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MEDICENTREV3 (INTEGRATED HEALTHCARE MANAGEMENT INFORMATION SYSTEM)



This document provides an overview of the features, functionalities and modules provided in the software.



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1.0 VALUE PROPOSITION SUMMARY

Our Integrated Healthcare Management System is a solution that provides a holistic approach to the healthcare business process. We understand that healthcare providers have complex operations that require delicate balancing between providing quality care and meeting revenue goals necessary for sustainability and growth. Therefore, the main objective in the solution is to offer a managerial and clinical decision support tool that will easily inform the managers on various Key Performance Indicators across the different hospital departments while at the same time addressing their pain points.

1.1 Pain Points Addressed by Our Healthcare Software

The following are some of the pain points addressed by our healthcare software:

No.	Pain Point	Product Value (Feature)	Message to our Customers
1.	Chaotic Patient Queues	Integrated Queue Management System <ul style="list-style-type: none"> - Ticketing based on different priority disciplines - Monitor patient waiting time - Track patient movement throughout the hospital 	<ul style="list-style-type: none"> - Tickets are issued to patients based on FCFS (First-Come-First-Serve) and Emergency Priority disciplines. - Streamline patient workflow and eliminate chaos in the waiting lines.
2.	Medical Errors	Standardized Patient Demographics & Clinical Data <ul style="list-style-type: none"> - Complete patient data on registration - Enforce clinical consultation rules - Specimen tagging Team Collaboration <ul style="list-style-type: none"> - Allows caregivers to seamlessly share patient cases and agree on the best intervention 	<ul style="list-style-type: none"> - Have access to medical audit of patient cases - Eliminate medical errors - Improve quality - Drive patient outcomes and satisfaction - Have happy patients and receive patient referrals
3.	Stock Shrinkage (Stock losses)	Stock Management Module <ul style="list-style-type: none"> - Automated updates on stock transactions - Stock take feature - Internal Orders 	<ul style="list-style-type: none"> - Keep track of all hospital stock from the time an item is procured, consumed and dispensed. - Improve rate of return on stock - Reduce stock losses



4.	Revenue Leakage	Automated Billing <ul style="list-style-type: none"> - Services and drugs are automatically charged - Enforce payments first before service for cash payers - Pricing per patient scheme - Automated submission of claims 	<ul style="list-style-type: none"> - Account for all drugs and services given to patients - Improve cash collection - Protect the hospital from rejection of claims - Improve revenue collection
5.	Poor Business Operational Visibility	Real-Time Dashboards and Reports <ul style="list-style-type: none"> - Track various situations relating to inefficiencies and threats in real-time 	<ul style="list-style-type: none"> - Quickly and proactively take decisive actions to improve efficiencies and manage risks
6.	Privacy and Confidentiality of Patient Data	Role-Based Access to Data <ul style="list-style-type: none"> - Users' access to data is controlled based on their roles at the hospital 	<ul style="list-style-type: none"> - Avoid data breach - Keep business and patient data from unauthorized access
7.	Uncertainty of Business Continuity in Times of Disaster	Automated Back-Up of Hospital Data <ul style="list-style-type: none"> - Local and Remote back-up of all hospital data - Easy and quick restoration of all hospital data 	<ul style="list-style-type: none"> - Mitigate possible business risks posed by failure of IT Infrastructure and other accidents

1.2 Integrated Dashboard for Key Performance Indicators (KPIs)

Through the system integrated dashboard (Business Intelligence Module), hospital managers will access the following Key Performance Indicators:

KEY PERFORMANCE INDICATORS			
	HEALTHCARE		PROCUREMENT
1.	Patient Waiting Time	1.	Purchase Order Cycle Time
2.	Patient Service Time	2.	Purchase Order Lead
3.	Patients Per Doctor	3.	Supplier Availability
4.	Visit Per Payer (Cash, Insurance)	4.	Number of Suppliers
5.	Hospital Utilization (Lab, Beds etc.)	5.	Cost of Purchase Per Order
6.	Admission Rates		



7.	Discharge Rates (Dead, Alive, Absconded)		
8.	Average Hospital Stay		
	FINANCIAL		INVENTORY
1.	Gross Profit Margin	1.	Inventory Accuracy
2.	Operating Expense Ratio	2.	Inventory Turn Over
3.	Net Profit Margin	3.	Inventory to Sales Ratio
4.	Operating Profit Margin	4.	Inventory Period
5.	Current Ratio		
6.	Cash Conversion Cycle		
7.	Return on Equity		
8.	Accounts Receivable Turn Over		
9.	Accounts Payable Turn Over		
10.	Working Capital		
	HUMAN RESOURCE		
1.	Employ Average Time of Stay	8.	Employee by Employment Type
2.	Employee Turn Over		
3.	Revenue Per Employee		
4.	Profit Per Employee		
5.	HR Cost Per Employee		
6.	Monthly Salary Expense		
7.	Employees by Gender Ratio		

1.3 Reports to Support Your Decision Making Process

In order to support your decision-making process, the solution provides you with many informative reports. Some of the reports include the following:

CLINICAL REPORTS	
1. Patient Register	2. Out-patient Register under 5
3. Out-patient Register over 5	4. In-patient Register
5. Laboratory Register	6. Laboratory Register
7. Prescriptions Register	8. Radiology Register
9. Workload	10. Morbidity by Diagnosis
11. Morbidity by Impression	12. Nursing Notes Summary
13. Patient Visits by Doctor	14. Patients Visit by Clinic
15. Special Clinics Register	16. Bed Occupancy (BOR)
17. Bed Occupancy	18. Hypertension Register
19. Theatre Procedures	20. Morgue Admissions
21. Maternity Register	
INVENTORY REPORTS	
22. Stock Valuation by Branch	23. Stock Valuation (All)
24. Stock Movement	25. Stock Issuance
26. Stock Receipts	27. Material Consumption



28. Out-of-stock	29. Near Expiry
30. Below Re-order Level	31. Fast Moving Items

REVENUE REPORTS

32. Revenue per Department	33. Revenue by Scheme
34. Revenue by Branch	35. Total Receipts
36. Receipts by Mode of Payment	37. Receipts by Branch

BILLING REPORTS

38. Patient Bills by Branch	39. Out-patient Bills
40. In-patient Bills	41. Finalized/Pending Bills

HUMAN RESOURCE REPORTS

42. Employee Details (Master Payroll)	1. Payroll Parameters Summary
43. Monthly Payroll Summary	2. Net Pay Summary
44. Tax Deduction Card	

COMPARISON REPORTS

45. Daily Revue Comparison	46. Weekly Revenue Comparison
47. Yearly Revenue Comparison	48. Daily Revenue vs Daily Expense
49. Weekly Revenue vs Weekly Expenses	50. Monthly Revenue vs Monthly Expenses
51. Yearly Revenue vs Yearly Expenses	52. Daily Out-patients
53. Weekly Out-patients	54. Monthly Out-patients
55. Daily Admissions	56. Daily Discharges
57. Daily Bed Occupancy	

BUDGETING REPORTS

58. Budget Summary	59. Budget vs Actual
--------------------	----------------------

ASSET MANAGEMENT REPORTS

60. Fixed Assets Register all Branches	61. Fixed Assets Register by Branch
62. Disposed Assets	63. Depreciation
64. Scheduled Maintenance	65. Equipment Servicing History

ACCOUNTING & FINANCE REPORTS

66. General Ledger	67. Trial Balance
68. Income Statement	69. Balance Sheet
70. Cash Flow Statement	71. Expenses
72. Account History (Transactions History)	

ACCOUNTS RECEIVABLE REPORTS

73. Customer Balances	74. Insurance Statements
75. A/R Aging Schedule	76. Rebates

ACCOUNTS PAYABLE

77. Supplier Invoices	78. Supplier Statements
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79. A/P Aging Schedule	80. Consultant Bills
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2.0 SYSTEM FEATURES AND MODULES

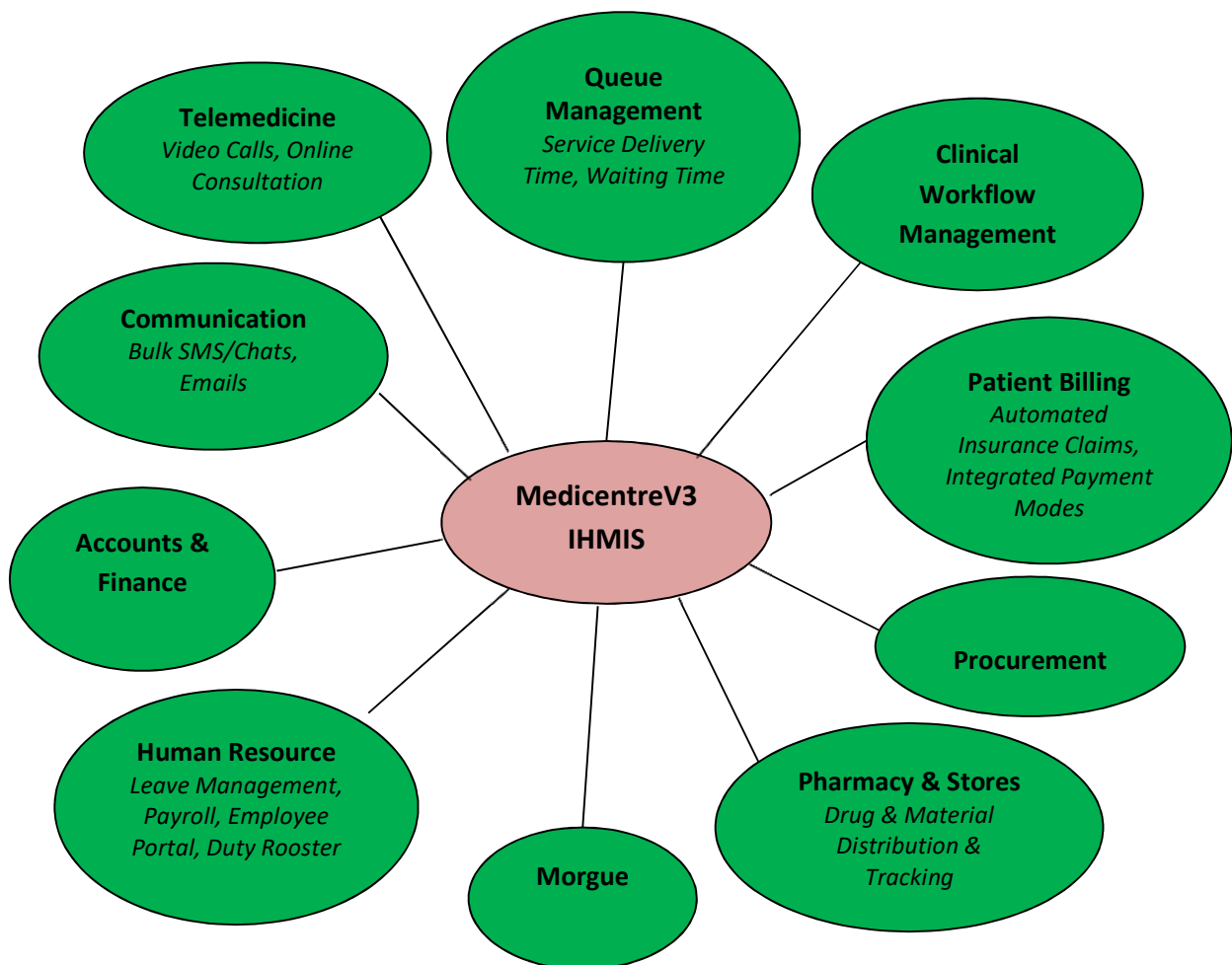
2.1 Deployment Model

Deployment refers to the process of making the software available and ready for use. In this case, Cloud Deployment Model will be employed taking the form of PAAS (Platform As A Service) in development, running and management of the application and SAAS (Software As A Service) in making it available and ready for use to users.

The end-user may also have the option of choosing between a public and private cloud.

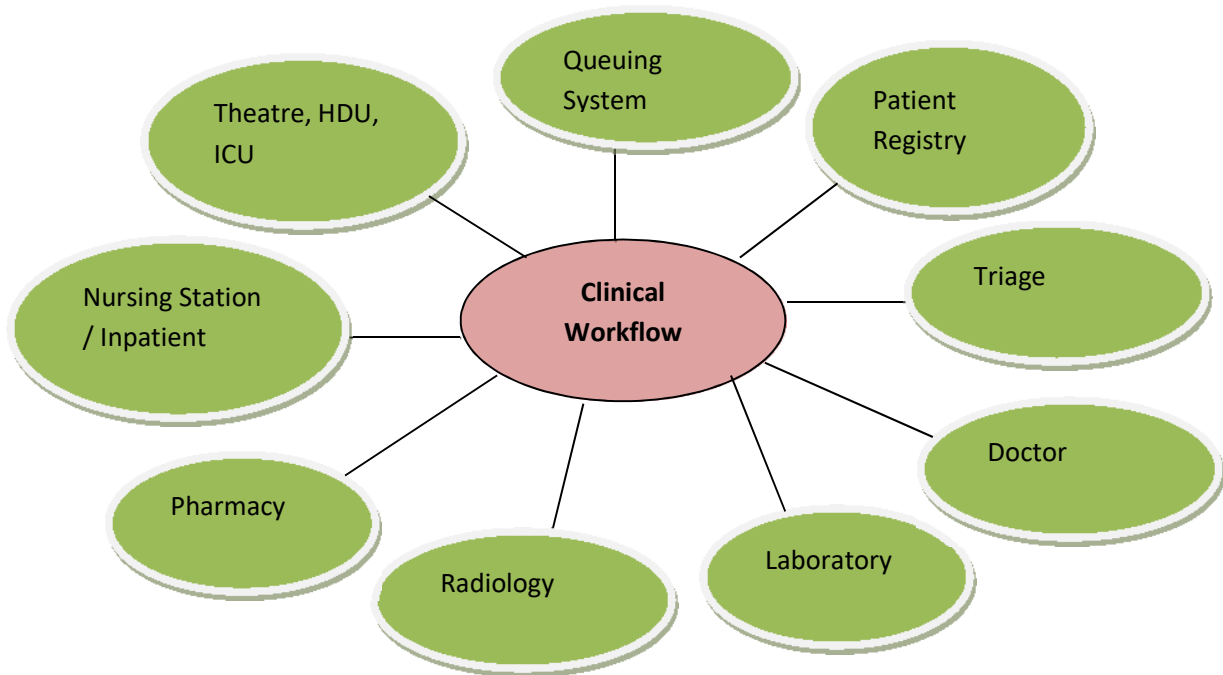
2.2 MedicentreV3 System Features

The chart below is a graphical representation of the integrated Healthcare Management Information System, Medicentre V3. The features are integrated into one robust, flexible, reliable and highly scalable application that delivers multi-user functionalities across the different platforms spectrum with an astounding speed.



2.3 Clinical Workflow Modules

Of great importance to the healthcare provider is systematic and streamlined clinical workflow. MedicentrV3 delivers this and much more through its well-integrated and organized clinical modules that are based on best practice in application of information technology in healthcare.



2.4 Supported Clinical and Medical Equipment Standards

The following are some of the clinical standards supported by MedicentreV3. These and others ensure standardized management of clinical data and consistency in clinical reporting.

- ICD 10 – International Classification of Diseases (Version 10)
- SNOMED – Systematized Nomenclature of Medicine
- ATC – Anatomical Therapeutic Chemical Classification System
- ICHI – International Classification of Health Interventions
- LOINC - Logical Observation Identifiers Names and Codes
- DICOM – Digital Imaging and Communications in Medicine
- HL7 – Health Level Seven



3.0 APPLICATION FEATURES & MODULES

3.1 Patient Registry/Reception

- Register patient with all details including medical cover schemes. A patient can be registered under more than one scheme. This is important in cases where medical bill is shared among several medical insurance covers.
- Patient registration for UHC (Universal Health Coverage) for regional/national healthcare systems.
- Quickly search patients by Identity Card No. Telephone, Email, Patient Hospital No, Name and other fields.
- Manage patient information through editing when it's required e.g change of address or contacts
- View all the procedures done at the facility

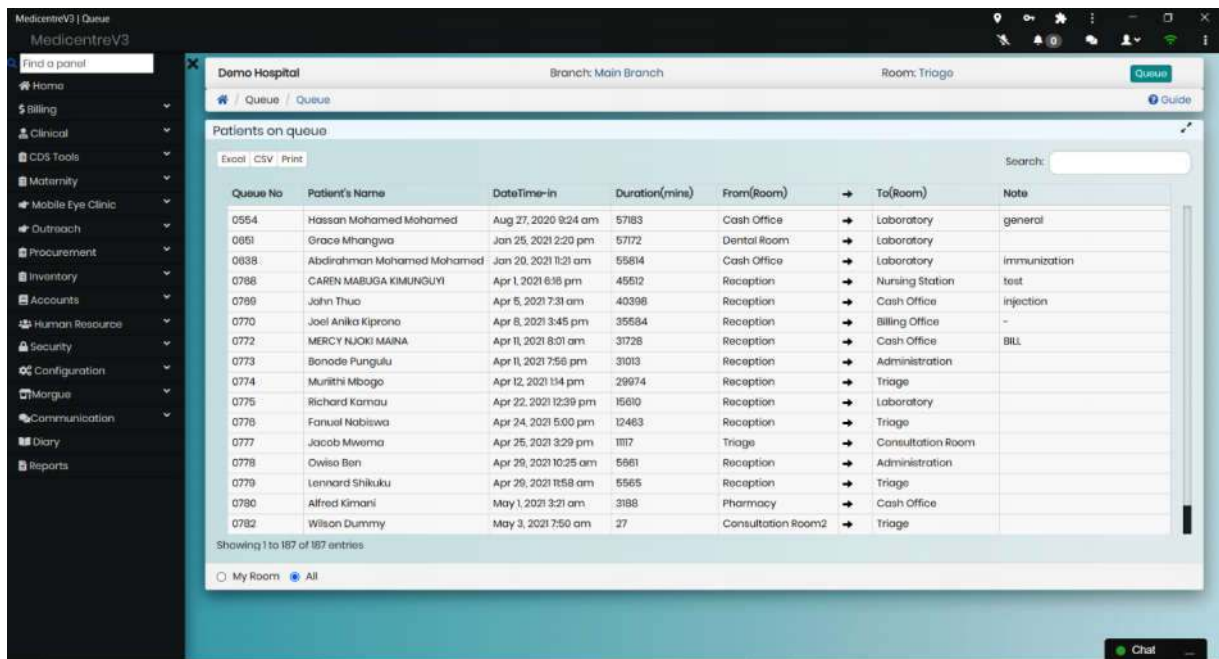


Fig 3.1 Patient Registry / Reception



3.2 Queuing system

- Generate patient tickets and queue them to different rooms and departments
- Call out patients to different service points.
- Display panel for patient ticket numbers
- View the time patients spent in the rooms and also on the queue
- View in real time all patients in the various rooms and also all patients currently on the queue for all your branches/outlets
- Track patient movement in the hospital.
- Improve patient experience by improving waiting time and monitoring service delivery time

The screenshot displays the 'Patients on queue' interface in the MedicentreV3 system. The interface includes a sidebar with navigation options like Home, Billing, Clinical, and CDS Tools. The main area shows a table of patients with the following data:

Queue No	Patient's Name	Date/Time-in	Duration(mins)	From(Room)	To(Room)	Note
0554	Hassan Mohamed Mohamed	Aug 27, 2020 9:24 am	5753	Cash Office	Laboratory	general
0651	Grace Mhangwa	Jan 25, 2021 2:20 pm	57142	Dental Room	Laboratory	
0638	Abdirahman Mohamed Mohamed	Jan 20, 2021 11:21 am	55783	Cash Office	Laboratory	immunization
0768	CAREN MABUGA KIMUNGUYI	Apr 1, 2021 6:36 pm	45481	Reception	Nursing Station	test
0789	John Thuo	Apr 5, 2021 7:31 am	40367	Reception	Cash Office	injection
0770	Josel Anika Kiprono	Apr 8, 2021 9:45 pm	35553	Reception	Billing Office	-
0772	MERCY NJOKI MAINA	Apr 11, 2021 8:01 am	31697	Reception	Cash Office	BILL
0773	Bonode Pungulu	Apr 11, 2021 7:56 pm	30982	Reception	Administration	
0774	Muriithi Mbogo	Apr 12, 2021 1:34 pm	29943	Reception	Triage	
0775	Richard Kamau	Apr 22, 2021 12:39 pm	15579	Reception	Laboratory	
0776	Fanuel Nabiswa	Apr 24, 2021 5:00 pm	12433	Reception	Triage	
0777	Jacob Mwesema	Apr 25, 2021 3:29 pm	11088	Triage	Consultation room	
0778	Owiso Ben	Apr 29, 2021 10:25 am	5630	Reception	Administration	
0779	Lennard Shikuku	Apr 29, 2021 11:58 am	5534	Reception	Triage	
0780	Alfred Kimani	May 1, 2021 3:21 am	3157	Pharmacy	Cash Office	
0782	Wilson Dummy	May 3, 2021 7:50 am	29	Reception	Consultation Room2	

Fig 3.2 Queueing Panel



3.3 Triage

- Access patient queue and call the next patient on the line
- Quickly review previous vital signs
- Quickly and easily input vital signs for the visit
- Enter nursing notes, procedure and drugs, if required

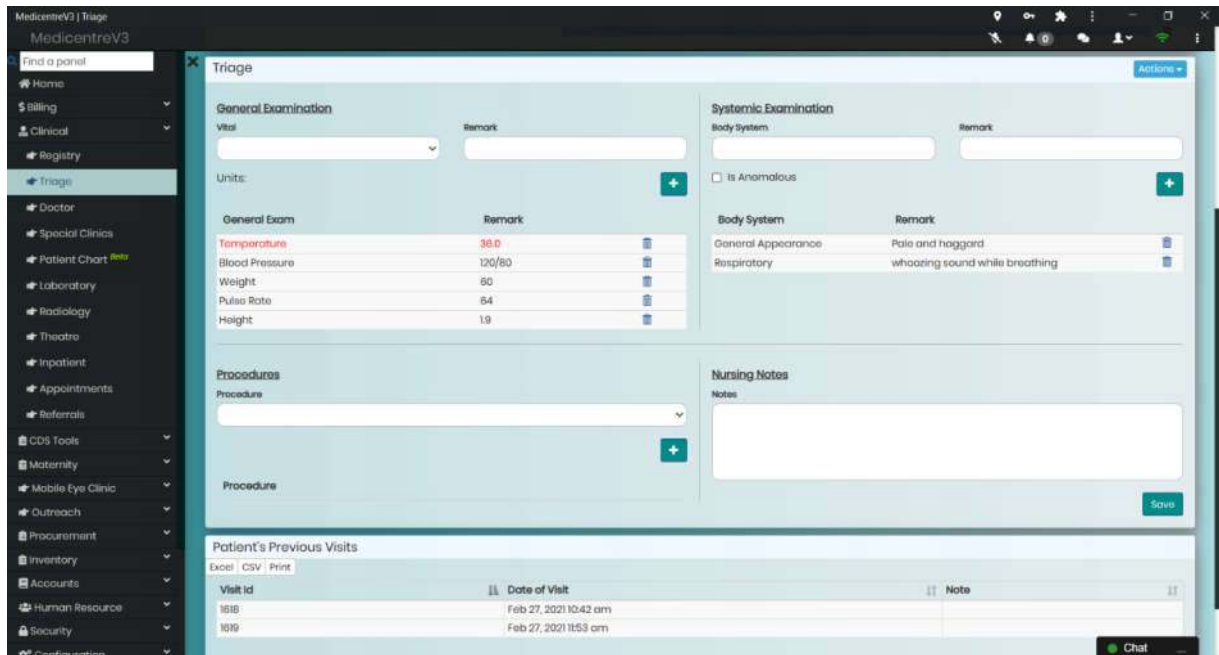


Fig 3.3 Triage



3.4 Doctor

- Access patient queue and call next patient on the line
- Review previous visits notes, prescriptions, investigation and patient history.
- Quickly enter current clinical notes e.g complains, history of presenting illness, medical and surgical history, allergies etc
- View the vital signs of the patient as pre-entered by the nurse
- Clinical instruction template to be filled by the doctor while sending lab, X-ray and Ultra-sound request
- Order investigation and view result once posted by the relevant departments.
- Quickly enter diagnosis for each patient by using clinical standards such as ICD 10 readily available in the system.
- Prescribe drugs. This prescription is made available at the pharmacy where they are collected by patients.
- Patient bill is automatically updated whenever an investigation is requested or a prescription is made
- Access a function for clinical collaboration which leads to better and improved care.
- Schedule for appointment, which is automatically linked with both patient's and doctor's phone/email calendar

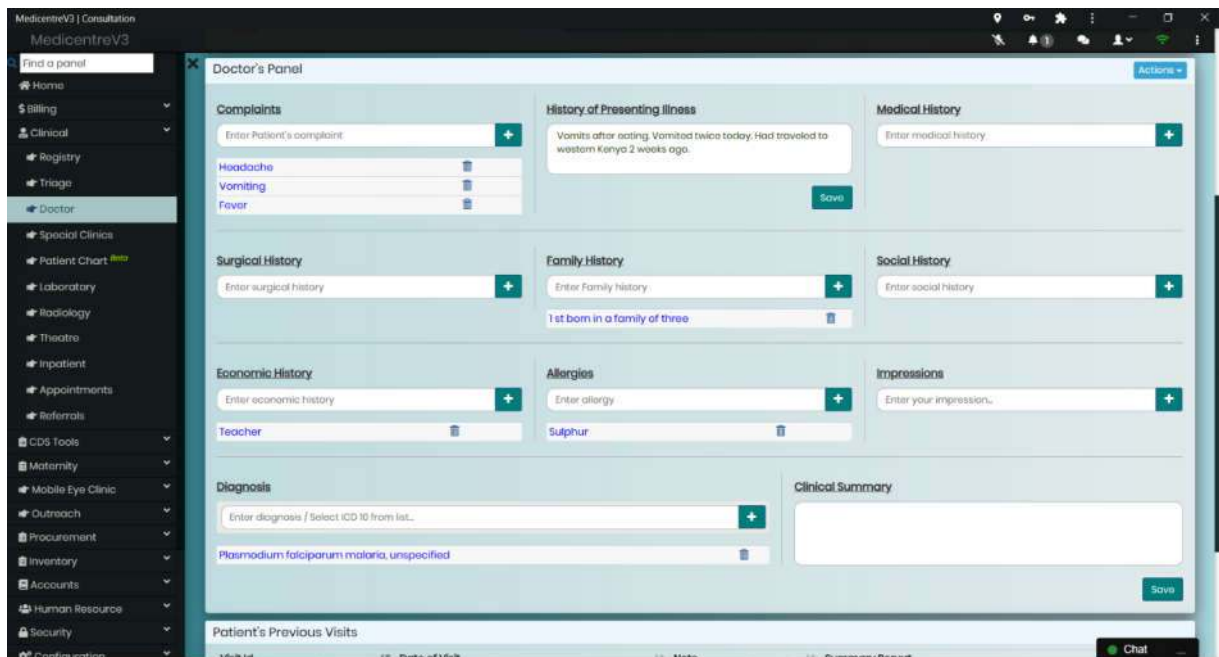


Fig 3.4a Doctor's Panel



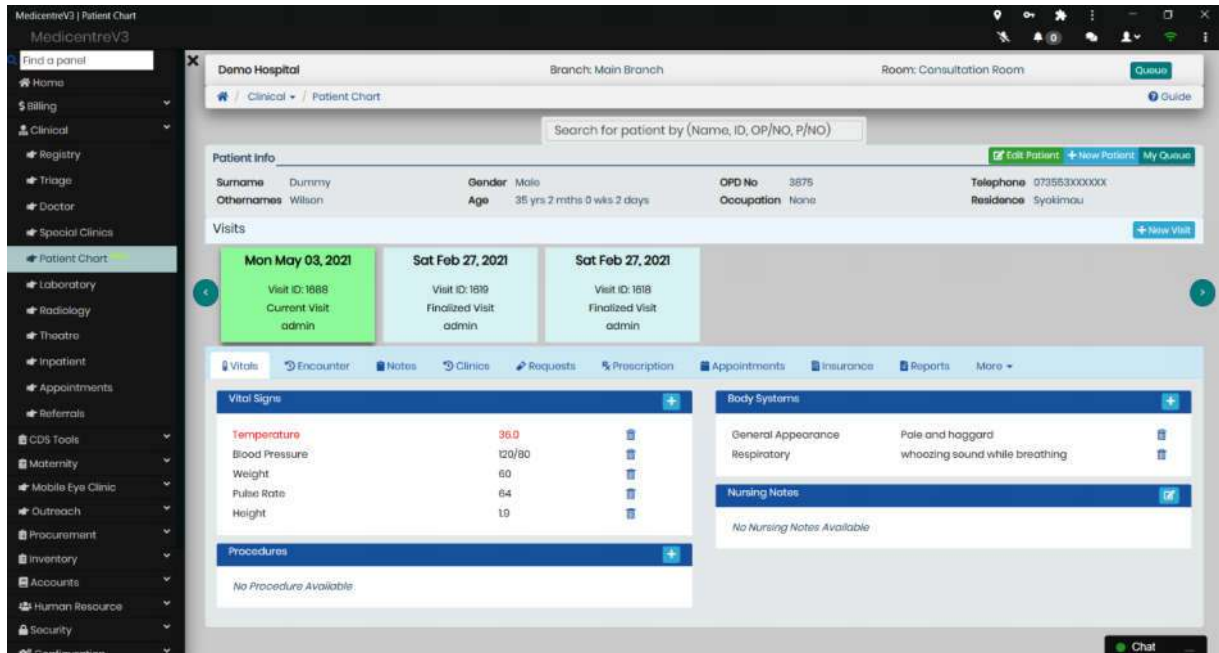


Fig 3.4b Patient Chart

3.5 Laboratory

- Access patient queue and call next patient on the line through the integrated queuing system
- Lab technologist can view if requested lab test has been paid for before proceeding with the test for cash paying patients
- View patient insurance cover or Employer Company
- Manage all lab requests (Both Internal and external)
- All lab tests are standardized and preconfigured in the system
- Quickly and easily fill lab results and send back to the doctor
- Automatically generate lab reports indicating time of request and time test is done
- Automatically append the name of technicians collecting and posting the results
- View a printable lab report
- Can be integrated with laboratory equipment for fast reporting of lab results



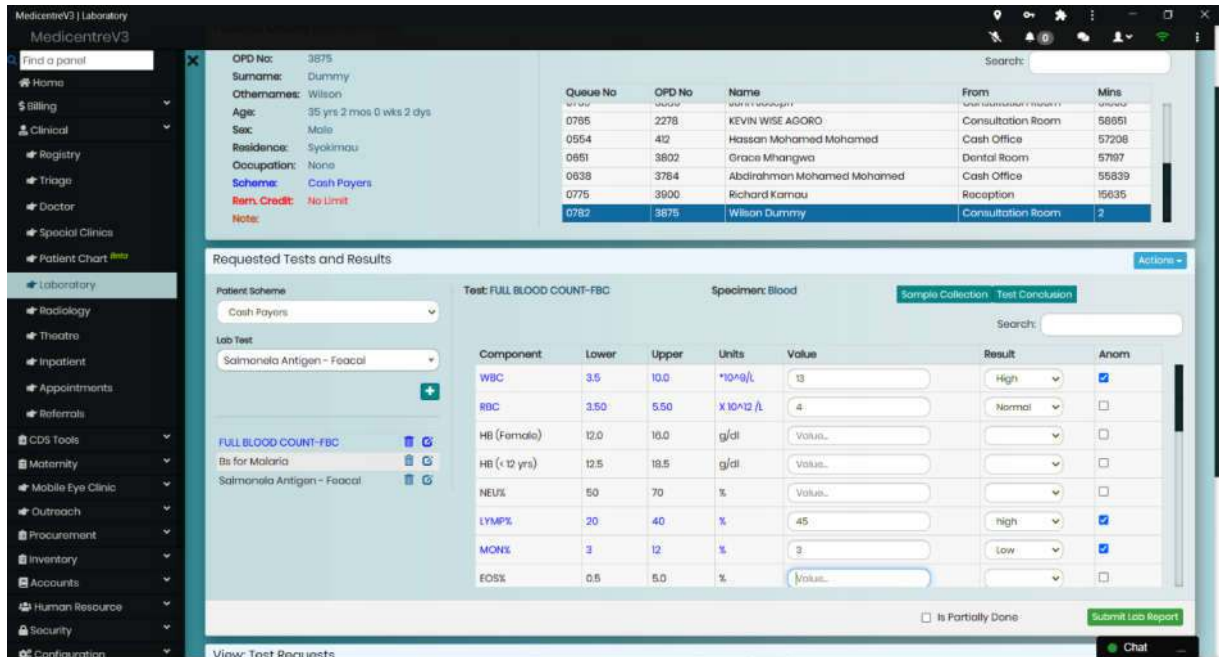


Fig 3.5 Lab Panel

3.6 Radiology

- Access patient queue and call next patient on the line through the integrated queue system
- Radiology technologist can view if requested service has been paid for before proceeding with examination for cash paying patients.
- View patient insurance cover or Employer Company in case of company employees
- Manage all radiology requests (Both Internal and external)
- Radiology tests are preconfigured in the system.
- Quickly and easily fill results and send back to doctor
- Automatically generate radiology report showing time of request and time done
- Automatically append the name of technicians collecting and posting the results
- View a printable radiology report
- Store and display radiology digital images to doctors



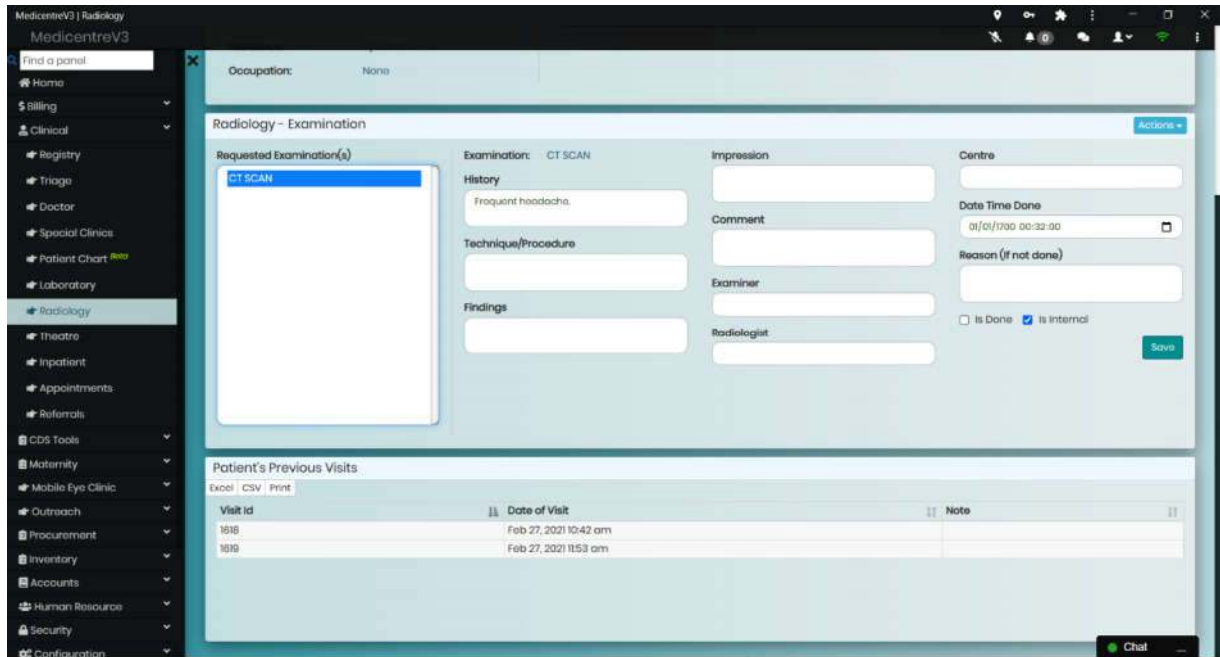


Fig 3.6 Radiology Panel



3.7 Maternity

- Antenatal Profiles
- Labor Chart (Partograph)
- Delivery
- Immunizations
- Development Milestones
- ANC Register
- Maternity Register

Antenatal Clinic (ANC) Register (All Branches) From: 01/07/2021 To: 04/05/2021 View Share

Date	ANC No.	No. of visits	Full Names	Age(Yrs)	Residence	Parity	Gravida	LMP	EDD	Gestation Age (weeks)	Weight (kg)	BIP	HB	RPR/VDRL	HIV (1-4th Gen)	Screened For TB	HIV Counseling Date (YY-MM-DD)	Remarks
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Page 1 MedicentreV3 By Hanmak Technologies

Fig 3.7a Antenatal Register



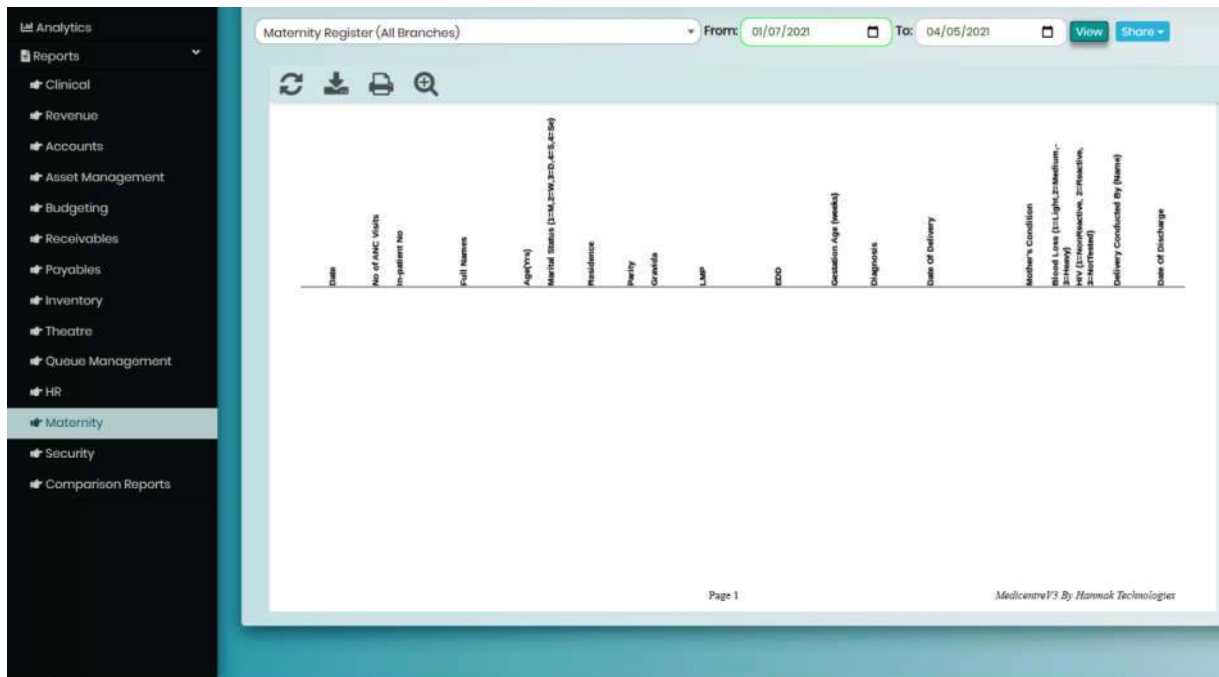


Fig 3.7b Maternal Register

3.8 Pharmacy

- Access patient queue and call next patient on the line
- Over-the-counter sales (if required)
- Item Coding and Barcode support.
- Pharmacist can view if drugs have been paid for before issuing to cash paying patients.
- The pharmacist can dispense drugs after payment confirmation
- View patient insurance cover for insured patients or Employer Company for company employees
- Can print prescription if required as well as prescription labels
- Maximum and minimum stock levels (For stock control and re- order)
- Ability to control expiry dates by batch
- Automatic mark up on unit cost
- Request stock items from stores or other departments



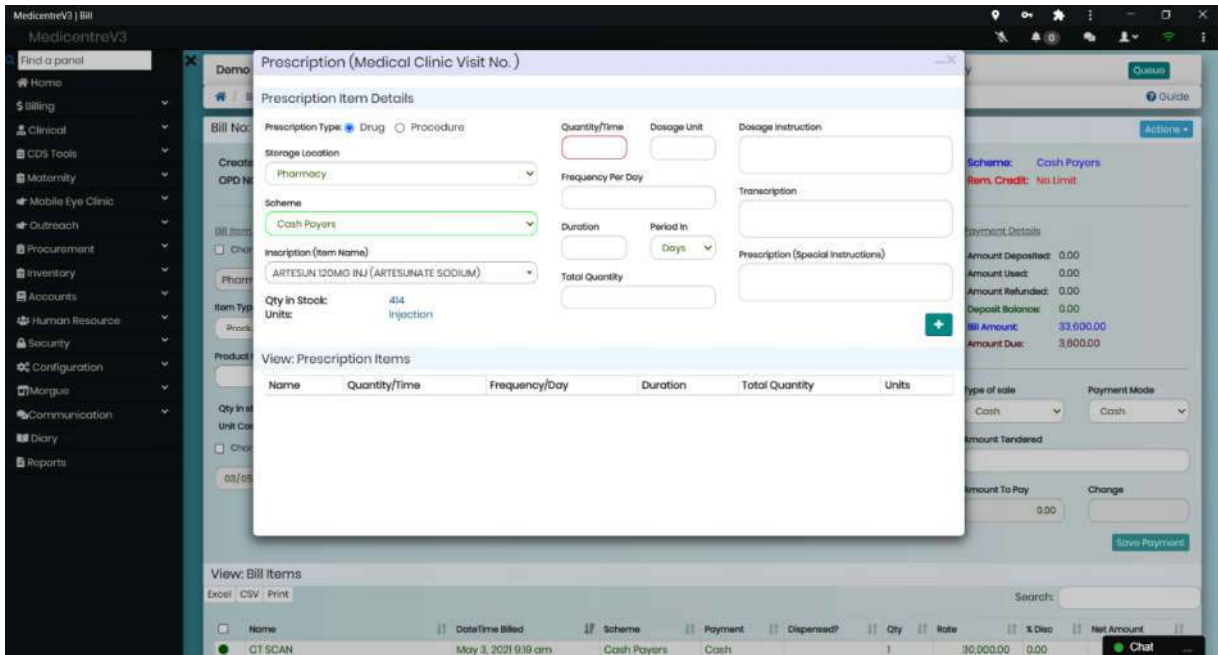


Fig 3.8a Prescription

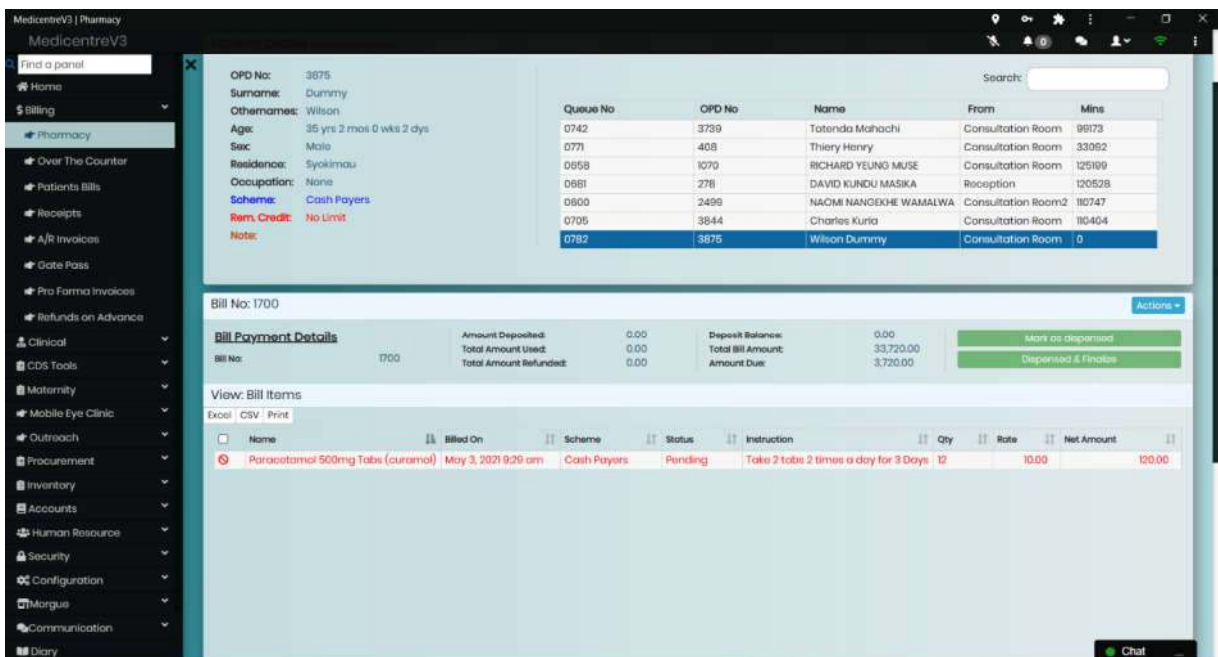


Fig 3.8b Pharmacy



3.9 Inpatient/Admissions/Wards

- View all available beds
- Admit patient to specific bed and ward via the system
- Carry out bed and ward transfer
- Automated bed charges
- Allocate nursing care charges based on the bed occupied
- Add continuation notes (electronic CARDEX)
- Add clinical notes
- Use the drug administration chart to dispense, bill and administer patient drugs
- Finalize bills and automatically generate patient’s medical bill report.
- Discharge patient via the system and automatically generate discharge summary

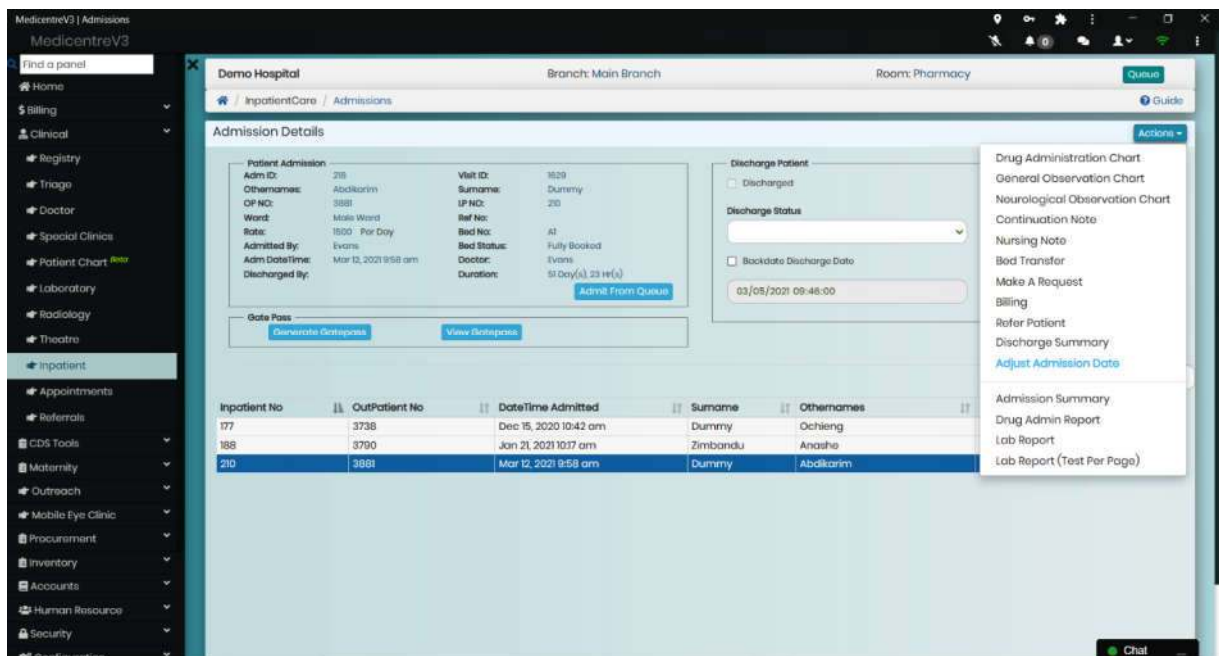


Fig. 3.9a Inpatient Panel



Drug Administration Chart

Change Storage Location

Pharmacy:

Drug Name (Subscription):

Qty in stock: Patient Scheme:

Units:

Other Instruction:

Duration: Duration in:

Quantity/Time: Frequency/Day:

Dosage Unit: Dosage Form:

Stated Date Time: Stat Dose

Route: Strength:

Prescribed Drugs

<input type="checkbox"/>	No	Drug	Qty	Frequency	Duration	Period In	Billed?
<input checked="" type="checkbox"/>	8261	ceftriaxone inj 1gm (gen)power	1	2	2	Days	Yes
<input type="checkbox"/>	8262	tramadol inj 100mg	1	1	1	Days	Yes
<input type="checkbox"/>	8263	ibuprofen 200mg tabs	2	3	3	Days	Yes
<input type="checkbox"/>	8264	paracetamol 500mg	2	3	3	Days	Yes

Once only (STAT) and premedication prescription

<input type="checkbox"/>	Drug	Stated DateTime	Route	Administered On	Nurse
No data available in table					

Regular Prescription (As required prescription)

<input type="checkbox"/>	Drug	Stated DateTime	Route	Administered On	Nurse
<input type="checkbox"/>	ceftriaxone inj 1gm (gen)power	Apr 16, 2021 8:00 am	iv	Apr 16, 2021 8:00 am	rkamau
<input type="checkbox"/>	ceftriaxone inj 1gm (gen)power	Apr 16, 2021 8:00 pm	iv	Apr 16, 2021 8:00 pm	rkamau
<input type="checkbox"/>	ceftriaxone inj 1gm (gen)power	Apr 17, 2021 8:00 am	iv	Apr 17, 2021 8:00 am	rkamau
<input type="checkbox"/>	ceftriaxone inj 1gm (gen)power	Apr 17, 2021 8:00 pm	iv	Apr 17, 2021 8:00 pm	rkamau

Fig 3.9b Drug Administration Chart



3.10 Morgue

- Quickly register deceased with all the required details
- Update deceased's details where editing is needed
- Admit deceased from ward where in-patient passes away in hospital admission
- Manage deceased's bill for all rendered procedures
- Generate admission report for deceased added on the system
- Record deceased's burial permit and receipts for inclusion on the discharge report
- Record post-mortem results
- Efficiently manage Storage Areas and Storage Chambers

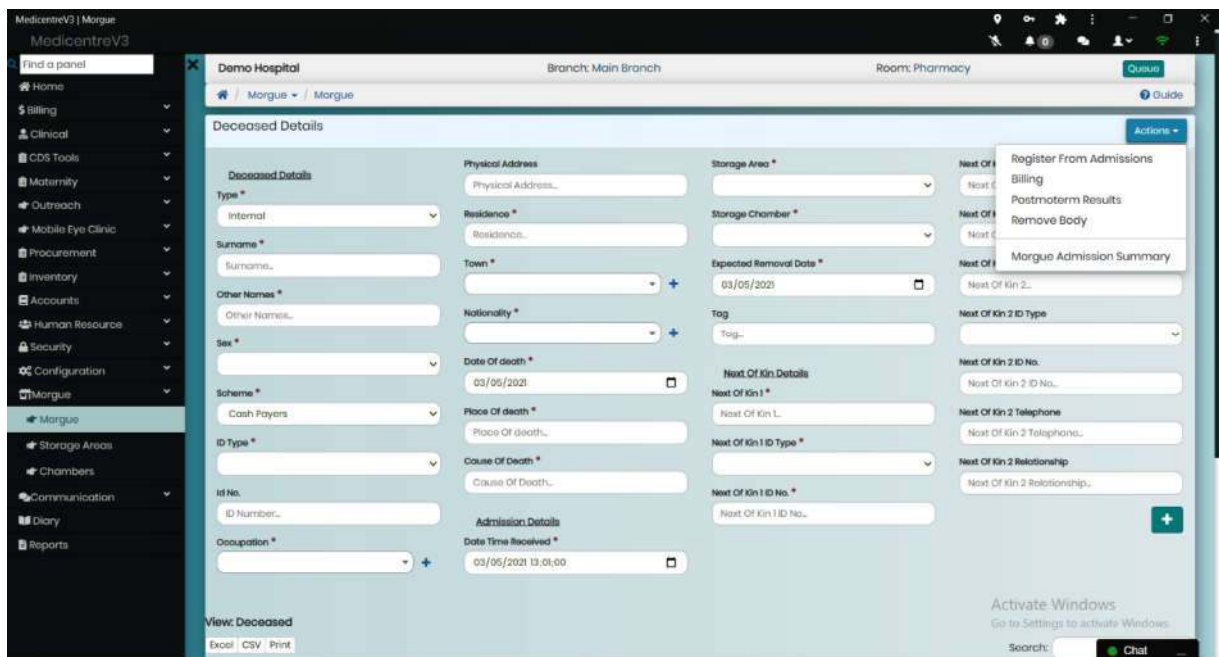


Fig. 3.10 Morgue Panel

3.11 Cashier / Patient Billing / Point of Sale

- An integrated module that can be used for normal patient billing and also as a Point of Sale for over the counter sales
- Access patient queue and call next patient on the line
- Provides both decentralized and centralized patient billing
- Generate receipts for outpatient, OTC and in-patient advance/deposit payments
- Generate receipts for debtor payment
- Automatic update on patient's bill when a test/examination is requested
- Automatic update on patient's bill when a doctor makes a prescription
- Offers various payment schemes (cash, cheque, mobile money, EFT, credit cards and debit cards – with an option of creating more schemes)
- Generate invoices for insurance and other corporate clients and also generate receipts for cash paying clients
- Partial (stage wise) receipting for what has been paid for
- Generate sales order from any department and send to cash office for payment



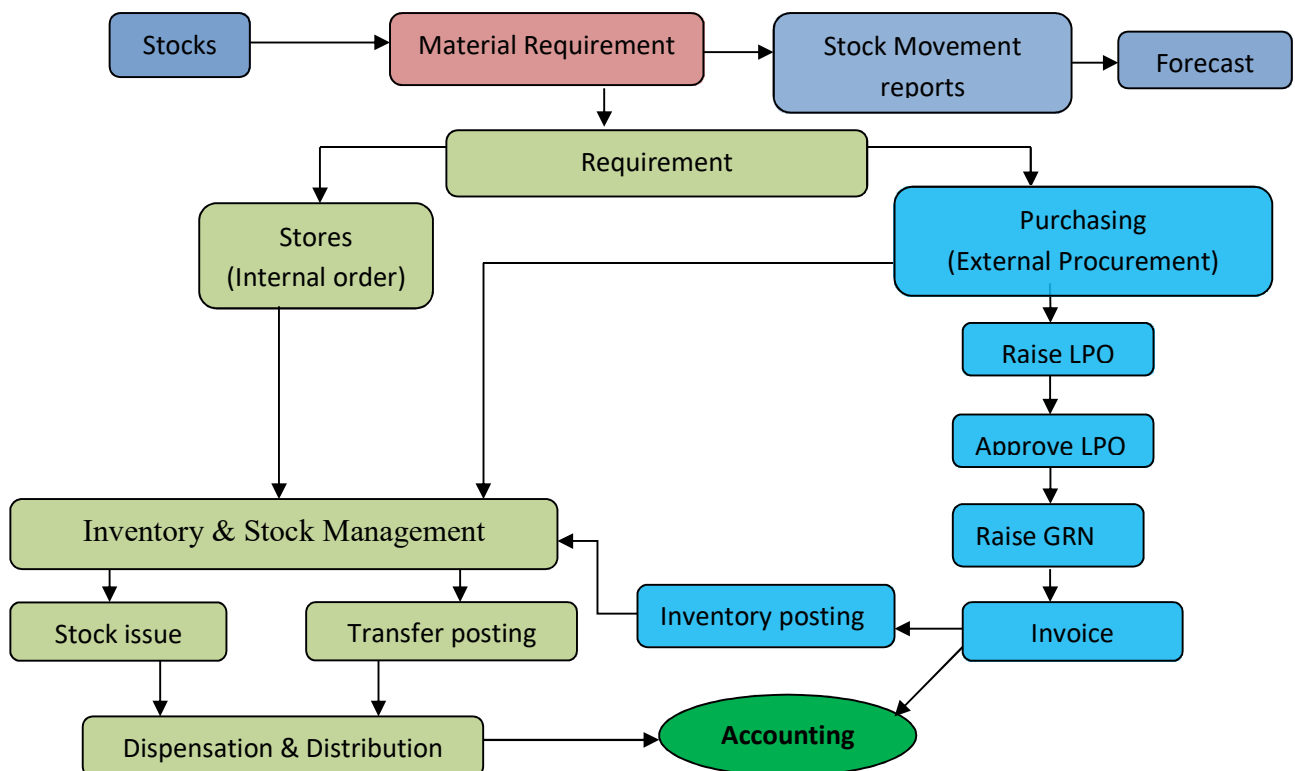
3.12 Corporate Schemes

- Group Patients by insurance and other corporate entities
- Ability to set different prices for products and services for different corporate groups
- Set credit limits and periods
- View available insurance benefit
- The system also allows for patient to have multiple schemes. This facilitates bill sharing among different parties

3.13 Procurement

- Raise internal orders as well as PRNs (Purchase Requisition Notes)
- Raise LPO for stock items and services
- View pending and unauthorized orders/LPO
- Automatically update stock with (GRNs) Goods Received Note
- Automatically create supplier invoice.
- Merged LPO-GRN-A/P Invoice reports
- Automatic alerts when supplier bills are due
- Prepare payment vouchers to be authorized and approved before supplier payments
- Automatically generate supplier statements
- View supplier payment history
- Issue stock items to other departments
- Item Coding and Barcode support

3.13.1 Procurement Process Flow chart



3.14 Inventory & Storage Locations

- Raise internal order requisitions and issue stock items between departments and storage locations.
- Track stock movement from purchases, sales, adjustments, internal transfers etc.
- Stock take and adjustments with stock variance reports
- Inter-branch/department stock movement reports

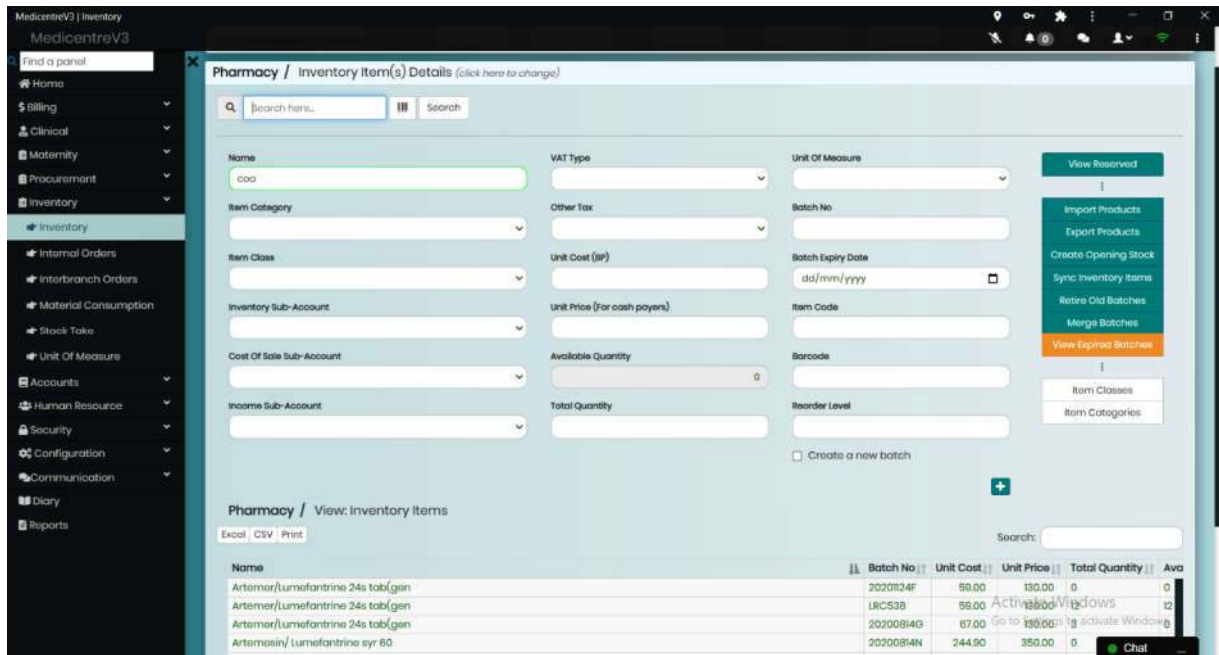


Fig 3.14 Inventory Panel

3.15 Drugs and Material Distribution

- With this functionality, you will manage material and drugs distribution across departments within an outlet as well as across outlets/branches.
- View inventory in other outlets/branches/department and place orders



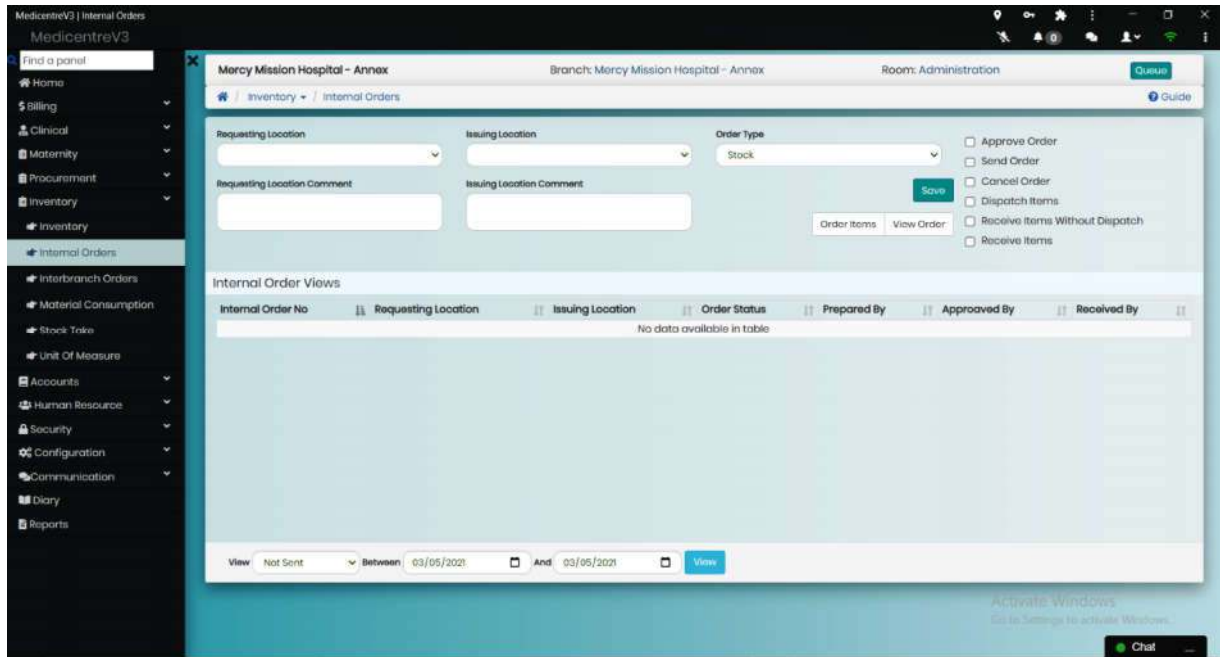


Fig 3.15a Internal Orders Panel

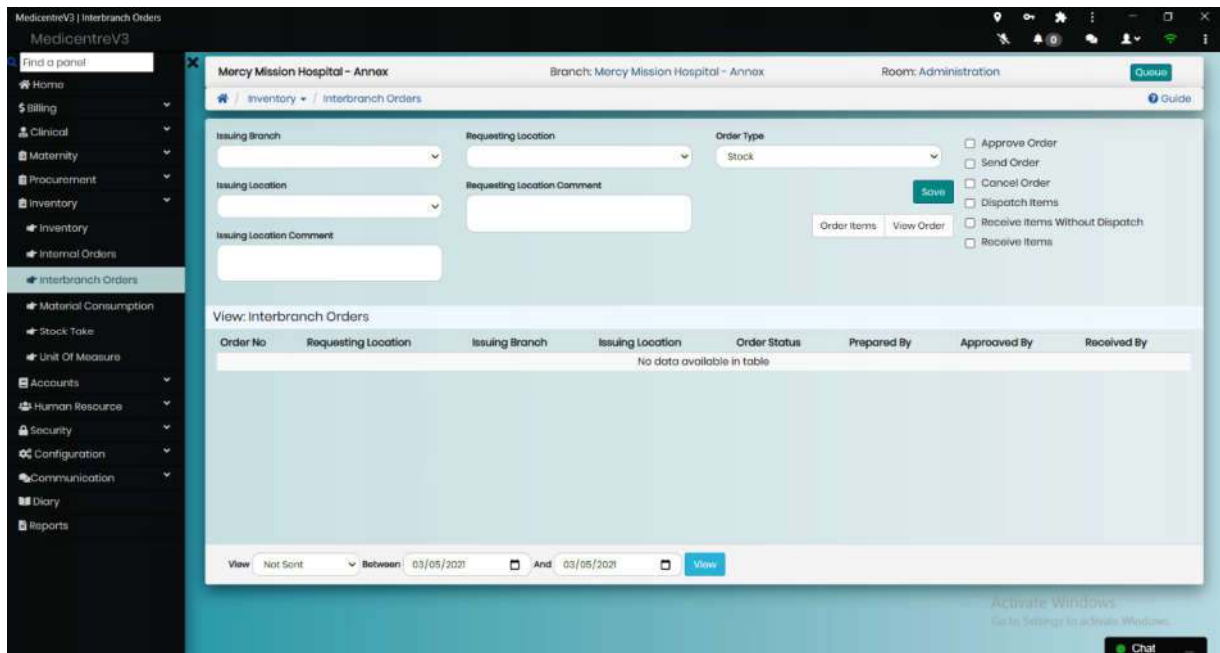


Fig 3.15b Inter-Branch Orders Panel



3.16 End of Shift Cash Reconciliation

- Automatic user register (when user begins and ends shift)
- Finalize and un-finalize all medical bills at the end of the shift
- Generate End-Of-Shift Cash reconciliation summary report
- End-of-shift cash reconciliation report indicating a balanced report, cash short or cash over

3.17 Medical Diagnostic Images

- Allows integration with digital X-Ray, Ultrasound and other imaging equipment
- Provides image viewer for medical images for doctors and other clinical attendants

3.18 Telemedicine

MedicentreV3 supports remote delivery of healthcare services such as consultation and health services to patients. Healthcare providers can use Medicentre V3 platform to evaluate, diagnose and treat patients without the need of an in-person visit.

Thus, Telemedicine reduces the cost of healthcare and increases efficiency through better management of chronic diseases, shared health professional staffing, reduced travel times, and fewer or shorter hospital stays.

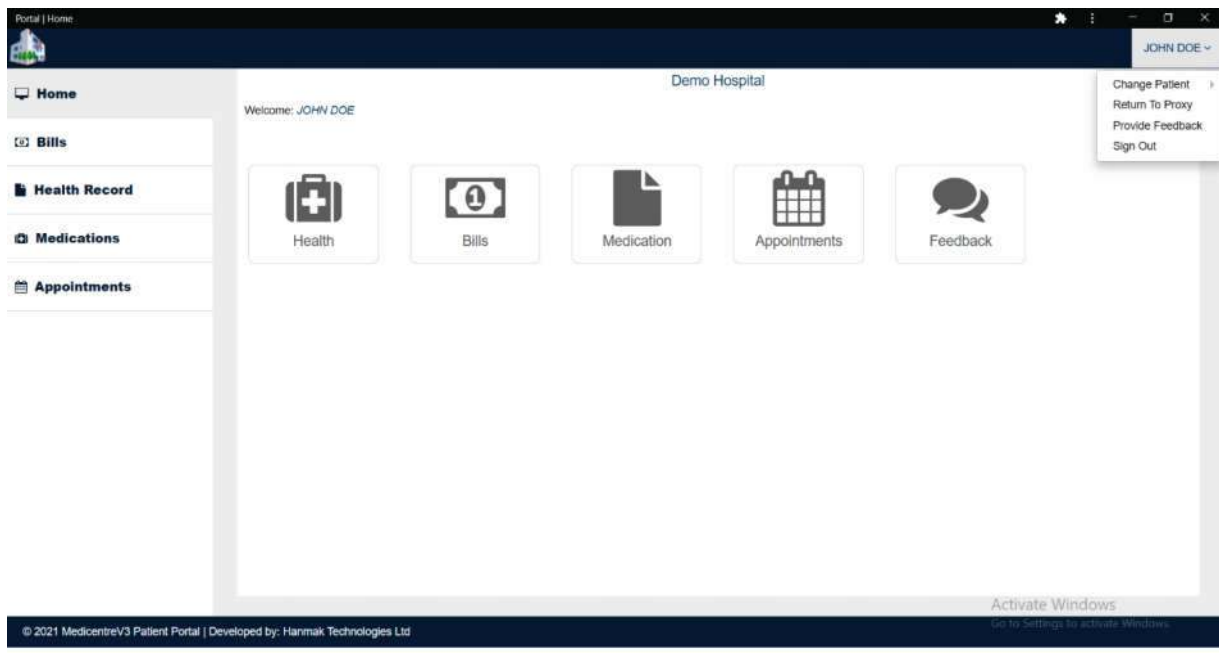


Fig. 3.18a Patient Portal



3.19 Communication

- Allow patients to book appointments from their phones, which integrate with doctors' calendar on google and acts as a reminder.
- Integrates with bulk SMS services where healthcare provider can schedule SMS and remind and/or notify patients on certain things such as taking medicine, doctor's appointments, upcoming events and much more
- Integrated with a chat module that allows users to engage each other online.
- Internal memos and bulletin

3.20 Accounts & Finance

3.20.1 Integrated Accounting Module

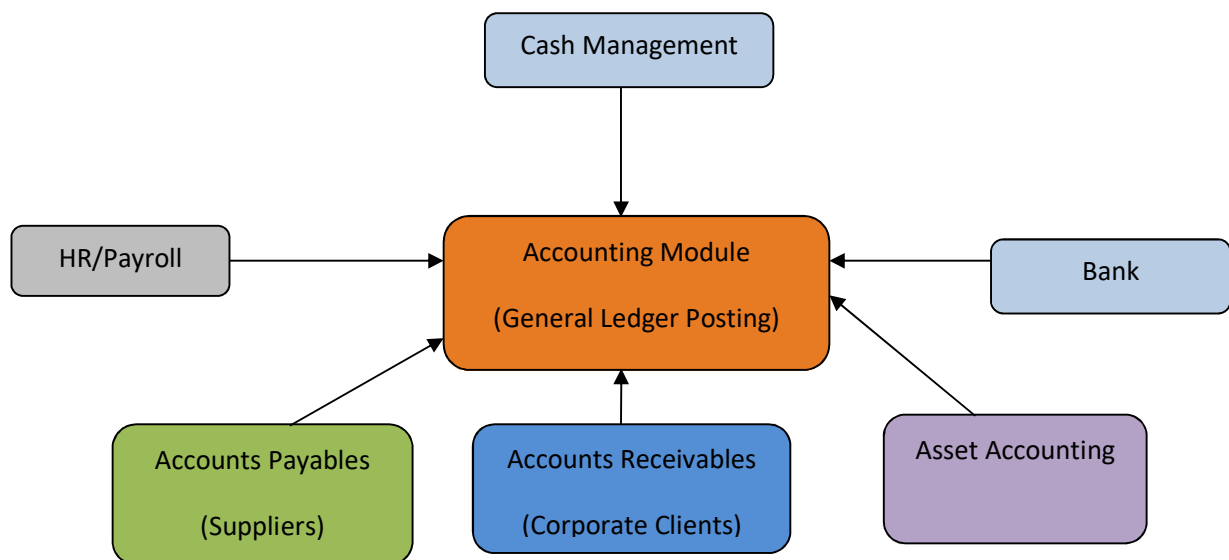


Fig 3.20a – Integrated Accounting Function

- An extensive, flexible and well organized chart of accounts to support all accounting needs for the healthcare provider. Informed by IFRS (International Financial Reporting Standards)
- Asset Management – Automated depreciation, asset maintenance
- Accounts Receivable - for individual and corporate customers
- Accounts Payable – for all suppliers
- Aging schedules for both payables and receivables
- Automatically generate corporate statements
- View statement per company at a click of a button
- Allocate invoices once payment is received and automatically remove them from pending invoices.
- Simplified management of medical cover rebates e.g NHIF (National Hospital Insurance Fund)
- Cash management (Petty cash, cash transfers, banking)
- Create and monitor bank deposits

- Write cheques to suppliers and also for other payments
- Budgeting – Automated budget schedule for monthly, quarterly and yearly periods
- Bank reconciliation and reconciliation report



Fig 3.20b –Revenue Analytics

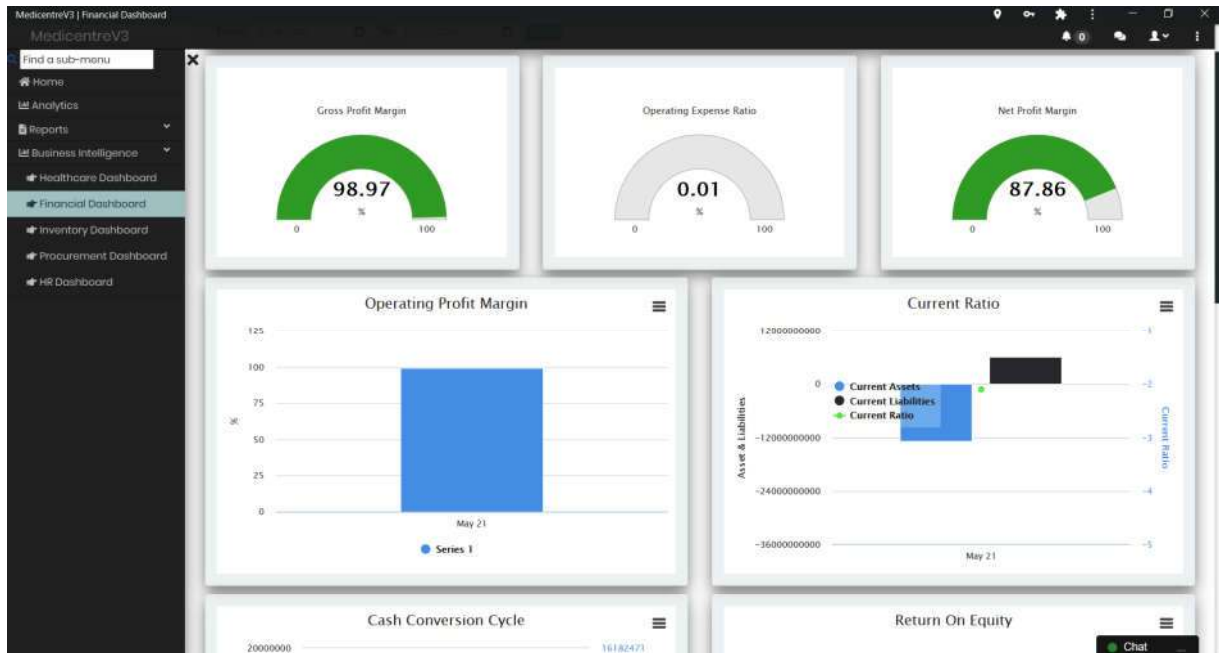


Fig. 3.20c Financial Dash Board



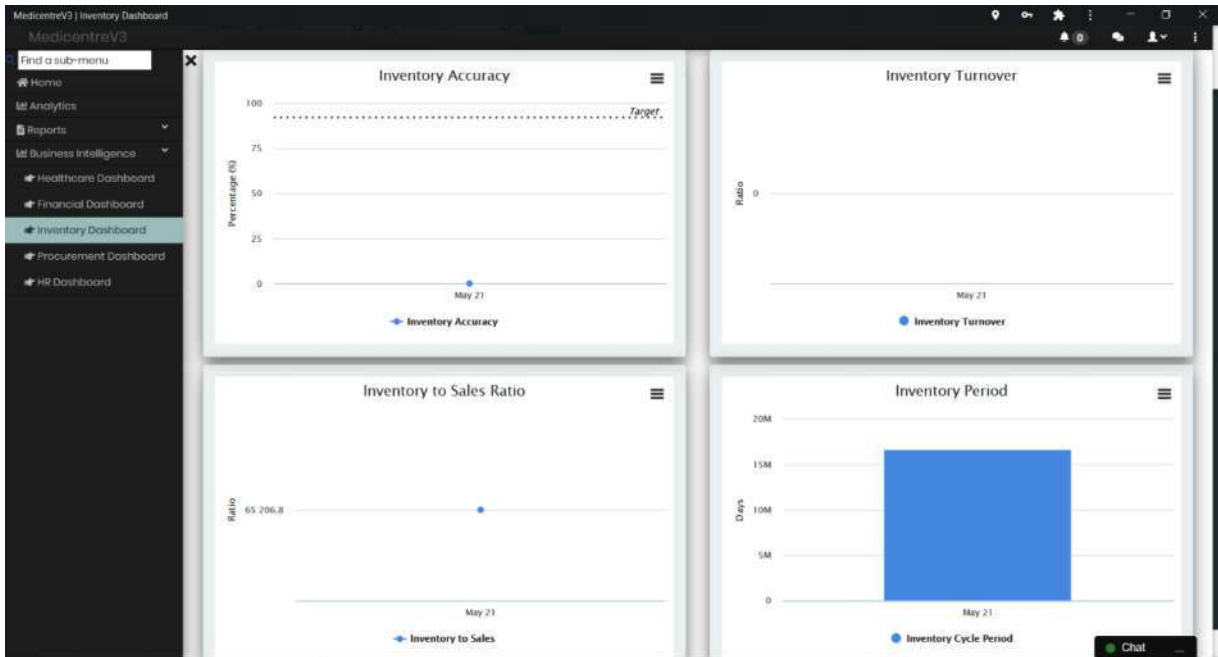


Fig. 3.20d Inventory Dash Board

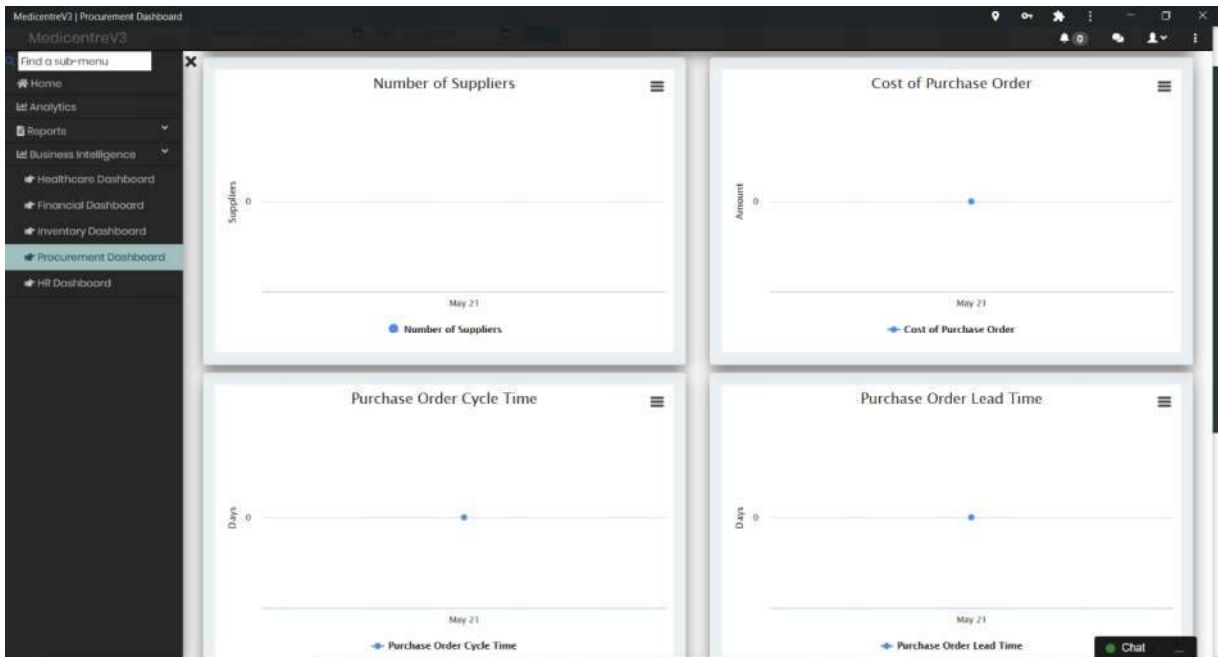


Fig. 3.20e Procurement Dash Board



3.20.2 Accounts Payable

- Accounts payable ledger
- Supplier ledger
- Supplier aged analysis report, month wise with an option of matching the invoices against the payments
- Consultant doctors ledger accounts
- Automated payment vouchers & remittance for payments
- Merged LPOs/GRNs/Payable Invoices

3.20.3 Accounts Reports

- Revenue ledger report
- Revenue Reports (Outlet/Branch, Department)
- Revenue graphs (daily/weekly/monthly)
- Aging Analysis for both payables and receivables
- Cash receipts, Cheque payment, payment mode Schemes
- Bank reconciliation reports
- Ledger account statements
- Medical bills reports (Patient wise/ company wise/Date wise/ Status wise)
- Financial Statements - Trial Balance, General Ledger Report, Income Statement, Balance Sheet, Cash-flow Statement and Budget



Fig. 3.20.3 a Analytics



	Mar 31, 2021	Dec 31, 2020	Increase/Decrease	
			Amount	%
Revenue				
Revenue				
Sales - Pharmacy Drugs	15,901,511.71	16,604,518.77	(703,007.06)	(4.23)
Sales - Services	60,059,794.00	78,467,712.60	(18,407,918.60)	(23.46)
Sales - Other Products	9,300.00	12,850.00	(3,550.00)	(27.63)
Total: Revenue	75,970,605.71	95,085,081.37	(19,114,475.66)	(20.10)
Total Revenue:	75,970,605.71	95,085,081.37	(19,114,475.66)	(20.10)
Expenses				
Cost Of Goods Sold				
Cost Of Goods Sold - Pharmacy Drugs	4,645,964.89	6,540,306.62	(1,894,341.73)	(28.96)
Cost Of Goods Sold - Other Products	0.00	40,095.00	(40,095.00)	(100.00)
Total: Cost Of Goods Sold	4,645,964.89	6,580,401.62	(1,934,436.73)	(29.40)
Administrative Expenses				
Cash Short	238,804.00	274,089.00	(35,285.00)	(12.87)
Consultant Fee	95,000.00	0.00	95,000.00	0.00
Repairs and Maintenance	10,950.00	900.00	10,050.00	1,116.67
Salaries and Wages	2,000.00	8,040,941.00	(8,038,941.00)	(99.98)
NHIF	0.00	171,300.00	(171,300.00)	(100.00)
Bad Debts NHIF	0.00	4,950.00	(4,950.00)	(100.00)
Meetings and Allowances	24,000.00	4,000.00	20,000.00	500.00
Printine and Stationeries	5,700.00	19,675.00	(13,975.00)	(71.03)

Fig. 3.20.3b Comprehensive Income Statement

For Period Ended: 31-Mar-2021

Revenue	
Revenue	15,901,511.71
Sales - Pharmacy Drugs	60,059,794.00
Sales - Services	9,300.00
Sales - Other Products	75,970,605.71
Total: Revenue	75,970,605.71
Total Revenue:	75,970,605.71
Expenses	
Cost Of Goods Sold	
Cost Of Goods Sold - Pharmacy Drugs	4,645,964.89
Total: Cost Of Goods Sold	4,645,964.89
Administrative Expenses	
Cash Short	238,804.00
Consultant Fee	95,000.00
Repairs and Maintenance	10,950.00
Salaries and Wages	2,000.00
Meetings and Allowances	24,000.00
Printine and Stationeries	5,700.00
Kitchen Expenses	18,300.00
Administrative	8,800.00
Transport and subsistence	7,100.00
Medical Support	2,000.00
Car wash-NT	200.00
Cleaning services	4,000.00
Consultant Bill Tax Expense	5,000.00
Total: Administrative Expenses	422,054.00
Theatre Expenses	
Implants Expenses	235,000.00
Oxygen	14,100.00
Total: Theatre Expenses	249,100.00
Motor Vehicle Expenses:	
Fuel Expenses	15,000.00
Motor vehicle repairs and services	215,000.00
Car wash	200.00
Total: Motor Vehicle Expenses	38,000.00

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Fig. 3.20.3c Income Statement Detailed



For Period Ended: 31-Mar-2021

Revenue	
Revenue	75,970,605.71
Total Revenue:	75,970,605.71
Expenses	
Cost Of Goods Sold	4,645,964.89
Administrative Expenses	422,054.00
Theatre Expenses	249,100.00
Motor Vehicle Expenses	38,000.00
Salaries and Wages	500.00
Total Expenses:	5,355,618.89
NET INCOME (LOSS):	70,614,986.82

Fig. 3.20.3d Income Statement Summary

	As at 31 Dec, 2021	As at 31 Dec, 2020
Operating Activities		
Net Income	94,208,035.00	79,315,494.00
Net cash provided by Operating Activities	94,208,035.00	79,315,494.00
Net Increase / (Decrease) in Cash and Cash Equivalents	94,208,035.00	79,315,494.00
Cash and Cash Equivalents at the Beginning of the Period	20,314,353.20	0.00
Cash and Cash Equivalents at the End of the Period	114,522,388.20	79,315,494.00

Fig. 3.20.3e Statement Cashflow



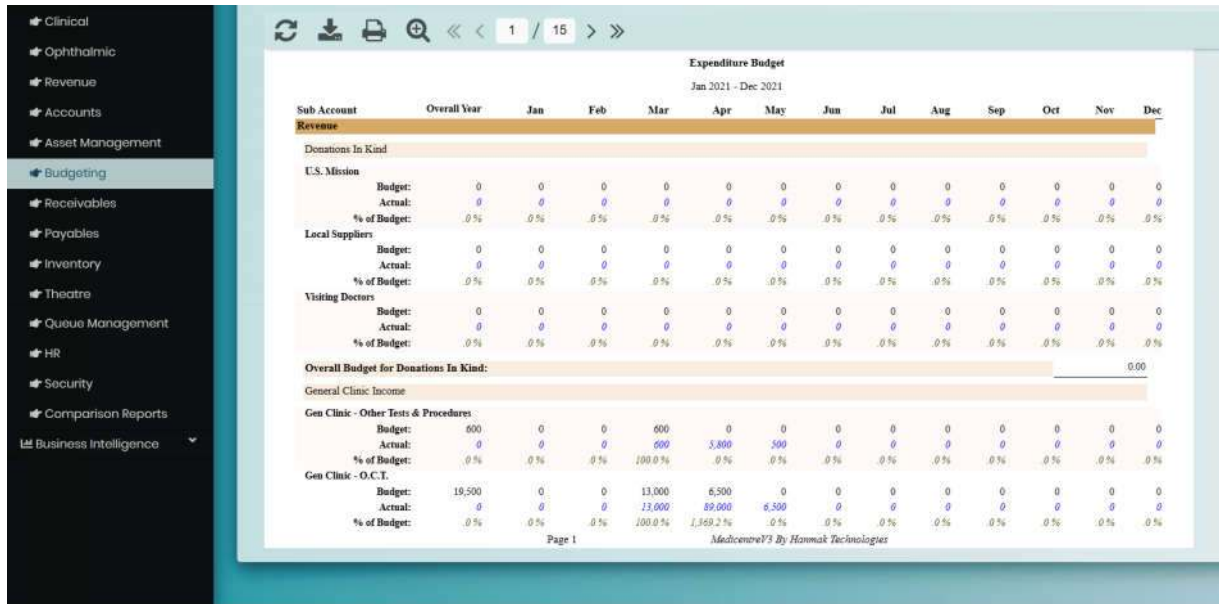


Fig. 3.20.3f Budget VS Actual

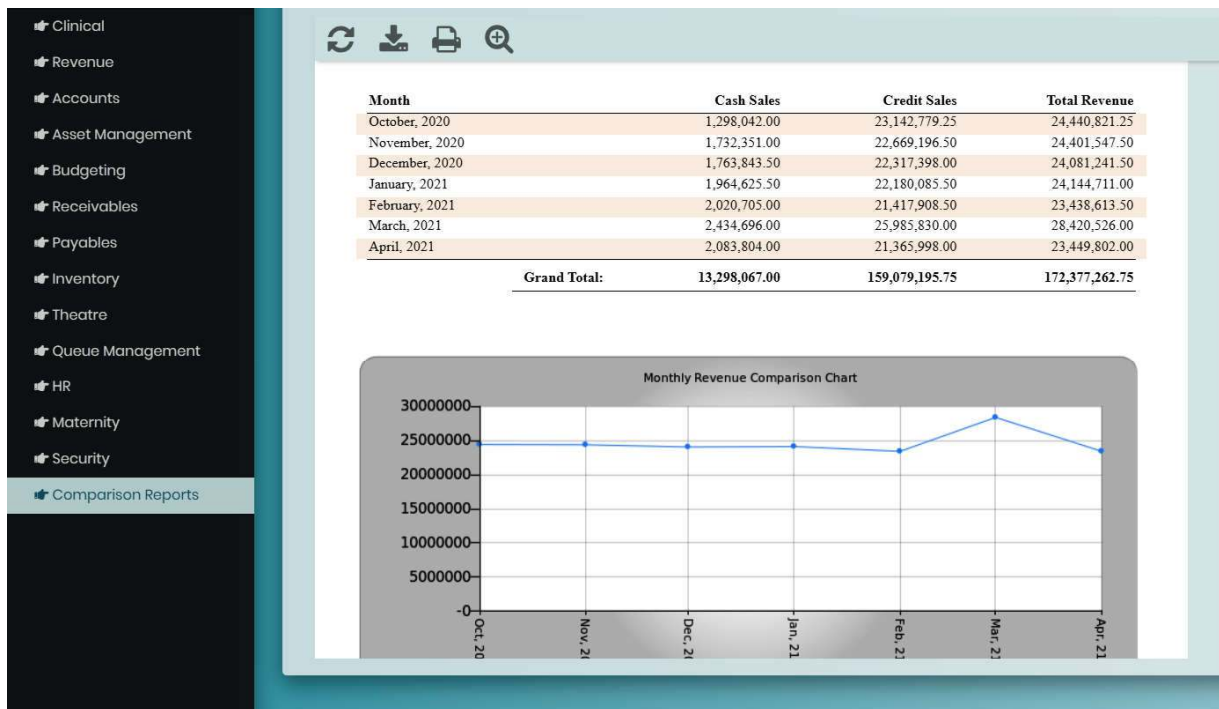


Fig. 3.20.3g Monthly Revenue Comparison Report

3.21 Patient and Medical Reports

- All Patient Register
- In-patient admission register
- Bed Occupancy & Bed Occupancy Rate (BOR) reports



- Out-patient visit register reports
- Ministry of Health Reports (MOH 204, 705A, 705B, MOH 717, etc)
- Laboratory data summary reports
- Patient visit summary
- Patient prescription reports
- Patient lab reports
- Patient radiology reports

3.22 Patient Medical Bills Reports

- In-patient medical bills summary reports
- Patient medical bills analysis by insurance, company, institution and customer account

3.23. Human Resource

- Employee registration
- Ledger integrated pay slip generation
- Payroll analysis
- Consultant registration and consultant bills statements
- Different payment schemes for consultants
- Employee registration
- Automatic master payroll generation
- Ledger integrated pay slip generation
- Payroll analysis (PAYE, NHIF, NSSF, Loan and other payroll parameters)
- Leave and off-duty management and duty roster
- Diary
- Scheduling and Duty Roster

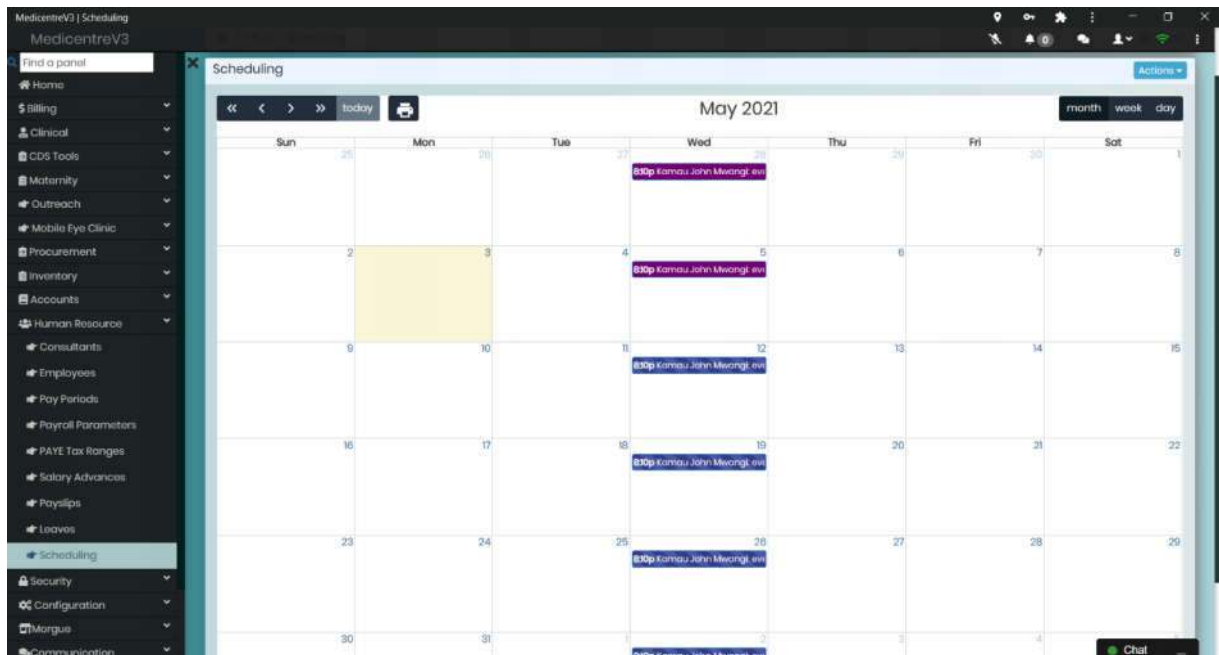


Fig. 3.23a Scheduling

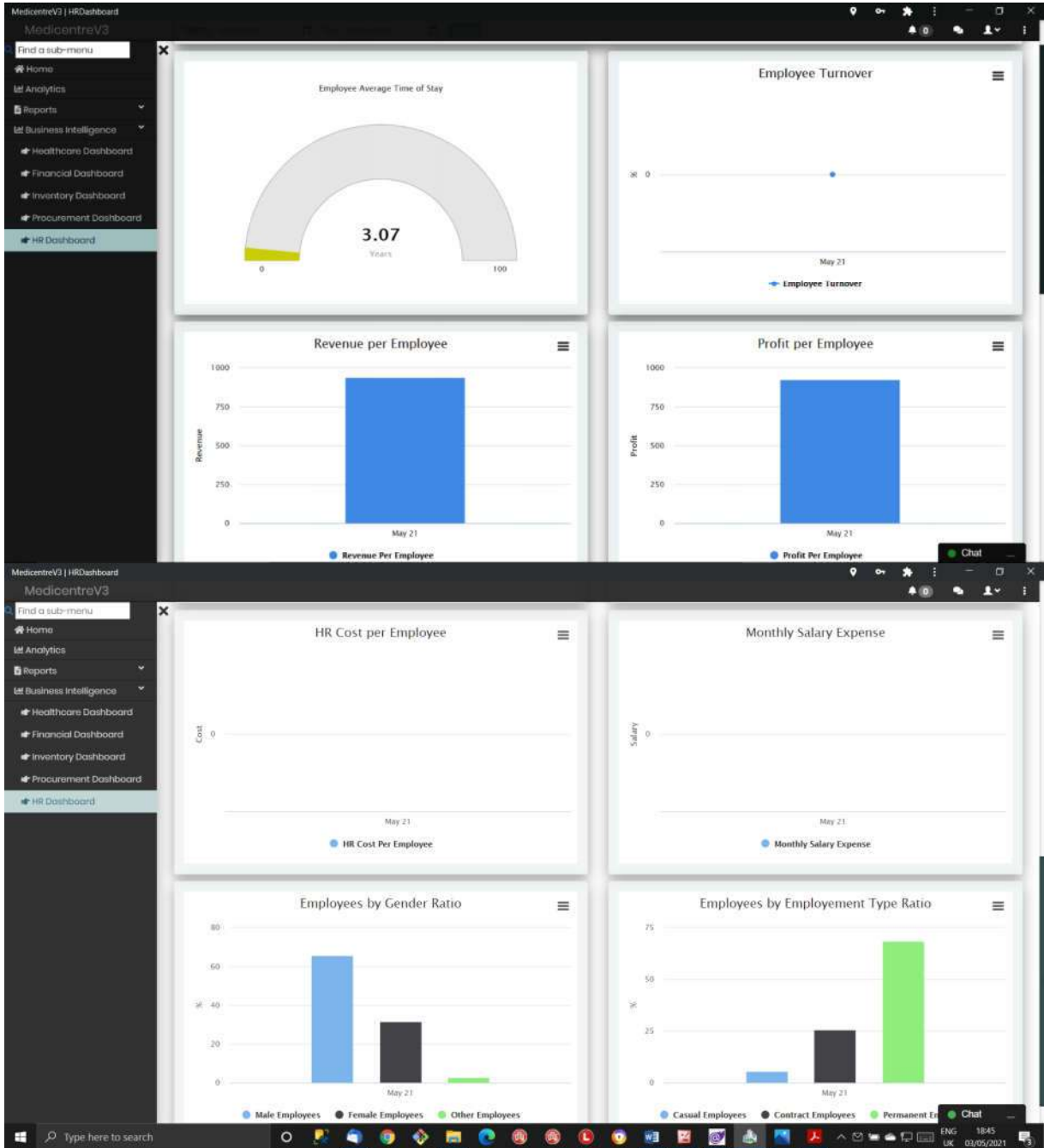


Fig. 3.23b HR Dashboard



3.25 Administration and Security

- Each user his/her own username and password
- Unlimited user groups/roles within distinct privileges
- Assign user privileges according to group role
- Centralized administration and configurations
- Audit trail for all user actions
- System logs
- Supported by high performance RDBS (Relational Database System)
- Automated backups and fail over of the system

4.0 SYSTEM REQUIREMENT

4.1 Devices Supported

- Desktop computers
- Laptops
- Tablets and Phablets
- Smart Phones

4.2 Browsers Supported

- Google chrome
- Mozilla Firefox
- Microsoft Edge
- Internet Explorer
- Safari
- Opera
- Chrome for Android
- Opera Mini

5.0 TECHNOLOGY USED

5.1 Application Evolution (Release Dates)

MedicentreV3, the latest version of our series of the HMIS releases, is a new generation Integrated Healthcare Management Information System (iHMIS), which converges latest Microsoft technologies with healthcare administrative and business process. This is a technological solution well aligned with the general trends in healthcare as well as the evolution path in the application of Health Information Technology in solving the many problems faced by healthcare providers, investors in healthcare, medical insurers well as healthcare recipients and other stakeholders. This has evolved from HanMak's original solution, MedicentreV1 (Version One) that was released in the year 2010.

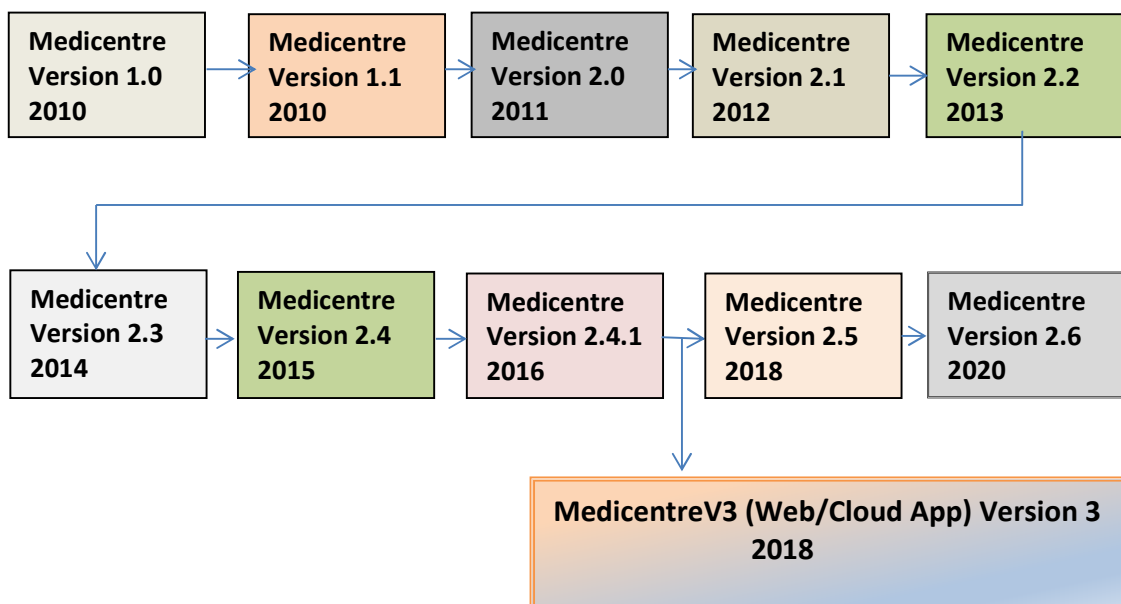
MedicentreV3 is a cloud-based web application that incorporates latest Health Information Technologies to provide solutions in healthcare business workflow, patient queue management,



clinical data management, telemedicine, patient billing, procurement, human resource, accounts and finance, communication, collaboration in healthcare and much more.

This is a distributed application that can support a single facility as well as a network of healthcare outlets across vast geographical regions within national boundaries as well as across the globe. This amazing application allows doctors, nurses, hospital administrators and other concerned parties to access patient and hospital data and coordinate with each other from any device from anywhere in the world.

The following chart shows how Medicentre HMIS has evolved from the first version released in the year 2010 and all subsequent releases to the current cloud-based web application.



5.2 Application Frameworks

- ASP.Net Core
- Bootstrap
- JQuery

5.3 Application Architecture

Onion Architecture

5.4 Application programming Paradigm

Object Oriented Programming (OOP)

5.5 Programming Languages

5.4.1 Frontend

- HTML
- JavaScript
- CSS

5.4.2 Backend

- C#
- SQL

5.5 Database/RDMS (Relational Database Management System)

Supported database platforms:

- ✓ PostgreSQL (default database platform)
- ✓ Oracle
- ✓ MS SQL
- ✓ MySQL
- ✓ MariaDB

5.6 Reporting

Fast report



5.7 Simplified Application Architecture

The following diagram is a simplified illustration of the architecture of MedicentreV3:

