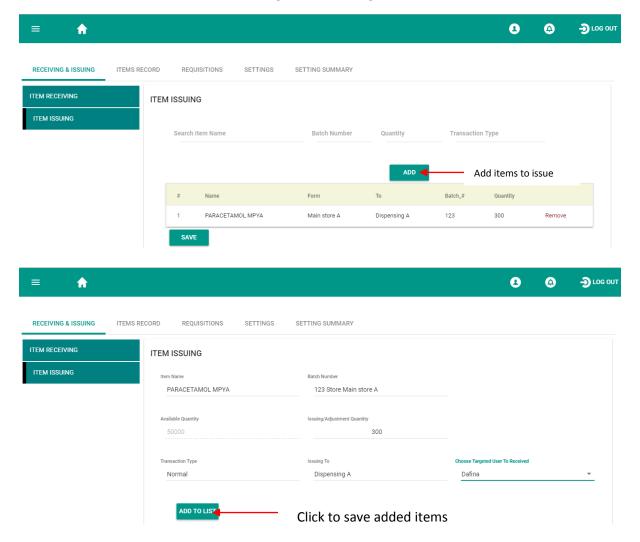


Figure 46.Item issuing



SUB STORE

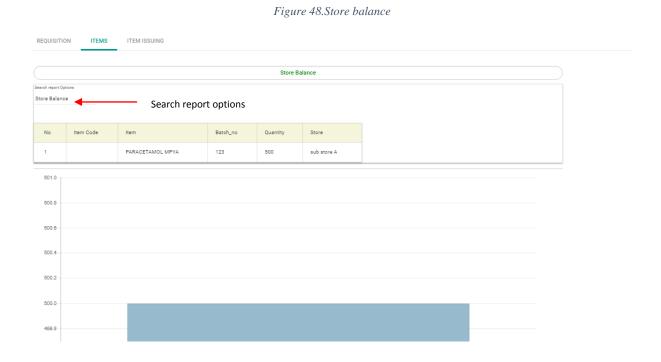
Sub store is a module that handles the Requisition and issuing issues, Requisition process enable sub store to receive items or to order items from main store or another sub store where applicable. Sub store receives orders from dispensing or another sub store. Sub store issues items to the dispensing point.

Sub store consist of Requisitions, Items and item issuing



Items

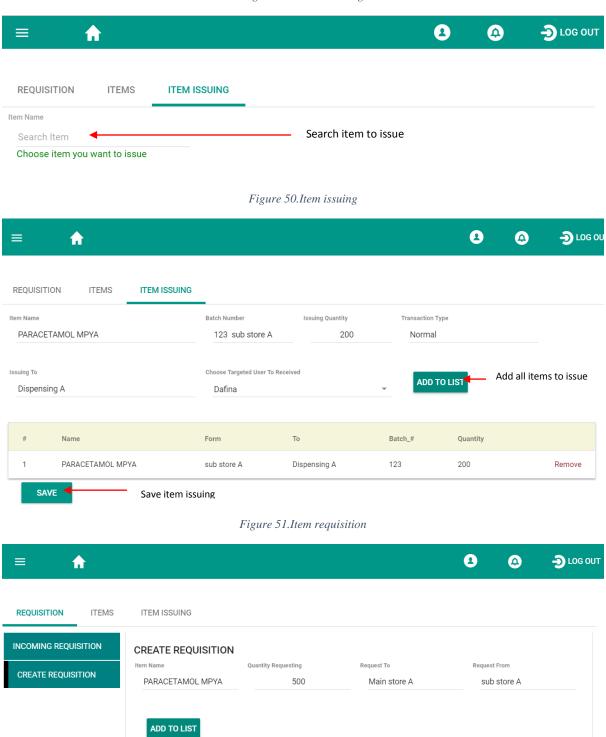
List the available items in sub store, system allows a user to search for report options.



Item Issuing

The system allows user to choose the item to issue first then other issuing items are entered

Figure 49.Item searching



Form

sub store A

Click to save the requisition

Main store A

Name

SAVE

PARACETAMOL MPYA

Quantity

Remove

500

DISPENSING

Dispensing is module that verifies client/patient prescriptions from doctors by either accepting it or rejecting it in case that prescription has some discrepancies. After verifying what the doctor has prescribe then the items are dispensed.

Dispensing consist of Items, dispensing, requisition, prescription verification

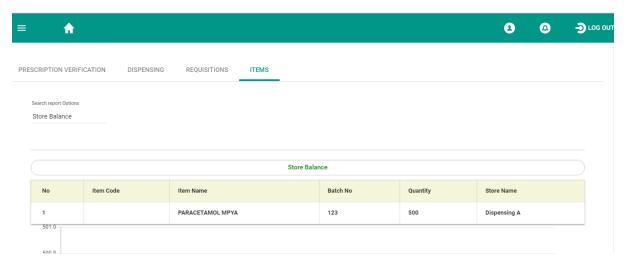
Figure 52. Dispensing window



Items

List a balance of all available items, the system enables user to search for research options such as store balance, detailed report and dispensed items.

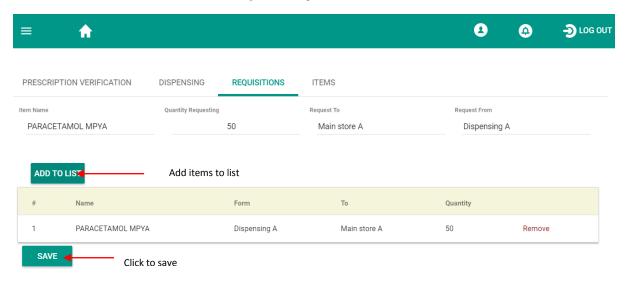
Figure 53. Available items



Requisition

The system allows requisition to be sent from the from dispensing directly to main store and from dispensing to sub store as well as from one sub store to another sub store

Figure 54. Requisition creation



DISPENSING

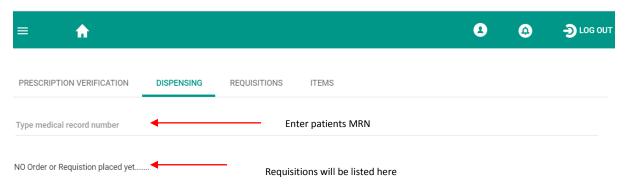
Dispensing

It is where the patient prescription are sent by the doctor are displayed.

The system allows pharmacist to accept prescriptions or to reject prescriptions back to the doctor if they happen to be inappropriate.

On dispensing, pharmacist decide the amount of medicine/other items to prescribe a patient according to the patient rank and automatically the system calculates the price of those items.

Figure 55. Dispensing



Prescription verification

It is where the prescriptions are verified after payment.

USER REGISTRATION, PERMISSION USER AND PERMISSION ROLE.

System has many roles that need to be performed by users in their daily working habits. Every user in the system has a dedicated work that will be performed in the system.

User Registration

On user registration, it is where users of a facility are registered, the user is given the default user name and password and is assigned a corresponding professional.

Note: after login user must change the password from default password to another password before using the system.

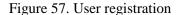
Super admin register admin of a facility. Facility admin login to the system. After login, facility admin will register the facility and create other facility users.

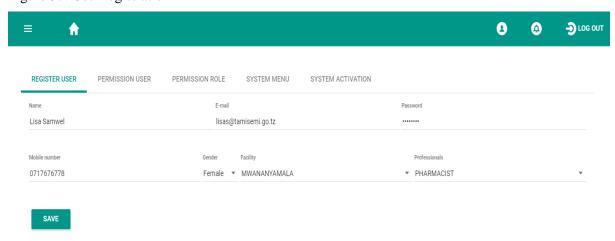
0 LOG OUT Ħ CREATE FACILITY ADMIN REGISTER USER PERMISSION USER PERMISSION ROLE SYSTEM ACTIV > Name E-mail Password Dafina dafina@isanzu.go.tz Mohile number Facility Professionals 0717667788 ICT ISANZU Female Click save to register facility admin

Figure 56.Facility admin

After registration of a facility admin, facility admin will login to the system by entering the username and password

Facility admin is responsible for creating other facility users, giving them permission user and permission roles





After registration, the user will be able to log in to the system but he/she won't be able to do any task. For a user to be able to perform any task, permission must be granted by the administrator under *permission user* tab. Administrator will search the name of a registered user among the listed registered users and after selecting the user, admin grants the user with permission according to that user's privilege by *double click* a required permission. After double click a permission those permissions displays at the right hand side under the *access given* tab.

If a wrong permission is added it can be removed by clicking the Delete tab.

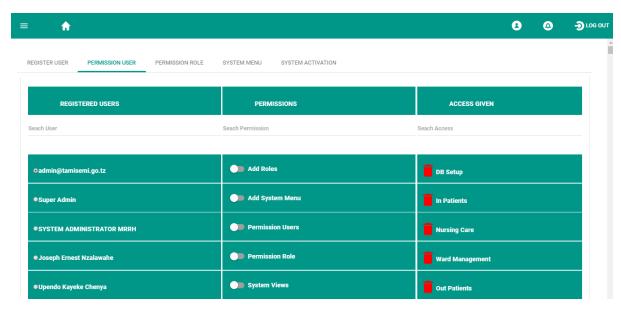
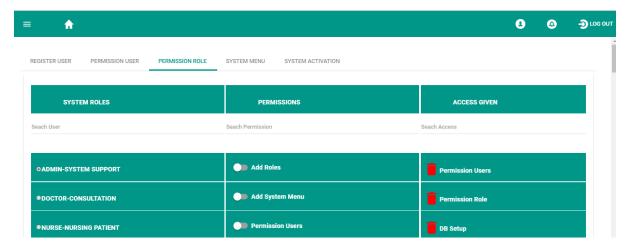


Figure 58.permission user

The system is capable of giving a permission user the ability to perform tasks of another user, the system ensure that permitted user has the required roles. Example a system can enable receptionist to perform tasks of a cashier. Administrator will do that by opening the *permission role* tab and selecting the system role. After selecting the targeted system role, administrator will grant the required permission which will display at the right hand side under the *access given* tab.

If a wrong permission is added it can be removed by clicking the Delete tab.

Figure 59. Permission role

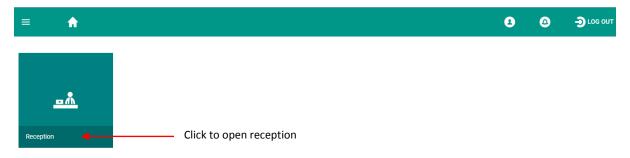


RECEPTION

Patient registration, corpse registration, and insurance verification

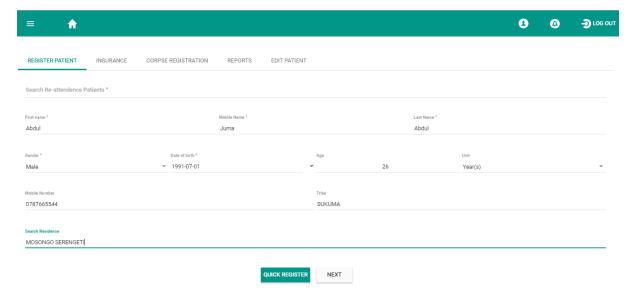
This is the fundamental module of the Hospital Management System. Every Patient visiting the hospital for outpatient service or inpatient service is first registered using this module. The module captures the basic personal details of the patient .under registration the system generates the Unique Sequential Medical Record Number (MRN), which is used as a patient identity, wherever he/she goes the medical records can be viewed for both outpatient as well as inpatient services. The system also generates Sequential Account Number (SAN) which is generated every time a patient pays a visit to the facility; SAN controls every execution a patient will undergo. Patients can be classified as user fee, Exemption or Insurance.

Figure 60.Reception



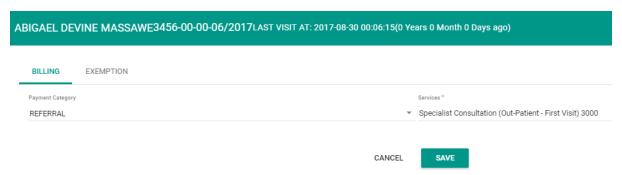
The system has two options of patient/client registration. Registration can be quick or full registration. Quick registration is useful for time saving where receptionist will enter only few details of a patient and the remaining details will prompt be filled on the patient next visit

Figure 61. Patient /client registration



After registering a patient, receptionist choose patients payment category. Payments categories include user fee, exemption and Insurance.

Figure 62.patients payment category



If it happens that the patient payment category is not on the list, go to payment category setup module, and click to open payment category setup, choose the patient category name and enter payment sub category. Then click register.

Figure 63.Payment category setup

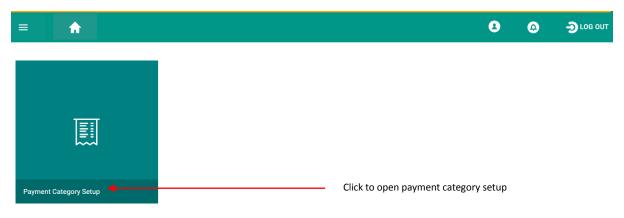
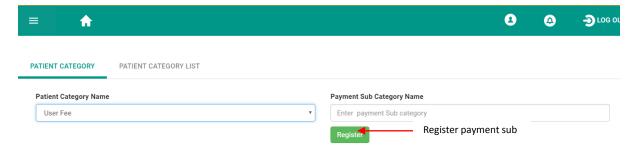


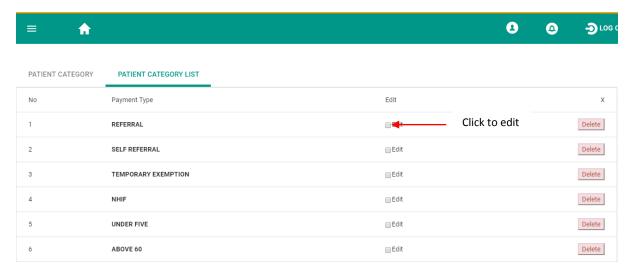
Figure 64. Payment sub category registration



After registration all the payment sub categories will be listed on patient category list. To be able to see those list, click patient category list

On patient category list the system allows user to edit the list.

Figure 65. Patient category list



After assigning the patient payment category, choose the clinic where the patient will be consulted by the doctor then click save.

Figure 66. Choose clinic

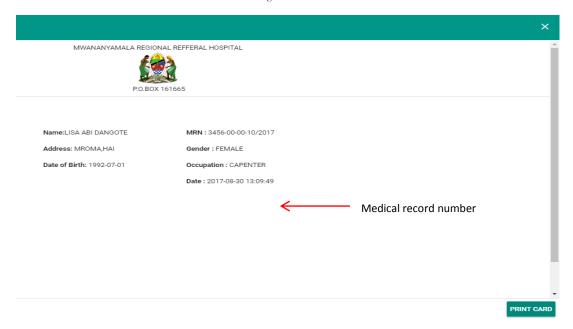


After choosing the clinic and save, the system will automatically generate the patient card.

A card contains the facility name and patient particulars.

The card carries the Unique Sequential Medical Record Number (MRN), which is used as a patient identity, wherever he/she goes

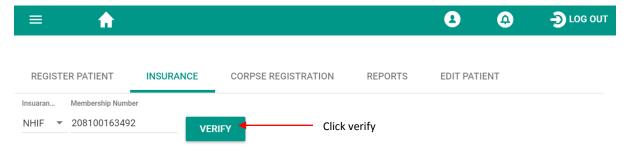
Figure 67. Patient card



INSURANCE REGISTRATION

This part enable the patients under insurance category to be registered by entering the membership number where NHIF will verify the patient details and automatically NHIF register the patient. This helps the facility to send the correct payment details of a patient.

Figure 68. Insurance registration



CORPSE REGISTRATION

This part involves the registration of corpse coming from outside the facility, after registration the system generates corpse registration number.

Figure 69. Corpse registration

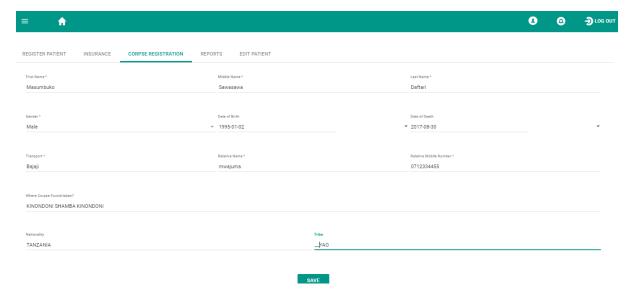
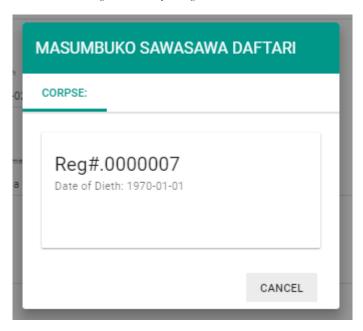


Figure 70. Corpse registration number



EDIT PATIENT

The system enables receptionist to edit patient details when details were incorrect entered or when there is new patient details.

In order to edit patient details, click edit patient sub module, search the patient then edit patient details then click save.

Figure 71. Edit patient



BILL PAYMENT

This module is used to record the charges for the patient services provided by the various clinical departments, e.g. lab tests, medication, medical supply, procedures and consultation. Payments are done electronically through the use of Government electronic Payment Gateway (GePG), Cash payment or POS.

For cash payment; Process payment request and generate receipt

For GePG the system first generates the control number, after payment a notification message is sent to the patient and to the facility to show that payment is successful complete.

Figure 72. Bill payment



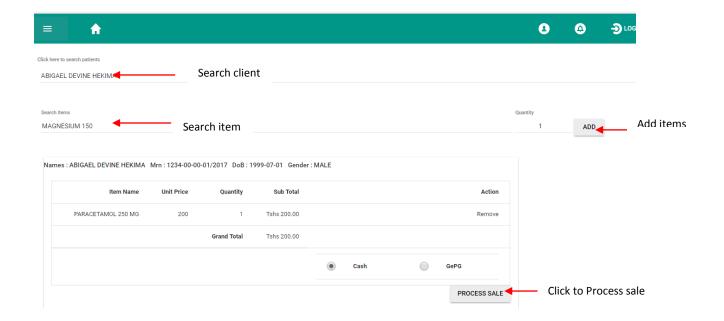
POINT OF SALE (POS)

For Point of Sale items are purchased and payments are made at once. (Point of sale is applied when a patient comes from prescription straight to the payment point, the cashier enters required items manually to the system. The client is provided with prescribed item after payment and automatically the system generates receipt.

POS is used for facilities with partially network system configured.

Figure 73.Point of sale





PARTIAL PAYMENT

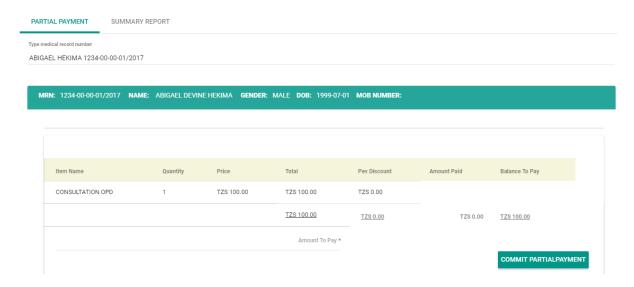
Is a module that is used when a patient/client needs to make payment but the patient has insufficient amount of money.

The system allows that partial amount to be processed and the system will automatically generate receipt.

Figure 74. Partial payment



The system allows a client to be searched from search box in order to view a list of all items for discount, there after commit partial payment



SOCIAL WELFARE

Social welfare is concerned with exempted patients. It is responsible with client's exemptions GBV/VAC issues, marriages issues like conflicts, complains and ward round issues handling

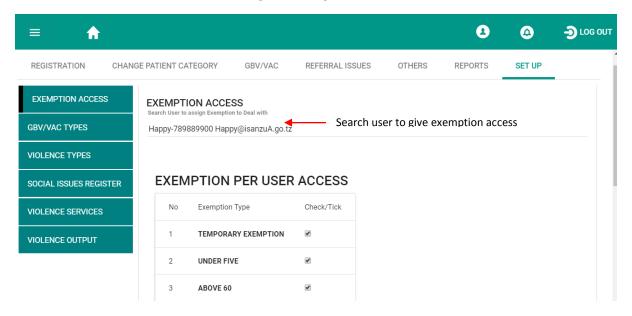
Figure 75.Social welfare



SET UP

This sub module is responsible for provision of exemption access to a user, by searching user and assign that user to deal with.

Figure 76.Exemption access



Registration of types of Gender Based Violence (GBV) and Violence Against Child, violence types, Social issue, violence services and violence output are registered under set up sub module.

REPORT

This sub module allows social welfare to view various types of reports including:

EXEMPTION LIST REPORT

This report lists all the exemptions provided, the report gives the name of the one who gave those exemptions.

REGISTRATION CHANGE PATIENT CATEGORY GBV/VAC REFERRAL ISSUES OTHERS REPORTS SET UP **EXEMPTION LIST EXEMPTION LIST** Search or Filtering EXEMPTION SUMMARY EMPLOYEE SUMMARY Choose Start Date EXEMPTION LISTS Total:13 From:2017-08-08 15:58:00 To:2017-10-10 15:58:00 FINANCE SUMMARY 2017-08-08 15:58:00 2017-10-10 15:58:00 SEARCH FINANCE Jina la Kituo: MT MERU Wilaya: ARUSHA SUB DEPARTMENT FINANCE PATIENT NAME EXEMPTION TYPE EXEMPTED BY DETAILED FINANCE 1053164-03-24-05/2017 NEEMA DANIEL TOLONGEI ABOVE 60 Nailejileji Emanue FEMALE 1948-07-01 COMPLAINS 1053164-03-24-15/2017 NYABANANE MARUGA NYAMALOTA FEMALE 1952-01-01 ABOVE 60 Nailejileji Emanue WARD ROUND Nailejileji Emanue

Figure 77. Exemption list

EXEMPTION SUMMARY REPORTS

Gives a summary report of gender, exemption type given and the number of those who got that exemption.

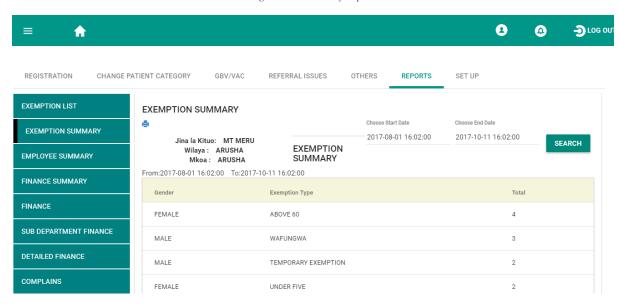


Figure 78.Summary report

EMPLOYEE SUMMARY REPORT

This report shows the employees performance, it shows how many people were given exemption by that employee in a given period of time.

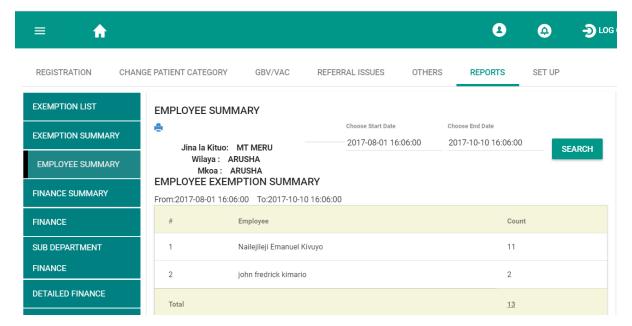
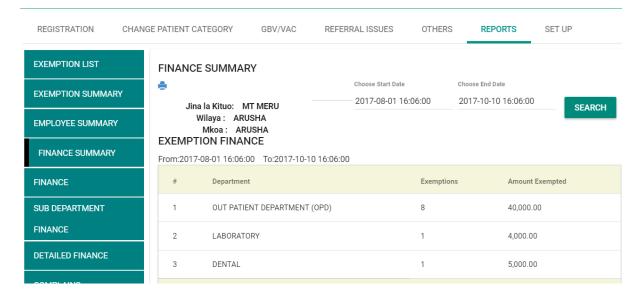


Figure 79. Employee summary

FINANCE SUMMARY

This gives the overall finance summary report for total number of all exemptions from all departments.



FINANCE

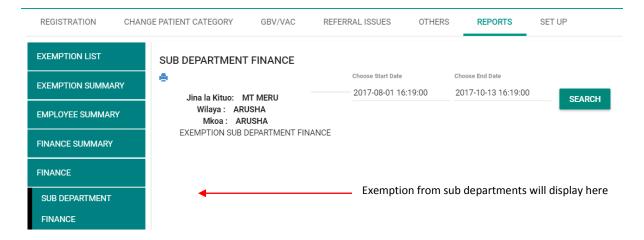
This part shows the report of financial report of each exemptions provided in a specified department

CHANGE PATIENT CATEGORY REGISTRATION GBV/VAC REFERRAL ISSUES OTHERS REPORTS SET UP **EXEMPTION LIST FINANCE** Choose Start Date Choose End Date **EXEMPTION SUMMARY** 2017-08-01 16:06:00 2017-10-10 16:06:00 Jina la Kituo: MT MERU SEARCH EXEMPTION Wilaya: ARUSHA **EMPLOYEE SUMMARY** FINANCE Mkoa: ARUSHA From:2017-08-01 16:06:00 To:2017-10-10 16:06:00 FINANCE SUMMARY Total amount Exempted Department FINANCE UNDER FIVE OUT PATIENT DEPARTMENT (OPD) 5.000.00 SUB DEPARTMENT FINANCE OUT PATIENT DEPARTMENT (OPD) ABOVE 60 5,000.00 DETAILED FINANCE OUT PATIENT DEPARTMENT (OPD) WAFUNGWA 5,000.00 COMPLAINS 4 LABORATORY TEMPORARY EXEMPTION 4.000.00 WARD ROUND DENTAL WAFUNGWA 5,000.00 MTUHA

Figure 81.Finance

SUB DEPARTMENT FINANCE

Gives the report from sub departments



DETAILED FINANCE

REGISTRATION

EXEMPTION LIST

MARRIAGE CONFLICTS

WARD ROUND

Gives the exemption detailed finance report

CHANGE PATIENT CATEGORY REFERRAL ISSUES REPORTS DETAILED FINANCE 2017-07-01 12:51:00 2017-10-26 12:51:00 EMPLOYEE SUMMARY Jina la Kituo: TUMBI FINANCE SUMMARY Wilaya: Mkoa: EXEMPTION DETAILED FINANCE From:2017-07-01 12:51:00 To:2017-10-26 12:51:00 Total: 5,000.00 SUB DEPARTMENT FINANCE NAME CATEGORY VALIDATION SERVICE DEPT

TEMPORARY EXEMPTION

CHRONIC DISEASE

CONSULTATION OUTPATIENT NEW VISIT

CONSULTATION OUTPATIENT NEW VISIT

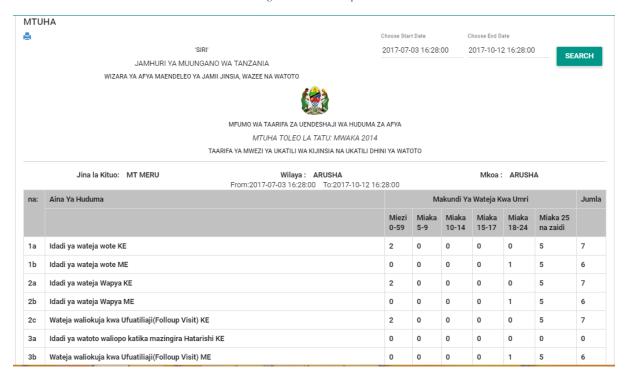
Figure 82.Exemption detailed finance

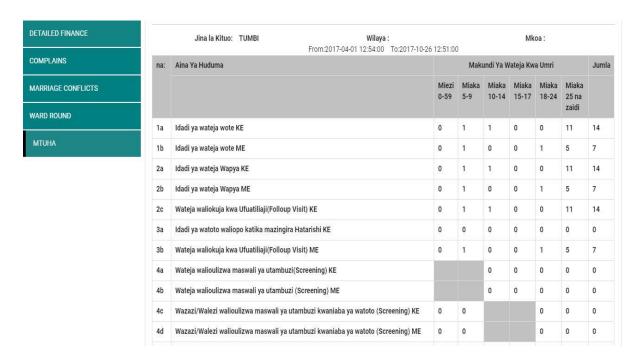
WARD ROUND REPORT, COMPLAINS REPORT and MTUHA REPORT can be viewed under report sub module tab

SALIMA SHOMARY HAMIS 107787-01-30-00/2017

JOHN LAWILE MROPE 107787-00-00-05/2017

Figure 83.Mtuha report





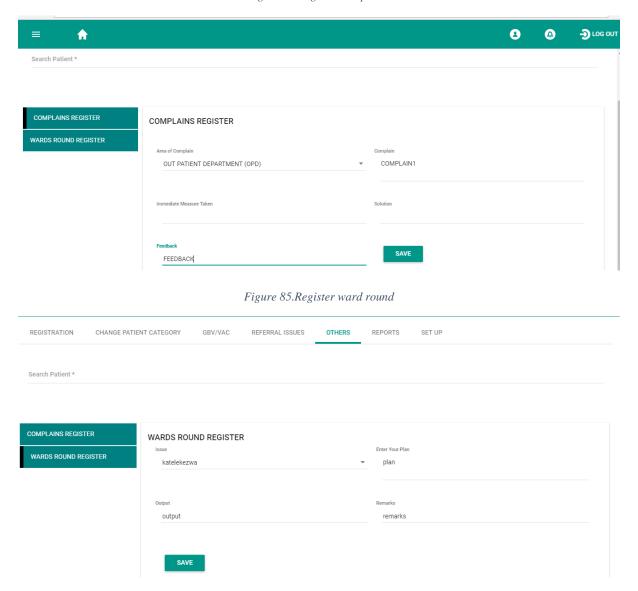
OTHERS

This sub module enables complains and ward round to be registered

COMPLAINS

 It is dealing with visiting each facility ward to check patients with issues faced them socially like neglecting in a ward or missing necessities like food and helping them to solve

Figure 84.Register complains

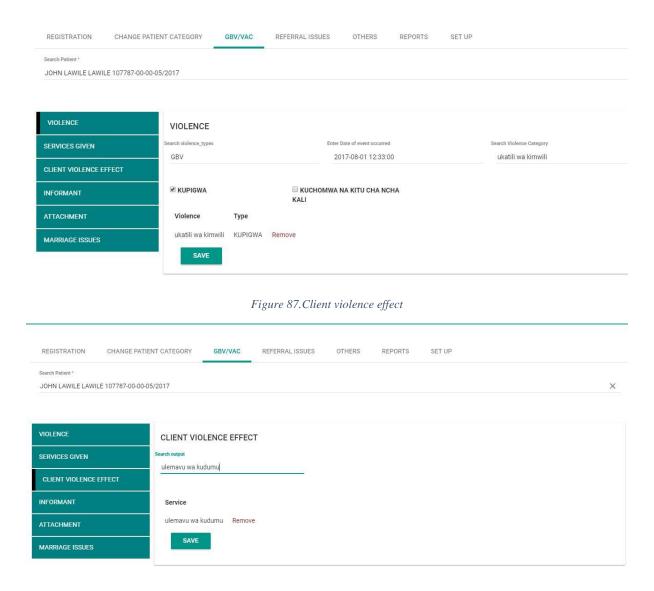


REFERRAL ISSUES

Incoming and outgoing referral issues are displayed under referral issues sub module.

GBV/VAC

Under GBV/VAC sub modules the system allows user to search for violence that patient uncounted, service is given, client violence effect is analysed, informant details are recorded and if there is any attachment it will be uploaded.



CHANGE PATIENT CATEGORY

This is applicable for changing the category of a patient who was first registered as a payment patient but now that patient needs exemption or if a patient needs to be changed from one exemption type to another exemption.

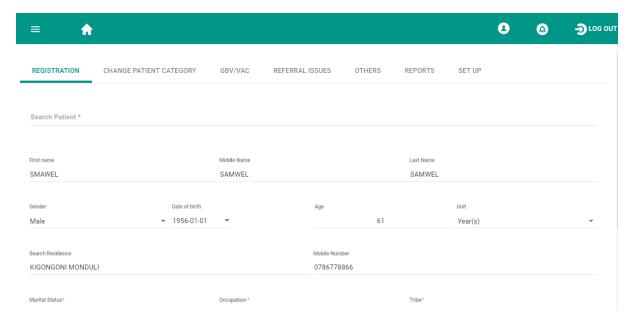
Enter patient, Choose exemption type, Fill the exemption reason, Register.

The system will generate the exemption number

REGISTRATION

First register patient by entering of patient required particulars.

Figure 88. Social patient registration



Choose exemption type (e.g. under five, temporary exemption etc.)

Fill the exemption reason, under exemption reason; there are two things involved. The reason can be (*under five, temporary exemption* etc.) or the reason can be a *card number/ID* carried by a patient.



After registration the system generates a patient card.



DEBTOR

This module consist of Debtor list, Discount and debt summary report

Debtor list

Debtor enable a Patient to be given services through temporary exemption which will be marked as a dept. the module is under control of hospital secretary (HS). On clearing their debt they must go to HS to clear their bills. There after the patient go to bill payment in order to clear their bills.

DEBTORS LIST DISCOUNT DEBTS SUMMARY REPORT

Search or Filtering

No# MRN PATIENT NAME GENDER EXEMPTED BY DATE OF ISSUE

1 3456-00-00-01/2017 NASSORO SALUM KIUTA MALE social 2017-09-07 01:49:06

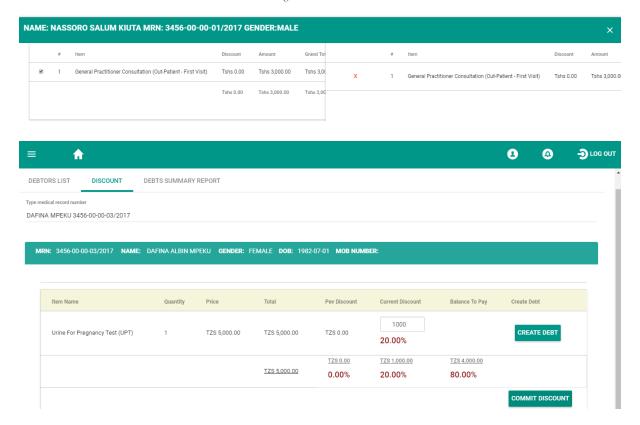
Figure 90. Debtor list

Discount

System under this module enables social welfares / Hospital secretary (HS) to give discount for some services to patients with less amount of money, if a facility has such policy. For example if a client /patient is required to pay 5800Tsh/= bill and the only amount he/she has is 4500Tsh/=, a user can get a discount of 500Tsh/=.

Note: The amount of money client/patient have to pay after discount is maintained under partial payment module.

Figure 91 Discount



Debts Summary Report

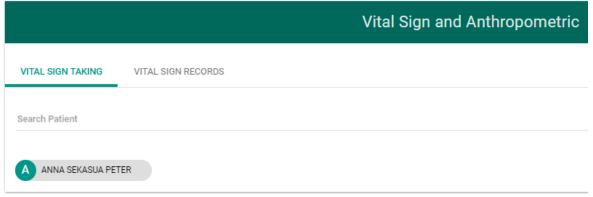
This module shows all summaries of debtors and their total amount.

VITAL SIGNS

Vital signs are a group of most important signs that indicate the status of the body's vital functions, these measurements are taken to help assess the general physical health of a person, give clues to possible disease, and show progress toward recovery.

The system allows any body responsible for taking vital signs to be able to take the vitals.





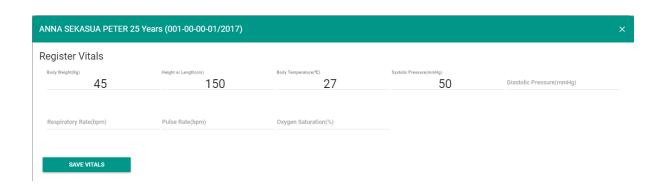


Figure 92. Vital signs record



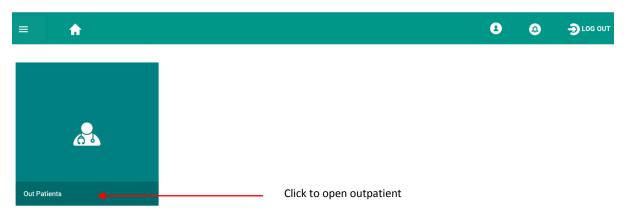
OUT PATIENT

Consultation queue, treatment, death certification and doctor performance

Outpatient provides diagnosis and care for patients that do not need to stay overnight. It is an important part of the overall running of the hospital. It is normally integrated with the in-patient through admission services and managed by consultant physicians and surgeons who also

attend inpatients in the wards. Many patients are examined and given treatment as outpatients before being admitted to the hospital at a later date as inpatients. This module consists of the following sub modules which includes;

Figure 93. Outpatient



CONSULTATION QUEUE

Consultation queue contains a list of patients who have satisfied to be consulted by the doctor which involves patients who have made payments and exempted patients all of which are waiting to be consulted by the doctor concerned it also contains a quick search tab that will enable the doctor to search a patient by patient's full name and his/her medical record number. Doctor picks the clients/patients from consultation queue in order to attend them as follows:

Figure 94. Consultation queue

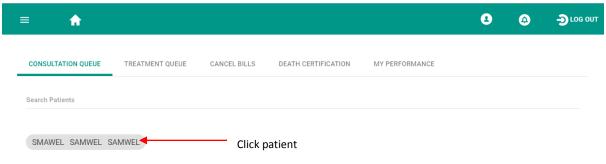
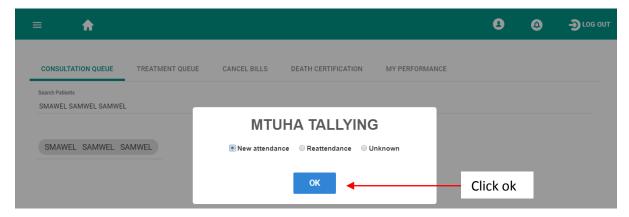


Figure 95. MTUHA tallying



Previous visit

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available

Figure 96. Previous visit



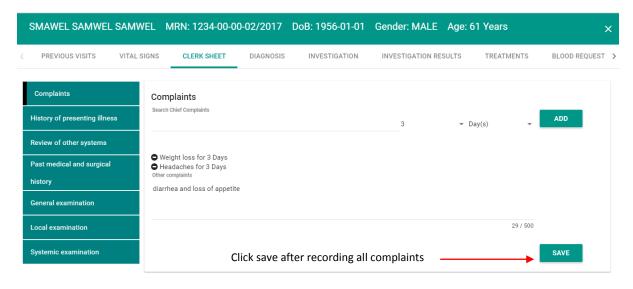
Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

Clerk sheet

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what the patient said apart from searching the complaints, the system enable doctor to write the complaints in details from what was heard from the patient.

Figure 97. Complaints

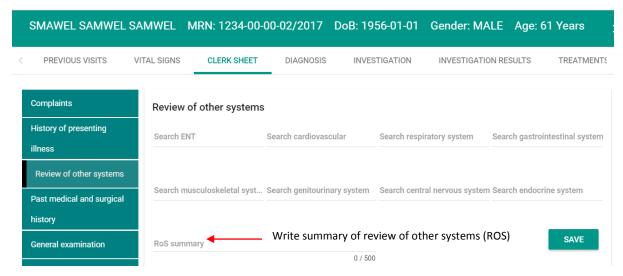


Doctor will write the history of presenting illness here and take a review of other system to check if there is any inconsistency.

Figure 98. History of presenting illness

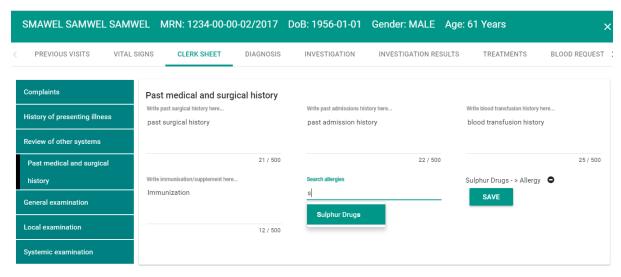


Figure 99. Review of other system



The doctor will write any past medical and surgical history of that patient and be able to search for any allergy to that patient. If it happens that a patient is allergic to something, the allergy message will pop up to the treatment tab to remind the doctor when medication is prepared to be given to that patient.

Figure 100.Past medical and surgical history



General examination

General examination concerning a patient illness will be written, local examination will be done where the doctor will investigate a specific area.

Figure 101.General examination



Systemic examination

This part enable a doctor to perform systemic examination, systemic examination involves physical touch various system.

Note: the difference between review of other systems and systemic examination is that; system examination involves physical touch.

Figure 102. Systemic examination



Diagnosis

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.

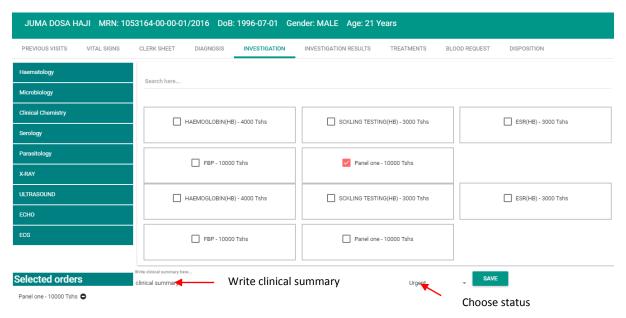
Figure 103. Diagnosis



Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.

Figure 104.Investigation



Investigation results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.

Figure 105.Lab investigation results

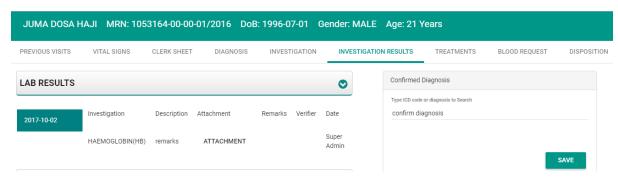
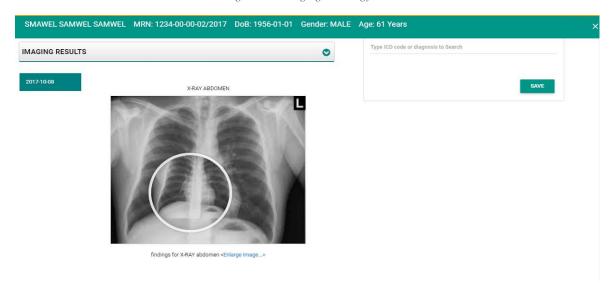
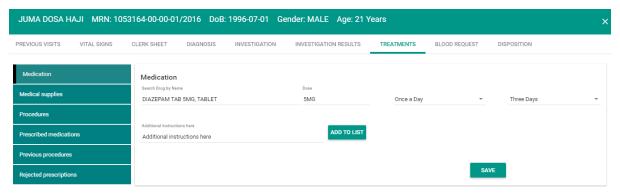


Figure 106.Imaging/radiology results



Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.



Blood request

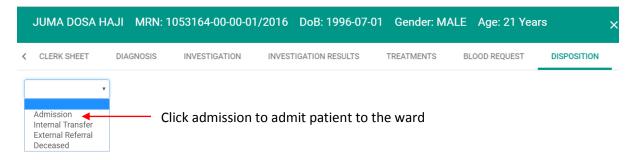
It is where the patient need for blood is requested and the request goes to the blood bank.

Figure 107. Blood request

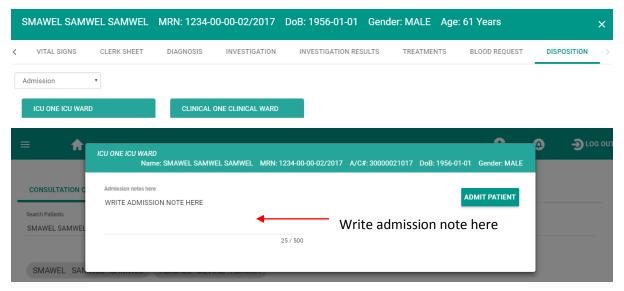


Disposition

On disposition a patient can be admitted to the ward, transferred to other clinic, referred to external hospital or deceased to mortuary.



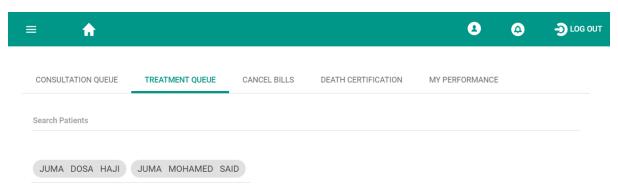
On admission, the doctor admits the patient by writing the admission note and select a ward that a patient will be admitted.



TREATMENT QUEUE

Treatment queue contains a list of patients who have already gone through the laboratory for investigation and they are waiting to get diagnosis confirmation from the doctor so as to receive treatment. Diagnosis is confirmed under diagnosis sub module and medication is provided on treatment.

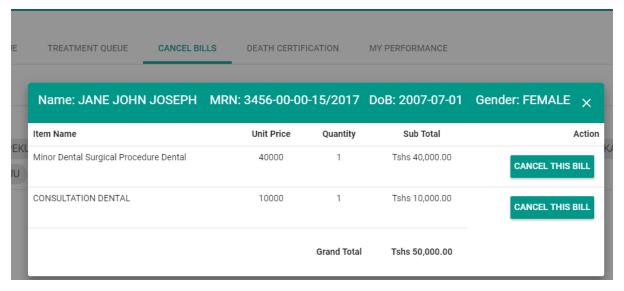
Figure 109. Treatment queue



CANCEL BILLS

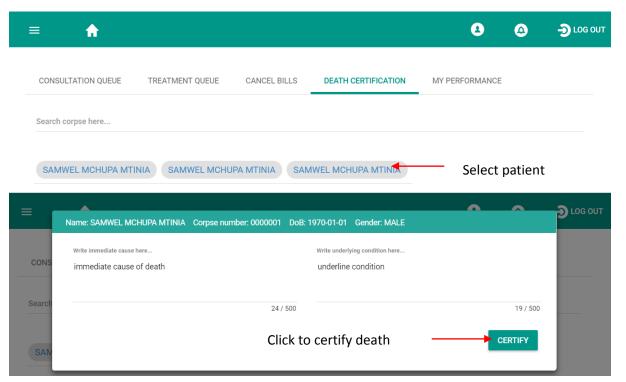
Cancel bills contains a list of patients' pending bills whereby these investigation bills are either not important for the patient to undergo with or a certain patient as failed to make payments for a particular investigation bill.

Figure 110.Cancel bill



DEATH CERTIFICATION

Death certification involves a list of corpse who are coming outside the facility and have been registered by receptionist and they await to be certified by the doctor, this certification allows the doctor to fill in the immediate cause of death of a particular corpse and underlying conditions for that death.



MY PERFORMANCE

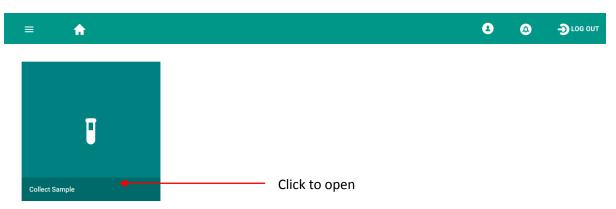
This section gives out the performance evaluation report of a particular doctor depending on a specific date and time.

COLLECT SAMPLE

LABORATORY INVESTIGATION

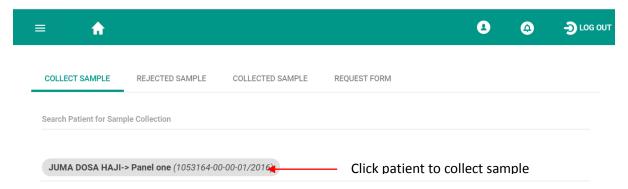
Patient sample is collected under collect sample module

Figure 111. Collect sample

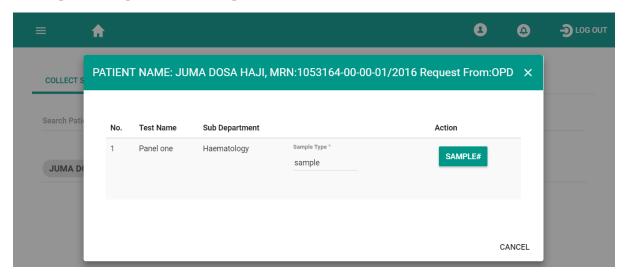


All rejected sample will be listed on rejected sample sub module, list of all collected sample are listed on collected sample tab.

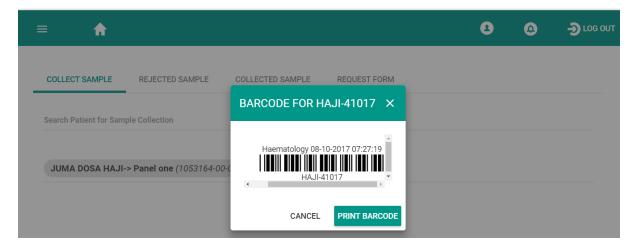
Request form sub module contains all request forms for sample collection



Collect patient sample then click sample to save



The system will automatically generate barcode for patient sample



SAMPLE TESTING

After collecting sample, that sample is tested and verified on sample testing sub module tab.

For the lab sample to be viewed and tested access must be given to the users' configuration on lab setting tab.

Click to open sample testing

Sample Testing

Click to open sample testing

SAMPLE TESTING

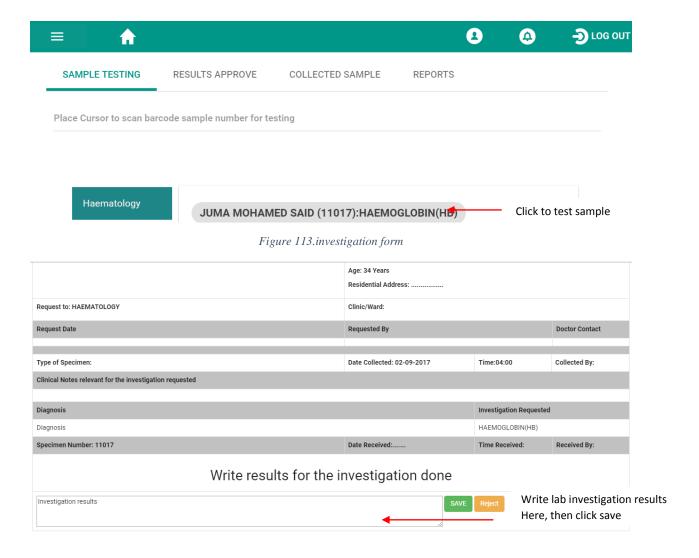
RESULTS APPROVE

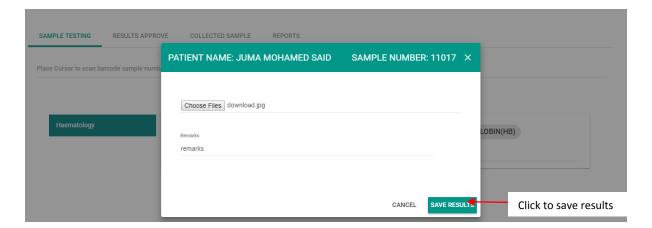
COLLECTED SAMPLE

REPORTS

Place Cursor to scan barcode sample number for testing

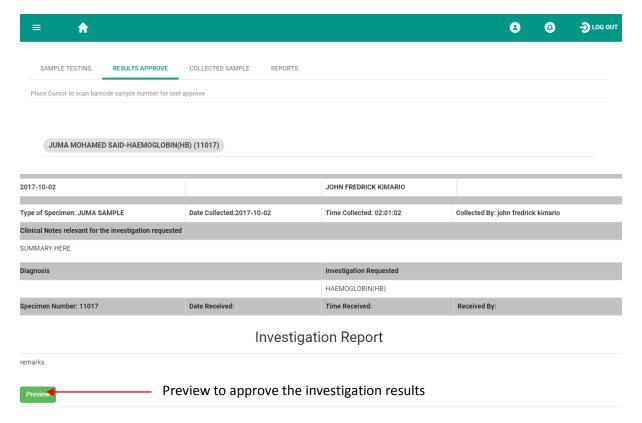
Click to view collected sample



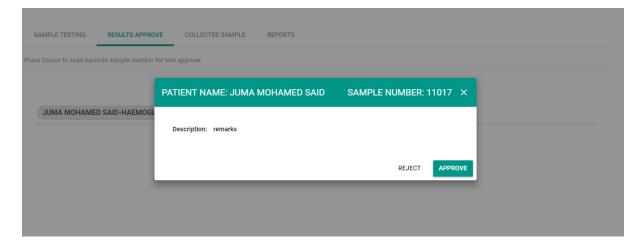


These investigation results will be viewed by the doctor in the investigation results tab.

After testing the sample, sample results are approved



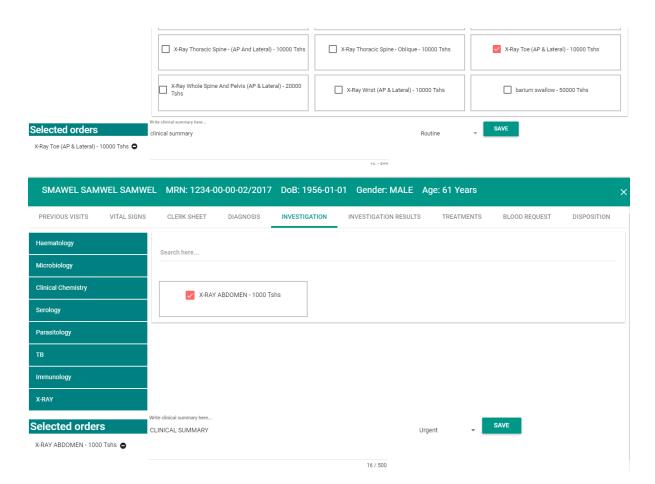
If the investigation results are found correct they will be approved. The system allow user to reject investigation results if found incorrect. The rejected sample will go back to sample collector.



RADIOLOGY/IMAGING INVESTIGATION

Investigation to imaging department through system involve automation generation of request forms from system. Doctor on investigation tab initiate the process. The doctor click respective sub department and choose required investigation according to patient situation.

To request investigation doctor write clinical notes and specify whether it is urgent or routine investigation

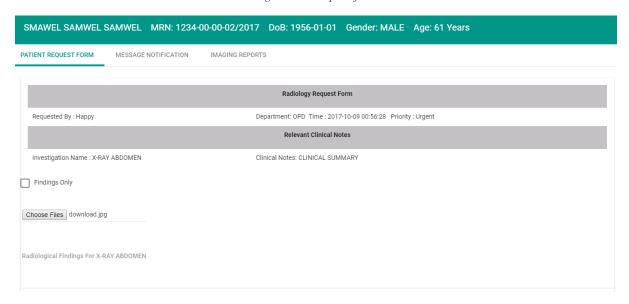


All investigations requests sent by the doctor to radiology will be seen in digital radiography dashboard



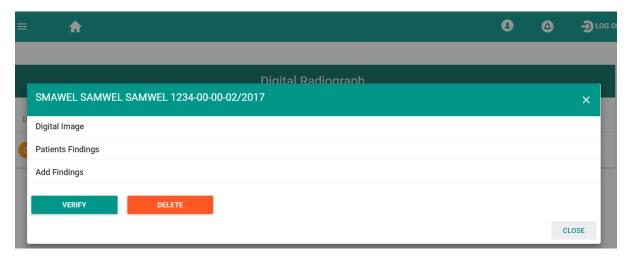
The system will generate radiology request form which displays in imaging sub department

Figure 114. Request form



Investigation verification

Doctor must verify investigations in order to avoid updating incorrect information. After verifying investigation, doctors will be able to see images and findings



These investigation results will be viewed by the doctor in the investigation results tab.

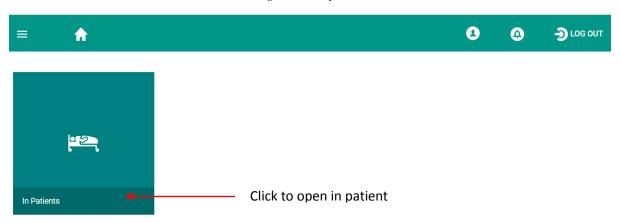
IN PATIENT

Consultation queue, treatment, death certification and doctor performance

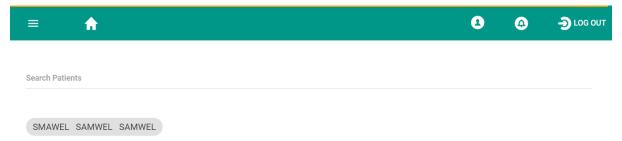
In patient provides diagnosis and care for patients who were admitted to the ward. Inpatient is a sick person who is admitted in the hospital wards.

This module consists of the following sub modules which includes;

Figure 115. In patient



The system has a search option on in patient dash board which allows user to search for a patient. List of admitted patients from nursing care are listed on in patient dash board.

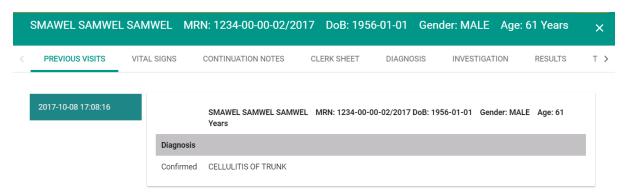


Previous visit

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available

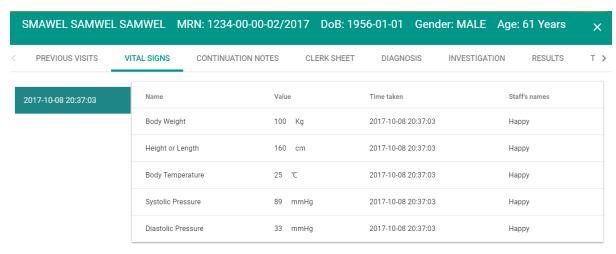
Figure 116. Previous visit



Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

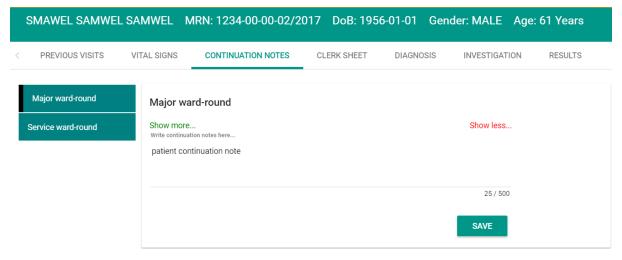
Figure 117.Vital sign



Continuation Notes

The ward round is a parade through the hospital of professionals where most decision making concerning patient care is made. It provides an opportunity for the multi-disciplinary team to listen to the patient's narrative and jointly interpret the patient's concerns. The senior doctor as round leader must seek the input of nursing whose observations may be under-appreciated due to traditional professional hierarchy. This increases the importance of senior staff in ensuring continuity of care and the need for the joint round as the focus of optimal decision making.

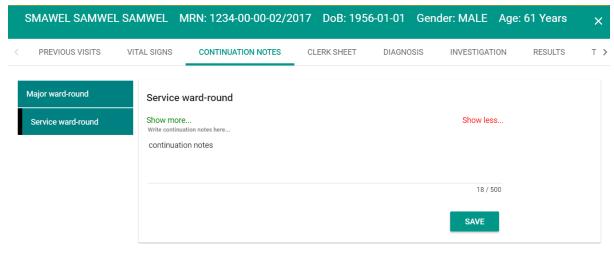
Figure 118.Major ward round



Service ward round

The service ward round is a parade through the hospital of professionals where most decision making concerning patient care is made. It provides an opportunity for the in charge to listen to the patient's narrative and jointly interpret the patient's concerns.

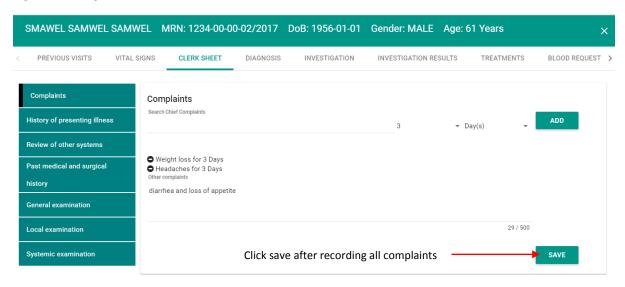
Figure 119.Service ward round



Clerk sheet

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what the patient said apart from searching the complaints, the system enable doctor to write the complaints in details from what was heard from the patient.

Figure 120. Complains



Doctor will write the history of presenting illness here and take a review of other system to check if there is any inconsistency.

Figure 121. History of presenting illness

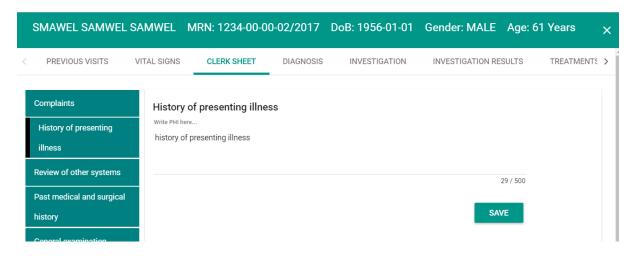
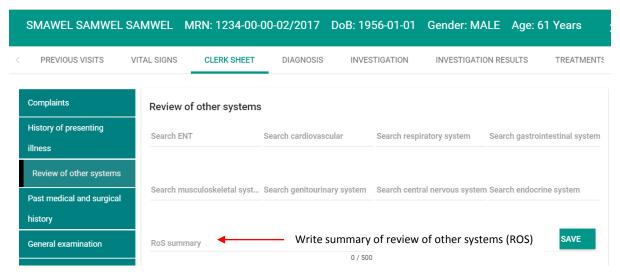
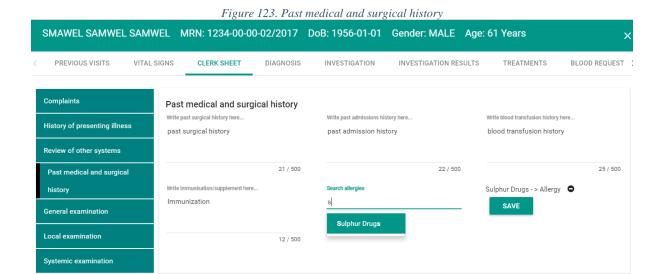


Figure 122. Review of other system



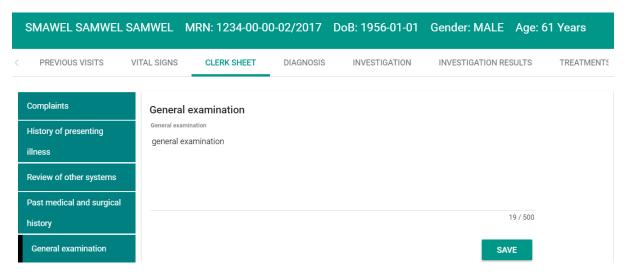
The doctor will write any past medical and surgical history of that patient and be able to search for any allergy to that patient. If it happens that a patient is allergic to something, the allergy message will pop up to the treatment tab to remind the doctor when medication is prepared to be given to that patient.



General examination

General examination concerning a patient illness will be written, local examination will be done where the doctor will investigate a specific area.

Figure 124. General examination



Systemic examination

This part enable a doctor to perform systemic examination, systemic examination involves physical touch various system.

Note: the difference between review of other systems and systemic examination is that; system examination involves physical touch.

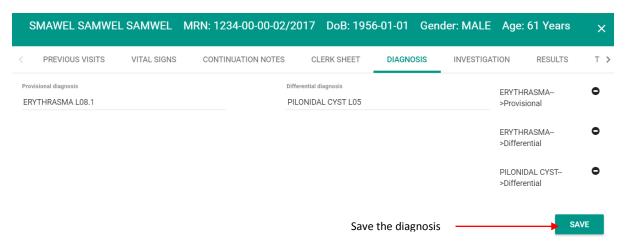
Figure 125. Systemic examination



Diagnosis

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.

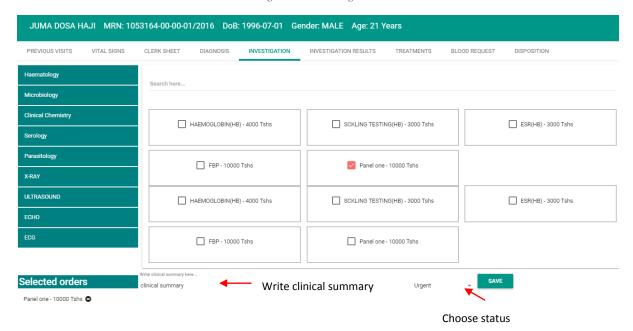
Figure 126.Diagnosis



Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.

Figure 127. Investigation



Results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.

Figure 128.Lab Investigation results

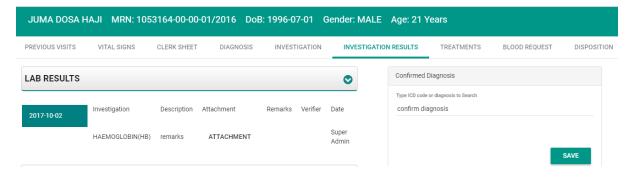
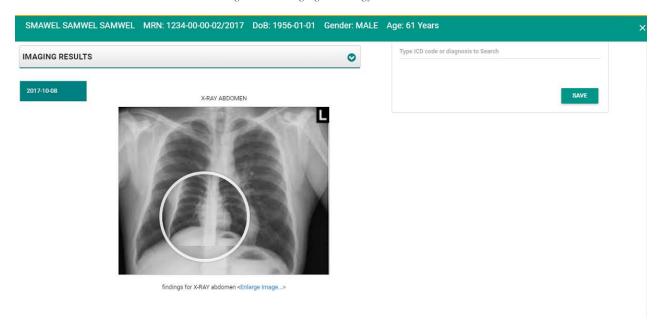
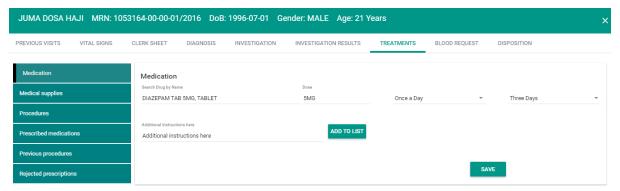


Figure 129.Imaging/Radiology results



Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.



Blood request

It is where the patient need for blood is requested and the request goes to the blood bank.

Figure 130. Blood request



Disposition

On disposition a patient can be discharged, transferred to other clinic, referred to external hospital or deceased to mortuary.

Figure 131. Disposition



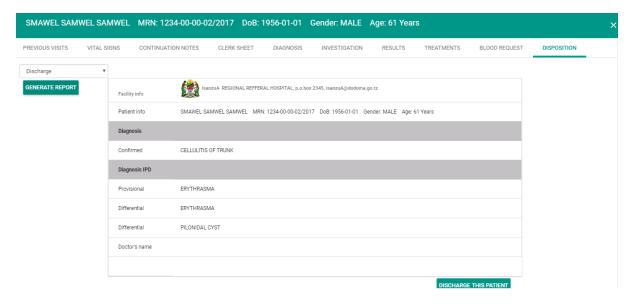
Figure 132. Discharge



Patient discharge

The system allows the doctor to give permission of discharging a patient and there after nurse will complete the action of discharging patient

Figure 133. Patient discharge report



WARD MANAGEMENT

Ward management is a module responsible for the management of a hospital ward.

Nurse or ward manager is the responsible person under this module.

It is a part of the In-Patient Module and is used to set wards, to locate beds and to assign nurse to ward.

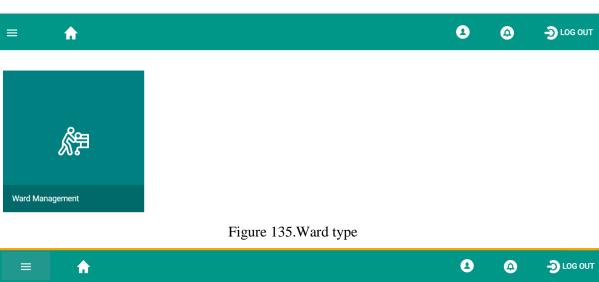
Ward creation

This part is responsible for creating wards. In order to create ward open ward management, then register ward type and ward grade

Go to accommodation fee tab then search for ward grade to set price,

Create ward by writing ward name, search ward type and ward class then register ward.

Figure 134.ward management



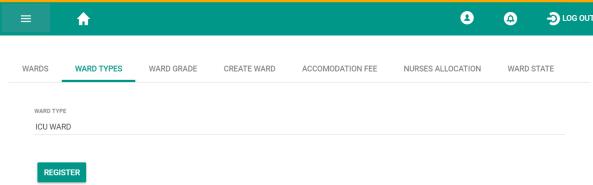


Figure 136.Ward grade

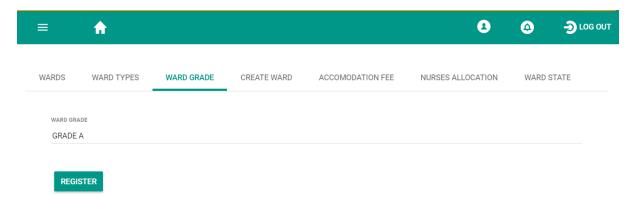


Figure 137.Fee accommodation

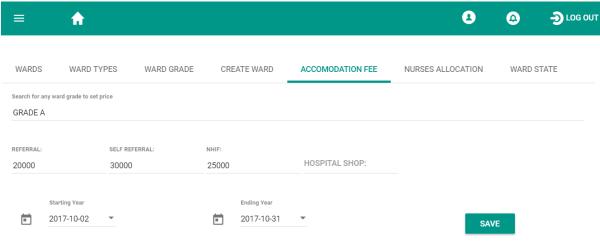
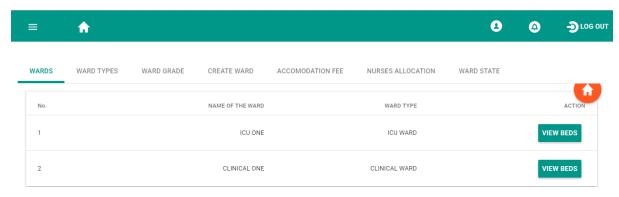


Figure 138. Create ward



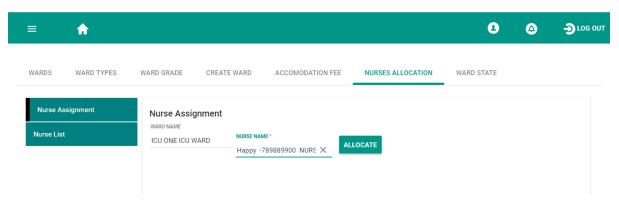
Figure 139. List of wards



Nurse allocation

Nurse allocation tab is where nurse is assigned the access to ward

Figure 140.Nurse allocation



To create bed open wards tab, click view beds then enter bed name and bed type then save Under ward tab is where list of beds are displayed.

Figure 141. CREATE BED

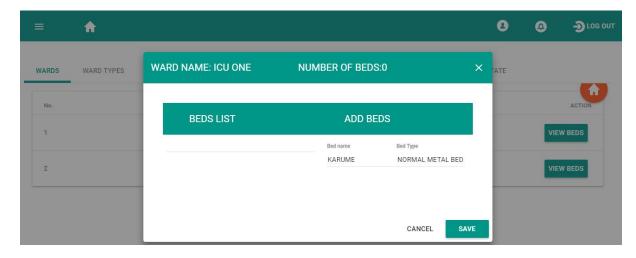
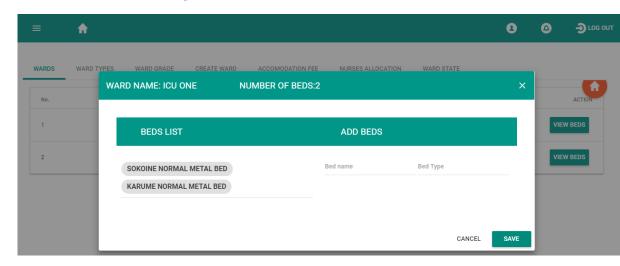


Figure 142. Bed lists



NURSING CARE

Nursing care is a care provided by a registered nurse for patients. This module consist of sub modules such as admission request, admitted, diagnosis, nursing care plans, and treatment. Charting, collect sample, reports and discharge.

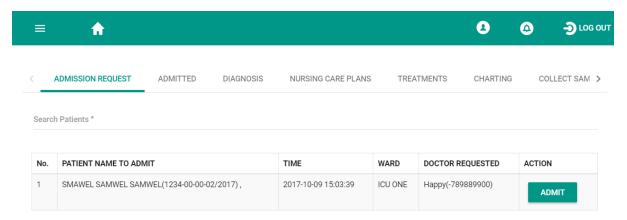
Figure 143.Nursing care



Admission request

Is where the list of admitted patient from the doctor will be found, the role of a nurse under admission request tab is to accept admission request and to assign bed to the admitted patient

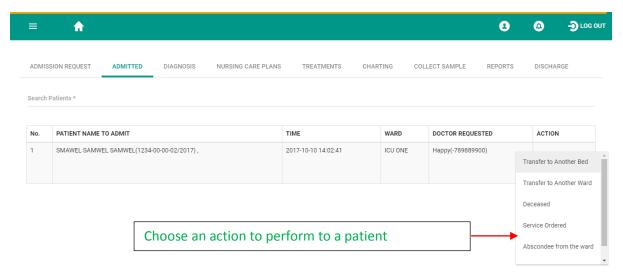
Figure 144. Admission request



Admitted

Is a list of all admitted patients, this part allows the nurse to transfer patient to another bed, to transfer patient to another ward, to decease a patient, to provide all other services ordered to a patient, to deal with patient absconded and serious patients.

Figure 145. Admitted patients



Transfer patient to another bed

Nurse will choose a bed where the patient will be transferred



Transfer patient to another ward

The nurse is able to transfer patient to another ward and write reasons for the transfer

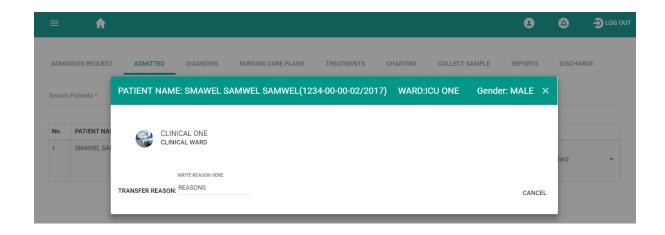
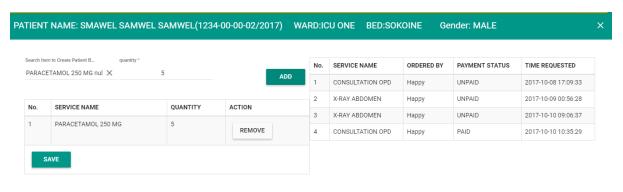


Figure 146. Beds



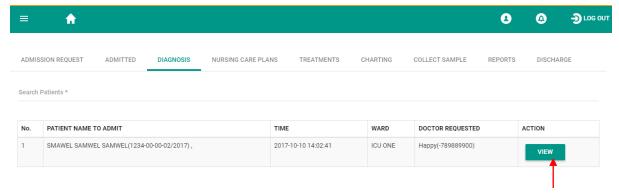
Service ordered



CANCEL

Diagnosis

The system through diagnosis tab enable a nurse to view the diagnosis performed to a patient



Click view to see patient diagnosis

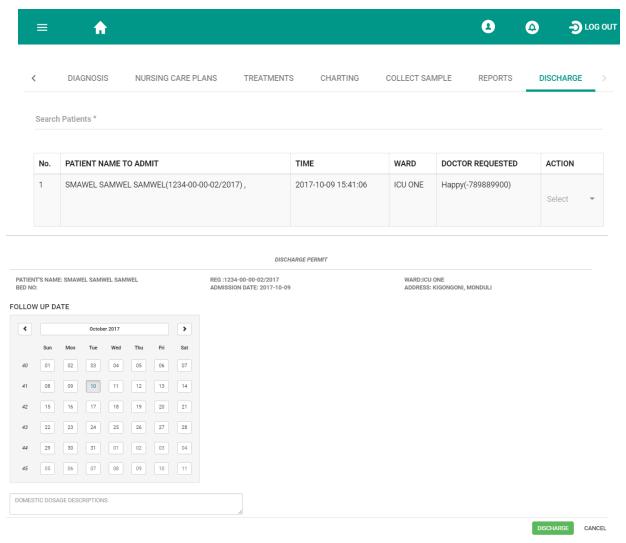
Nursing care plan

This sub module enables a nurse to write the nursing plan and to preview those plans.

Discharge

Doctor is the responsible person to give permission to discharge a patient.

This is part enable nurse to discharge a patient after discharge permission from the doctor



FINANCIAL REPORT

This module is responsible for viewing financial reports at department's level sub-departments level and detailed reports of all transaction made on user fee category. Employee's reports, exemption reports and pending bills can be viewed under this module.

Figure 147. Financial report



All reports are accessed on the six tabs which are;

DEPARTMENTAL REPORT.

It view all transaction that were made on specific departments e.g. Laboratory, Imaging, and Pharmacy etc.

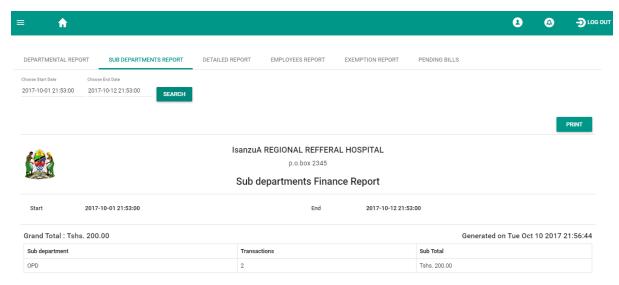
A 0 **(4)** D LOG OU DEPARTMENTAL REPORT SUB DEPARTMENTS REPORT DETAILED REPORT EMPLOYEES REPORT PENDING BILLS EXEMPTION REPORT Choose End Date 2017-08-01 21:53:00 2017-10-11 21:54:00 MT MERU REGIONAL REFFERAL HOSPITAL P.O.BOX 3092 **Departmental Finance Report** 2017-08-01 21:53:00 2017-10-11 21:54:00 Grand Total: Tshs. 688,000.00 Generated on Tue Oct 10 2017 21:54:08 Department Transactions Sub Total DENTAL Tshs. 20,000.00 IN PATIENT DEPARTMENT (IPD) Tshs. 73.000.00

Figure 148. Departmental report

SUB-DEPARTMENT REPORT.

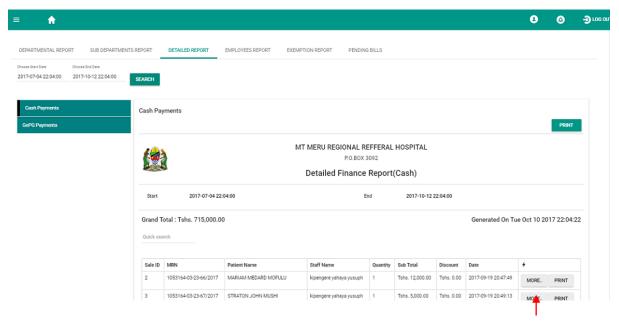
Sub-department report it show the custom made report which configured on sub-departmental item configuration in item Setup. Here Accountant can able to view all category of transaction according to specific sub-departments.

Figure 149.Sub departmental financial report



DETAILED REPORT.

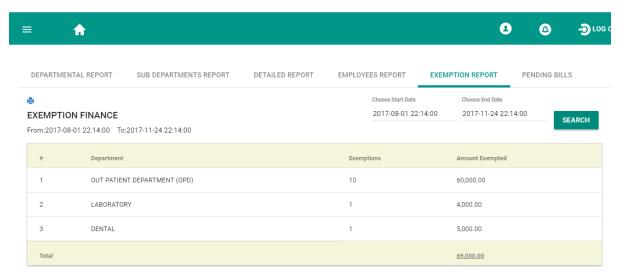
It show details of all transactions made by cashiers to patients. On detail report all informations of bills will be displayed for tracking purpose.



Click more to view other

EXEMPTION REPORT.

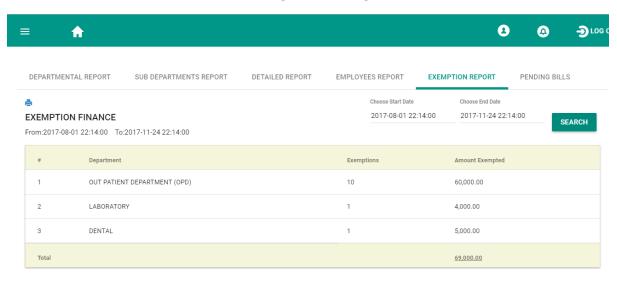
Exemptions report has all reports of exempted patients in the facilities on their respective departments.



PENDING BILLS.

All pending bills which took more than 48 hours will be displayed.

Figure 151. Pending bills



NOTE: There are different ways to reach to a clinics;

Reception > clinics

Reception> appointment>clinic

Reception>choose Billing/Exemption & service of that clinic >choose clinic from list of clinics>cashier>Appointment>specific clinic

OPD>appointment> payment> clinic

Reception>choose Billing/Exemption & service of that clinic >choose clinic from list of clinics>cashier>OPD>Disposition > respective clinic.

ENVIRONMENTAL HEALTH

Environmental health is a module responsible for managing Notifiable diseases, Anti-rabies vaccination and Handles Environmental cleanliness.

Notifiable diseases deals with All patients suspected and verified that they have affected with those notifiable diseases like cholera are sorted separately with other patients for monitoring them perpendicularly.

Anti-rabies vaccination deals with proving vaccinations of Anti rabies to all patients bitten by dogs and making follow up to all patients bitten to get vaccination

Environmental cleanliness where it handles equipment's for cleanliness, Wastes collection, Wastes disposal and Nuisances.

Environmental cleanliness includes two main types of equipment's for wastes storage before disposal which are *Bin Liners and Waste Bins*. Each equipment contains its sub equipment

Around the facility there are things which make facility environments to be inconvenient, these things are called nuisance. The nuisances are of different types. Once nuisance happen there must be an *Abatement* i.e. means to prevent them. Apart from nuisances around the facility surrounding there are different types of waste. For these wastes to be cleaned detergents must be used. Different types of equipment's must be used and different disposal methods are used according to the type of waste.

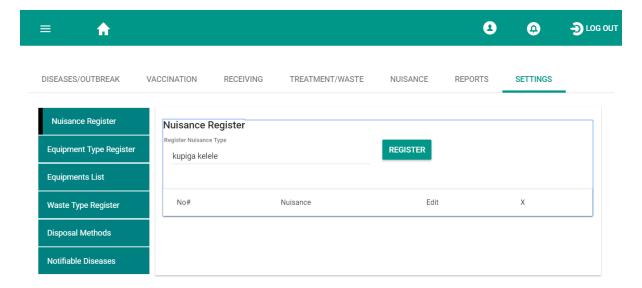
Environmental Health

Figure 152.Environmental health

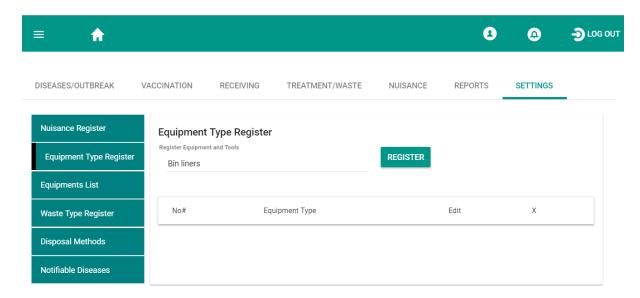
Environmental health works as follows.

Settings

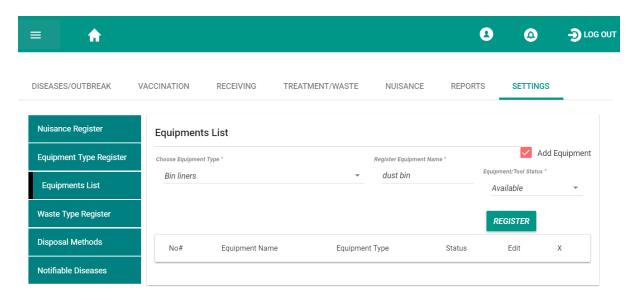
This part is where all registration concerning environmental are done Register nuisance



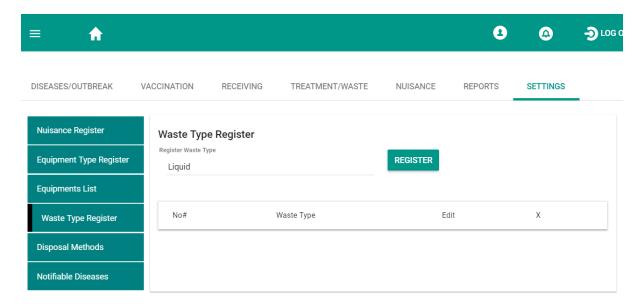
Register equipment type: there are two main categories of equipment types which are *Bin Liners and Waste Bins*.



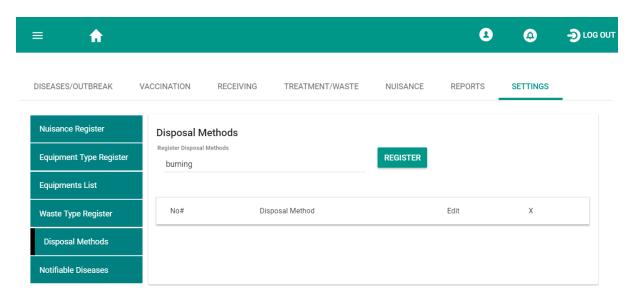
Equipment list: various equipment list fall to different equipment type.



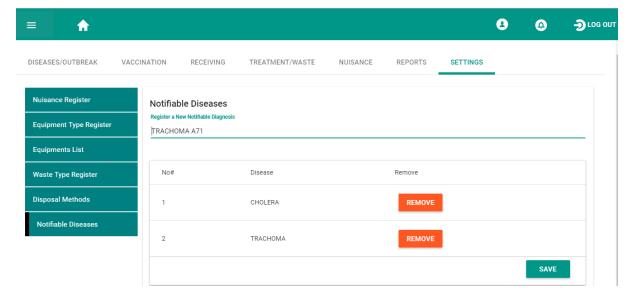
Waste types: different types of wastes are registered here



Disposal method: register different methods of disposal



Notifiable disease



Disease /outbreak

This part contain summary reports of outbreak disease, patient list and outbreak summary

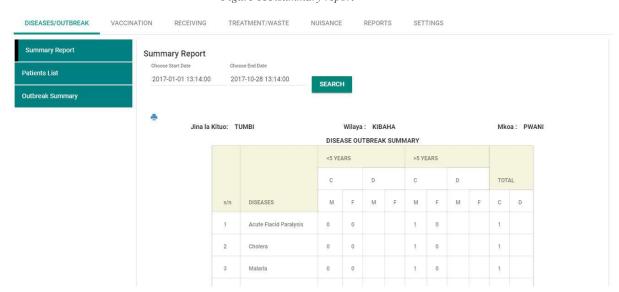
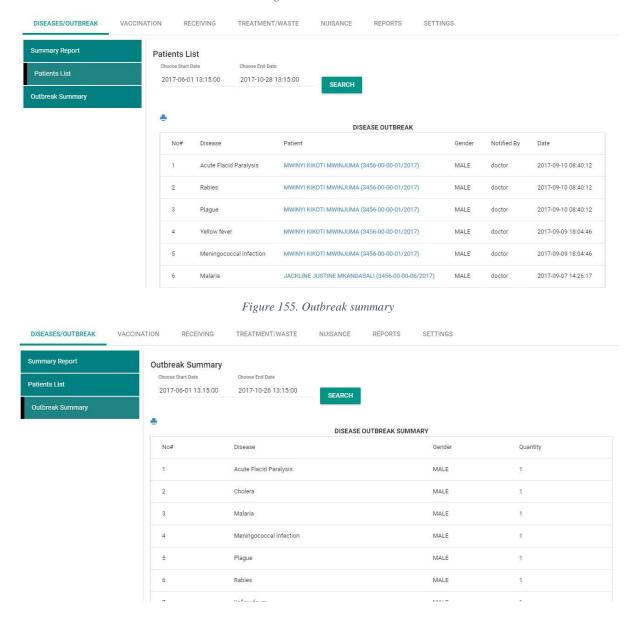


Figure 153.summary report

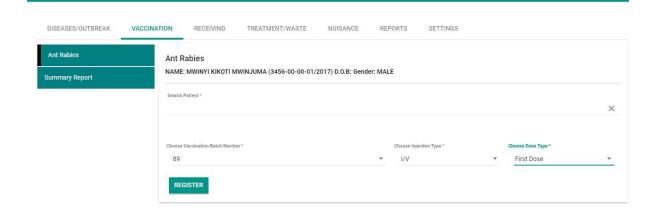
Figure 154.Patient list



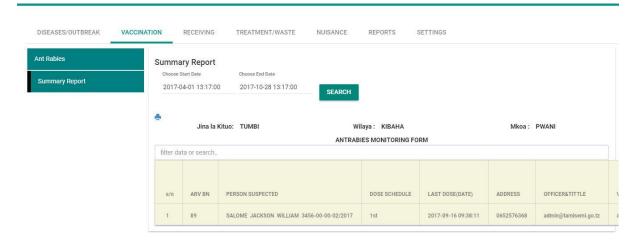
Vaccination

Deals with proving vaccinations of Anti rabies to all patients bitten by dogs and making follow up to all patients bitten to get vaccination

Ant Rabies



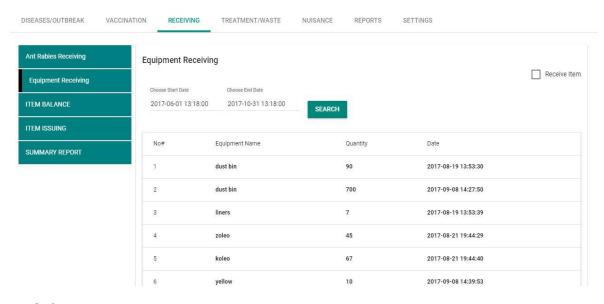
Summary report



Receiving

Equipment receiving

Click receive item, select equipment type and enter quantity of equipment receive then register



Item balance

Display the quantity of available equipment

Item issuing

Click issue item, choose equipment type and enter the quantity of equipment's to be issued

Search and view equipment name and the quantity issued

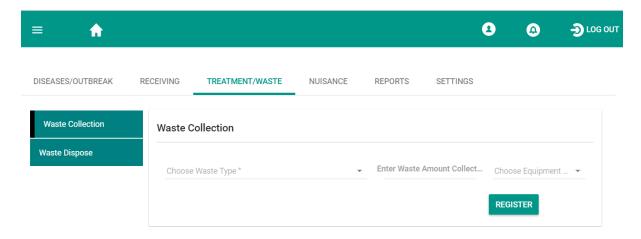
Summary Report

View summary of received and issued equipment's

Treatment/Waste

It handles different ways of waste disposals like incinerations, burning etc

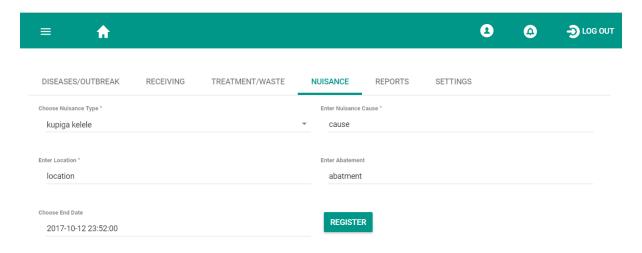
Waste collection and waste disposal are registered here



Nuisance

It handles annoying issues like noises, sounds

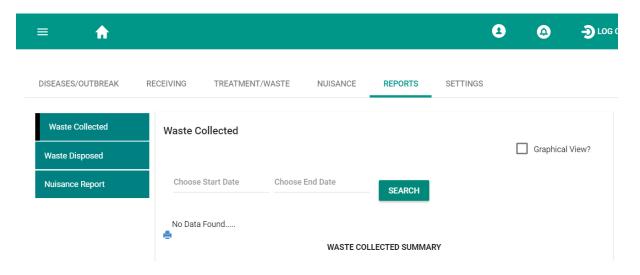
Choose the type of nuisance, its cause, location, way to overcome it and the end date.



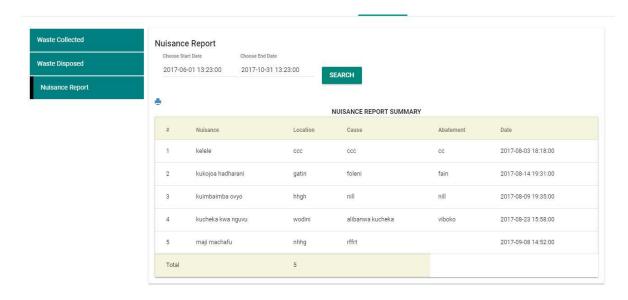
Report

A report of waste collection, waste disposal and nuisance is shown here.

Waste collected report



Nuisance report



REPRODUCTIVE CHILD HEALTH (RCH)

Reproductive Child Health (RCH) is a module responsible for the health of a mother, father and child with the aim of reducing infant, child and maternal mortality rates. Reproductive health should be looked at through a lifecycle approach as it affects both men and women from infancy to old age

The module consist of five main parts which are: Anti natal, Post natal, labour and Family Planning.

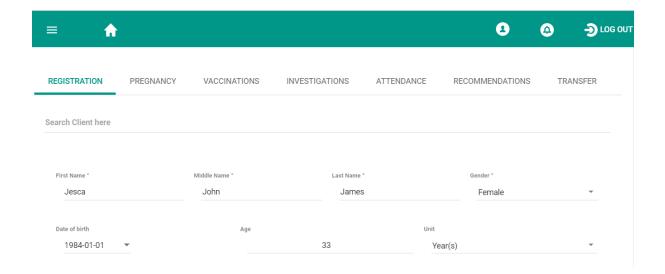
In RCH the patient/client is registered if it is first time visit and on registration the details of both father and mother are recorded. The system enable a patient search for the re-attendance.

ANTI NATAL

Anti natal is the period of pregnancy which performed various check-up during pregnancy for the early detection of possible complications of pregnancy together with uterine and fatal abnormalities. Ant natal care includes general examination, abdominal examination, vaginal examination, regular tests to monitor the progress of the pregnancy, ultrasound scanning, checks of weight, blood checks, tests of Hormones and Enzymes to assess the efficiency of the Placenta, and frequent tests of the blood pressure and urine.



The system allows user to register mother and partner informations, to take previous pregnancy details and indicators, related vaccinations, investigations, attendance and recommendation. a patient can be transferred to other clinics

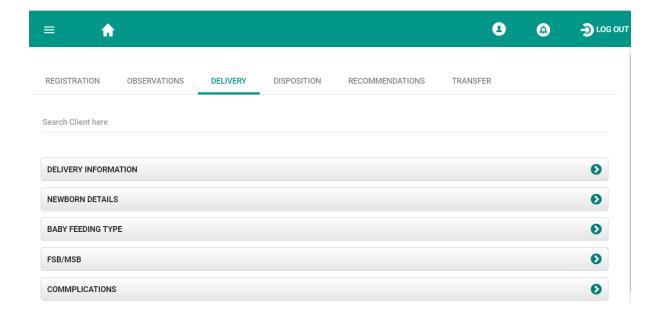


LABOUR

Labour is the period during delivery, Post natal is the period begins from birth and ends when the baby is six weeks of age.



Labour patients are first registered, various observations are taken, and delivery information is recorded

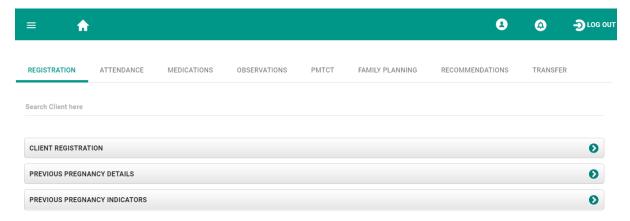


POST NATAL

The postnatal period is a very special time where women undergo the transition into motherhood period after delivery.

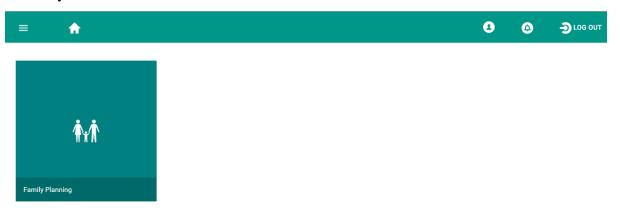


In post natal the patients is registered and patient attendance is recorded, various observations to mother and child are done

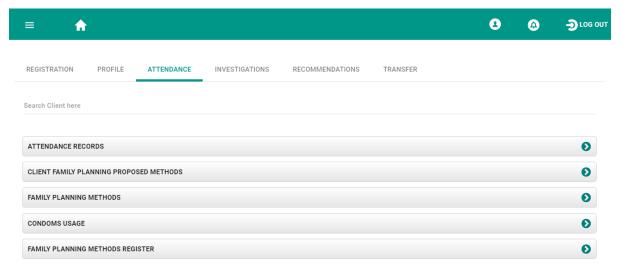


FAMILY PLANNING

Family planning is the practice of controlling the number of children in a family and the intervals between their births. It allows people to attain their desired number of children and determine the spacing of pregnancies. It is achieved through use of contraceptive methods and the treatment of infertility



Family planning includes registration of for new patients, the system has search panel which enable user to search for existing patients, and patient records are available in profile tab

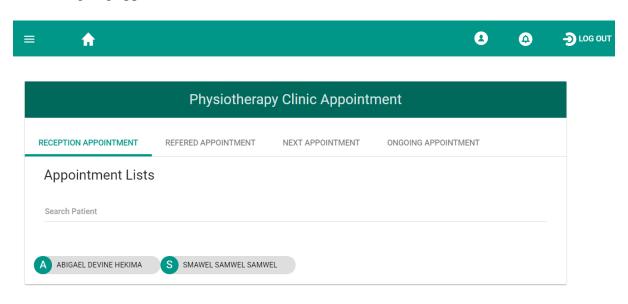


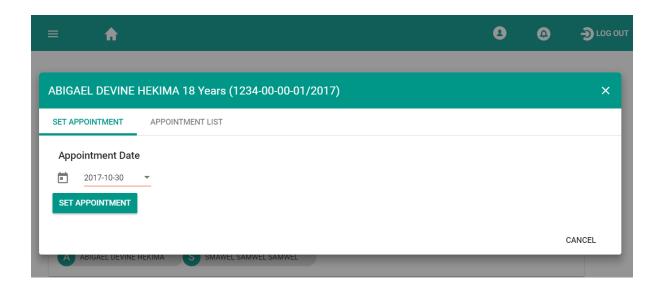
PHYSIOTHERAPY

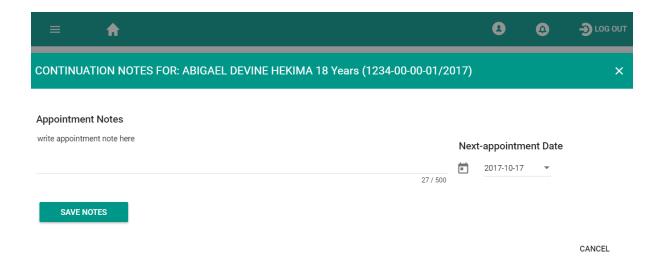
Is a module responsible for treatment of the joints, muscles, or nerves, which involves doing exercises or having part of your body massaged or warmed. In physiotherapy the patient is registered then assigned to physiotherapy clinic. The patient is listed to Physio appointment where the appointment is set. The appointment can be referred (same date) or ongoing appointment



Physio appointment where a patient is give an appointment, the appointment can be of the same date or ongoing appointment







PHYSIOTHERAPY CLINIC

Once the appointment is set, patients with referred appointment will be seen be listed at the physiotherapy clinic dashboard



Records

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available



Subjective and objective assessment

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what the patient said apart from searching the complaints, the system enable doctor to write the complaints in details from what was heard from the patient. This part enables a doctor to doctor view all vitals that were taken concerning a particular patient.

Figure 156. Subjective assessment

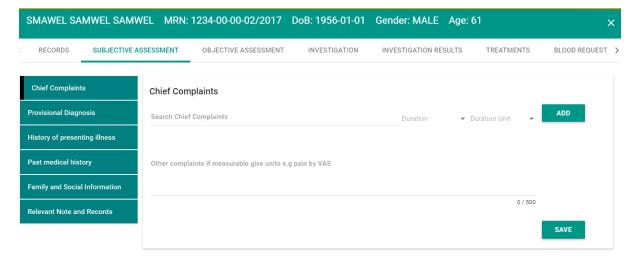
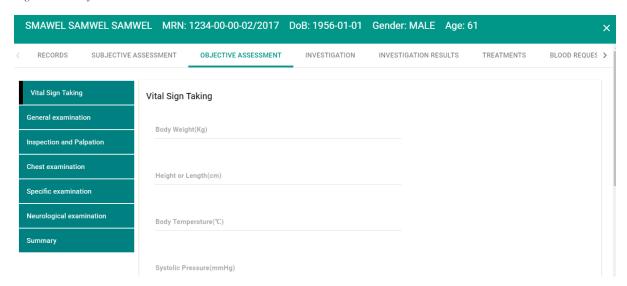
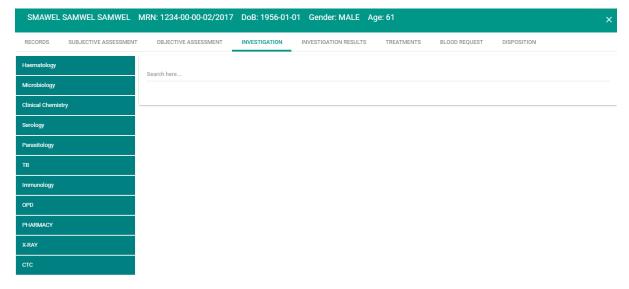


Figure 157. Objective assessment



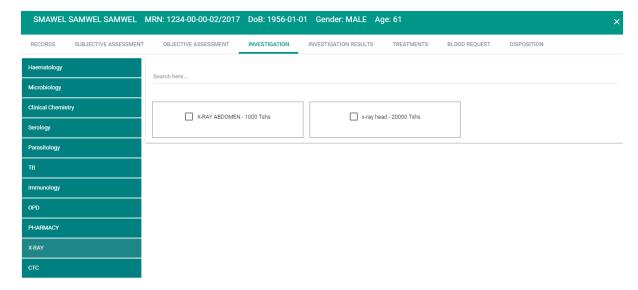
Investigation

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.



Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.



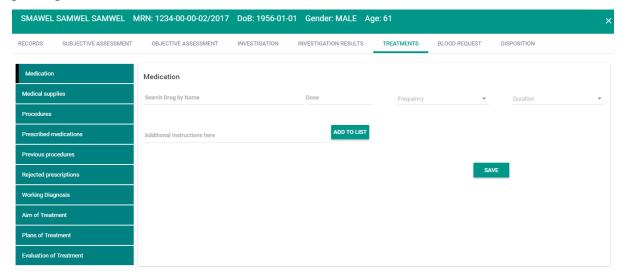
Investigation results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.



Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.

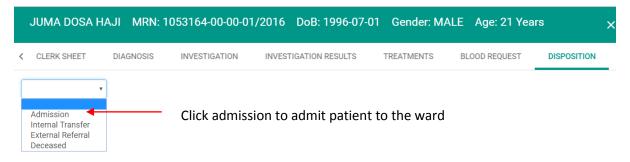


It is where the patient need for blood is requested and the request goes to the blood bank.



Disposition

On disposition a patient can be admitted to the ward, transferred to other clinic, referred to external hospital or deceased to mortuary.



CARE AND TREATMENT CLINIC (CTC)

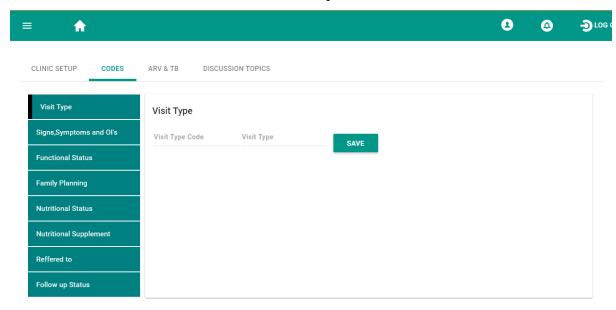
Care and Treatment Clinic (CTC) is a clinic which deals with HIV/AIDS infected people. It explains on how the HIV patient is monitored from medical supply to consultation. CTC covers all areas of medicine, consultation and all other related treatments including counselling and voluntary testing, also education on how to care for People living with HIV/AIDS (PLWHA) the clinics contains:

Setup, Codes, ARV and TB, Discussion Topics

On clinic setup tab, clinical capacity per day is where you write the total number of patients who can be treated on that day, ID number is where the registration number of a facility is registered.

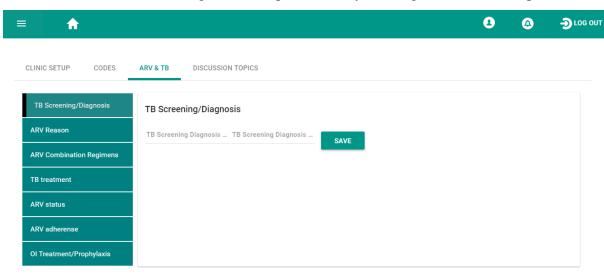


Click on Codes then enter codes and codes descriptions

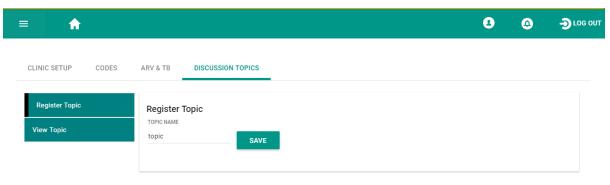


ARV & TB

On each item in this tab the registration is performed by entering codes and descriptions of code



Discussion topic tab enables the user to register and to be able to view the discussion topic

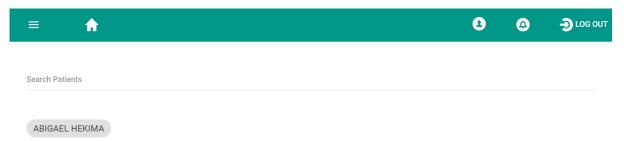


CTC NURSE



CTC nurse/doctor panel

Consultation queue contains a list of patients who have satisfied to be consulted by the doctor which involves patients who have made payments and exempted patients all of which are waiting to be consulted by the doctor concerned it also contains a quick search tab that will enable the doctor to search a patient by patient's full name and his/her medical record number. Doctor picks the clients/patients from consultation queue in order to attend them as follows:



Previous visit

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available

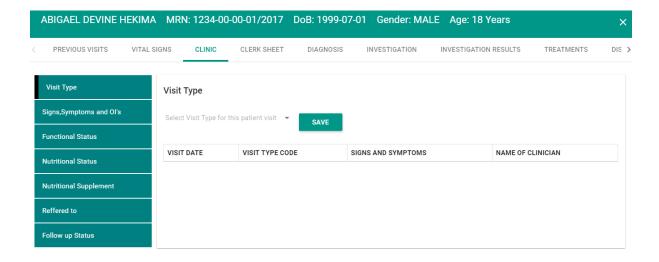


Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

Clinic

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the visit type and record all the patient status. After checking the patient status the doctor will be able to decide whether the patient needs to be transferred to other clinics.



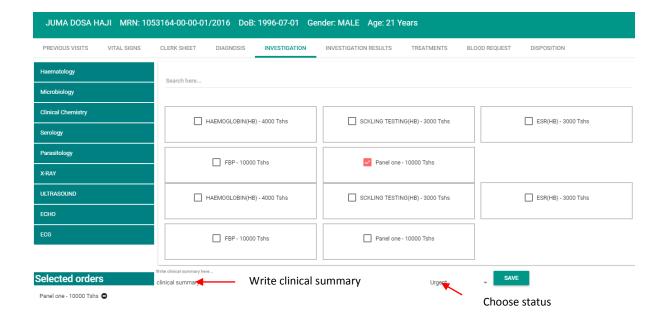
Diagnosis

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.



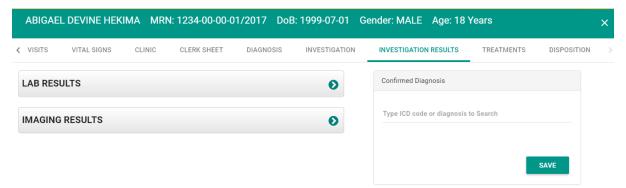
Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.



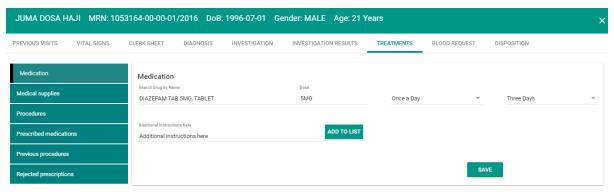
Investigation results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.



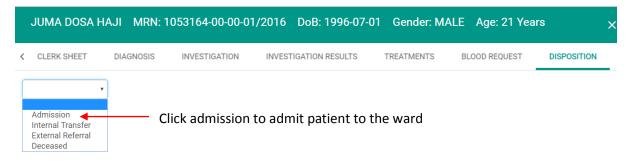
Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.



Disposition

On disposition a patient can be admitted to the ward, transferred to other clinic, referred to external hospital or deceased to mortuary.

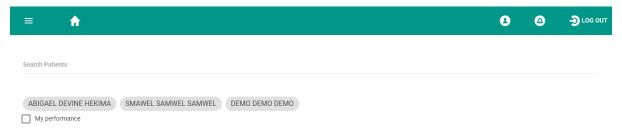


DENTAL

Dental is a module that involves the maintenance of healthy teeth and may refer to as Oral hygiene, the practice of keeping the mouth and teeth clean in order to prevent **dental** disorders. **Dentistry**, the professional **care** of teeth, including professional oral hygiene and **dental surgery**.



Consultation queue contains a list of patients who have satisfied to be consulted by the doctor which involves patients who have made payments and exempted patients all of which are waiting to be consulted by the doctor concerned it also contains a quick search tab that will enable the doctor to search a patient by patient's full name and his/her medical record number. Doctor picks the clients/patients from consultation queue in order to attend them as follows:



Previous visit

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available

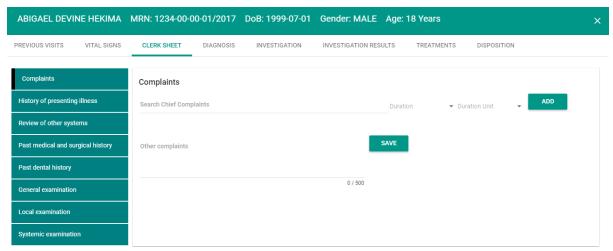


Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

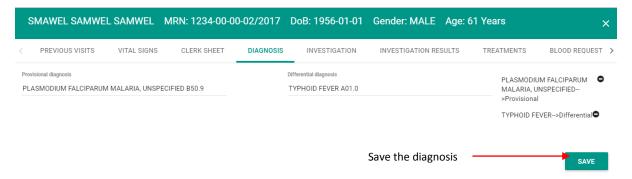
Clerk sheet

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what the patient said apart from searching the complaints, the system enable doctor to write the complaints in details from what was heard from the patient.



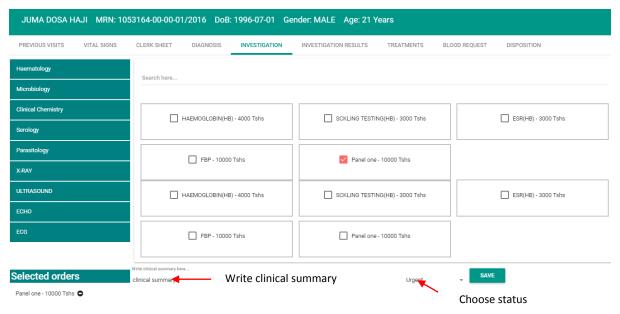
Diagnosis

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.



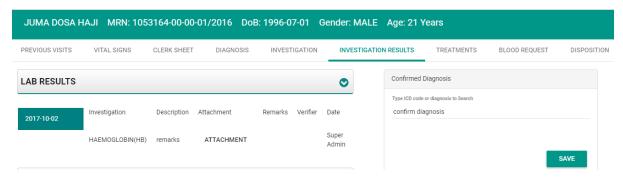
Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.



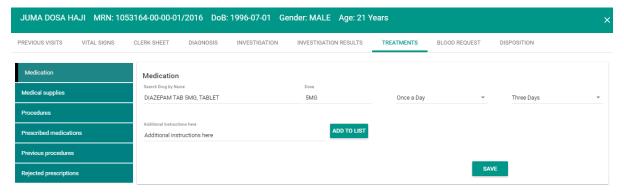
Investigation results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.



Treatment

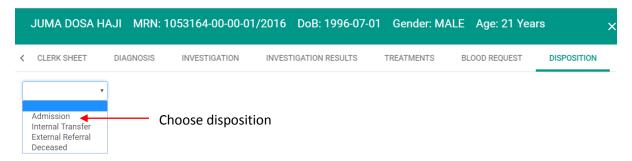
This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.



Disposition

On disposition a patient can be admitted to the ward, transferred to other clinic, referred to external hospital or deceased to mortuary.

Figure 158.Disposition



PAEDIATRIC

Is a module which deals with management of children from one month to five years it includes dealing with inborn defects acquired, diseases and environmental disabilities including



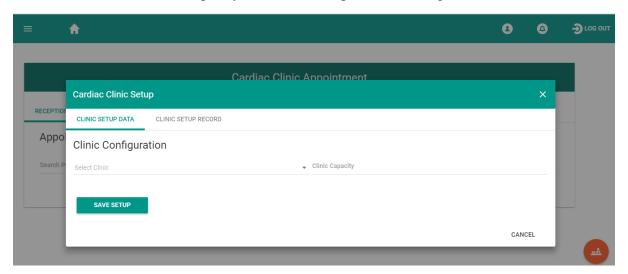
Open Cardiac appointment the click on the floating button to open clinic setup



Open to set up the clinic _____



Set the clinic and enter the capacity of the clinic in patient handling



On the cardiac clinic appointment dash board is where the patients will be listed. It is where the refered appointment and ongoing appointment are set



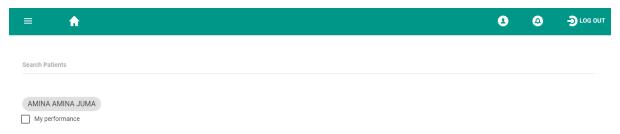


OBSETRICS & GYNACOLOGICAL

This module deals with treating and managing female concerned with pregnancy and operations involving babies



Search patient from search box for consultation



Attend MTUHA tallying



Previous visit

First the doctor looks at the patient's previous visits history. For the new patients, the previous visits history will be seen once the patient is clerked by the doctor.

If it is a new patient, there won't be previous visit history until the patient is clerked is when the patient history will be available

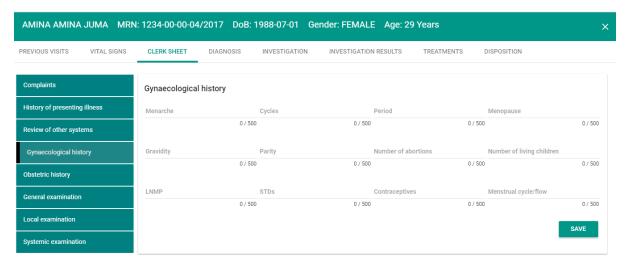


Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

Clerk sheet

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what the patient said apart from searching the complaints, the system enable doctor to write the complaints in details from what was heard from the patient.



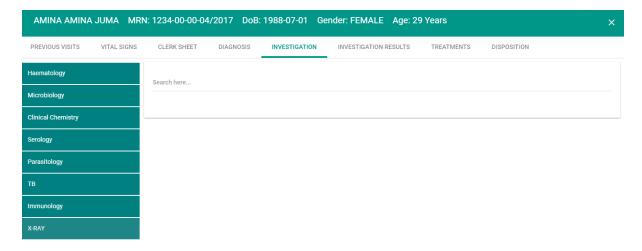
Diagnosis

After clerking a patient, this part enables a doctor to write the possible diagnosis, the possible diagnosis written here will be confirmed by the doctor once the investigation are complete and investigation results are sent to the doctor.



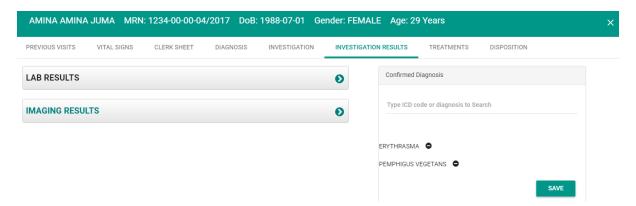
Investigation

This part enables a doctor to choose what a patient is to be investigated. After choosing the investigation the patient will make payments and go for investigation.



Investigation results

Results of what had been investigated from the Laboratory/Radiology is returned to the doctor, the doctor views the investigation results, the results will assist doctor to confirm diagnosis and make treatment.

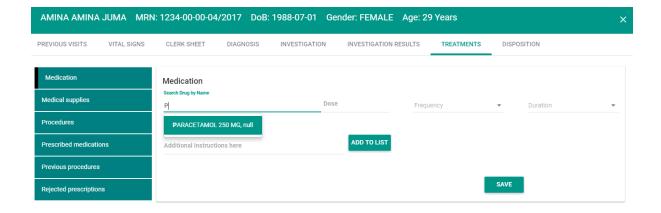


Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.

Treatment

This part enable a doctor to gives medication, medical supplies or procedures to a patient. Doctor will be able to see all prescribed medications, previous procedures and rejected prescription.



Disposition

On disposition a patient can be admitted to the ward, transferred to other clinic, referred to external hospital or deceased to mortuary.

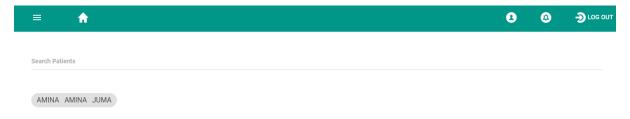


INTENSIVE CARE UNIT (ICU)

ICU is a module which deals with seriously affected patients including unconsciousness, bleeding, failure to breathe and strokes.



Consultation queue contains a list of patients who have satisfied to be consulted by the doctor which involves patients who have made payments and exempted patients all of which are waiting to be consulted by the doctor concerned it also contains a quick search tab that will enable the doctor to search a patient by patient's full name and his/her medical record number.



Vital sign

This part enables a doctor to view all vitals that were taken concerning a particular patient.

Clerk sheet

This is where doctor discuss with the patient about the illness. After discussing the doctor will be able to search the complaints and duration of the occurrence of that complaints according to what

Diagnosis

After clerking a patient, this part enables a doctor to write the provisional, differential and confirmed diagnosis



Tasks

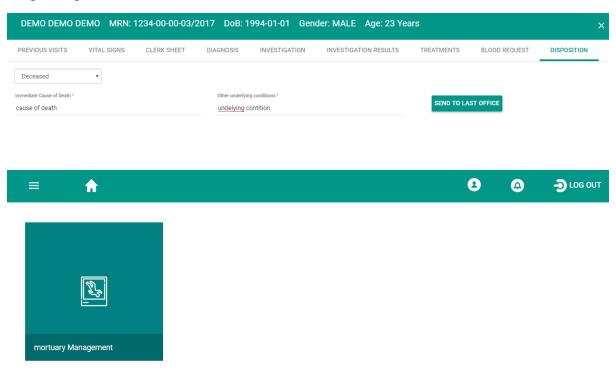
Under this tab the system allows user to show the patient continuation notes and to assign bed to a patient



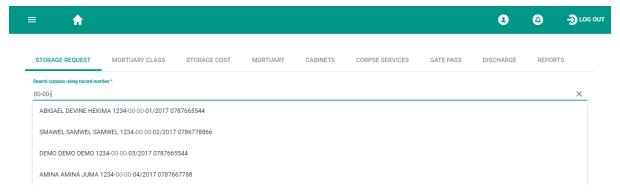
MORTUARY

This is the last stage of survival where the senescence stops there/ a person dies because of accident / any other problem. It is temporarily kept there waiting to be taken to the last office (buried)

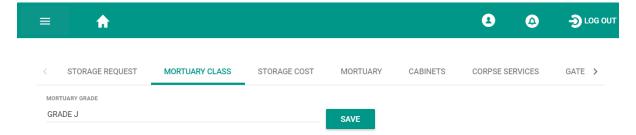
Corpse disposition



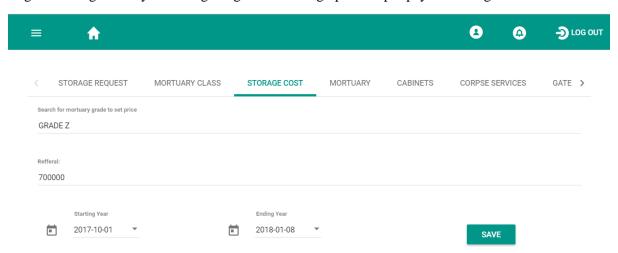
Search corpse using MRN



Register mortuary grade



Register storage cost by searching the grade and assign price as per payment categories



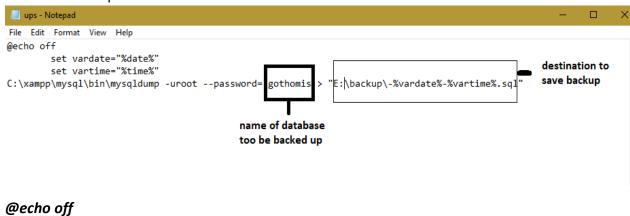
Before a patient is discharged, must have a get pass.

Once all corpse payments are cleared a patient can be dischardged.

CREATING AUTO BACKUP

Create a new file with .bat extension so as to write backup scripts example: ups.bat

Write these scripts and then save file

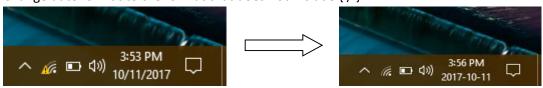


set vardate="%date%"

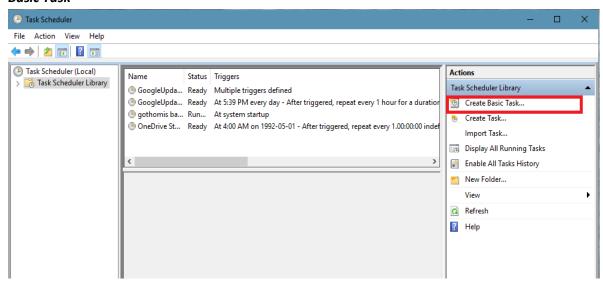
set vartime="%time%"

C:\xampp\mysql\bin\mysqldump -uroot --password= gothomis > "E:\backup\-%vardate%-%vartime%.sql"

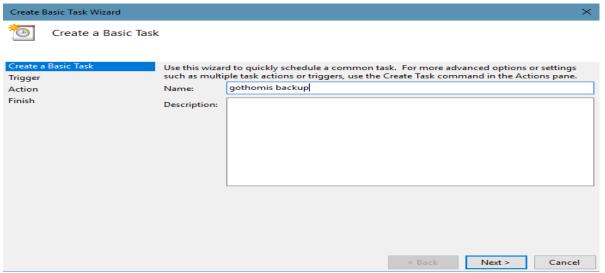
1. Change date format to the format that does not include $\{\ /\ \}$



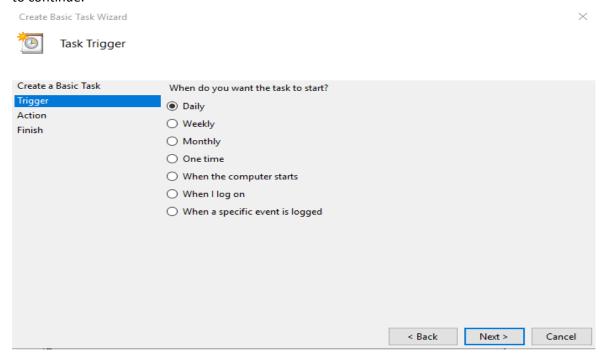
2. Open Task Scheduler window to create a backup schedule for the system and click *Create***Basic Task**



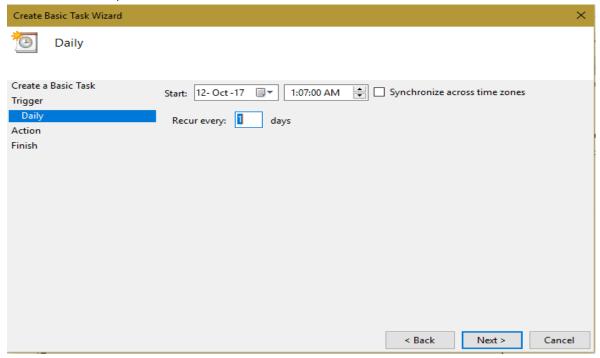
3. New window will pop up to allow to create name of the schedule then click next



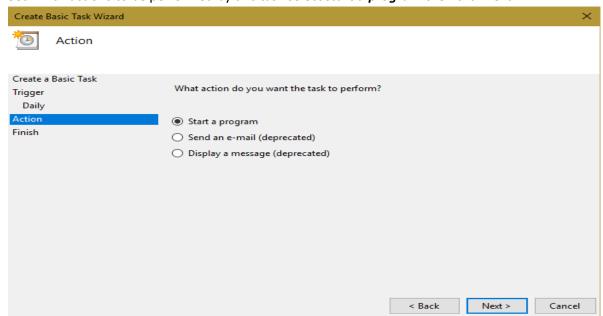
4. This window will open to allow user to choose how often for backup to occur then click next to continue.



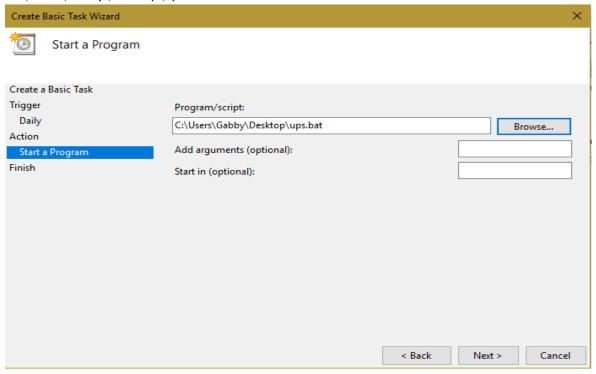
5. Set time for backup to occur then click next



6. Set which actions to be performed by this task select start a program then click next



7. Browse to the destination where the script is saved an select the script **example**: "C:\Users\Gabby\Desktop\ups.bat"



8. Then finish set up the task will appear to the task schedule list. Run task to test script.