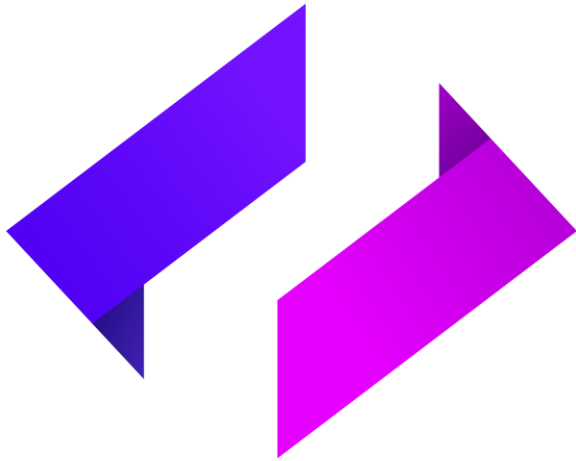




PrimeByte

I-T SOLUTIONS

APOLLO BROUCHER

ABSTRACT

This proposal outlines the strategic implementation of an integrated Hospital Information System (HIS) to enhance operational efficiency, patient care, and data-driven decision-making in any Hospital. The proposed system will unify clinical, administrative, and financial workflows through modular components, including Electronic Health Records (EHR), HR management, billing, laboratory, pharmacy, and patient scheduling.

Syed Abbas

The key features of Apollo HealthCare ERP are

- Paperless
- APIs
- Dashboards
- Laboratory Interfacing
- Online Lab Reports
- Microsoft Tab - Version
- Central Server to access all information from Governate
- HL7 Lab Interfacing
- Embedded ICD Code Bank - 10 CM
- Taxonomy Code Formation standards implemented
- Voice to Text feature
- Email Notifications
- SMS Notifications
- File Upload
- PACs Integration
- Integrated Staff Attendance with Machine
- Language (Arabic, English) - Adaptable to any language

Integrated APOLLO - ERP with 16 Modules

- HIS (Hospital Information System)
- PIS (Pharmacy Information System)
- RIS (Radiology Information System)
- LIS (Laboratory Information System)
- Inventory
- Purchase
- Finance
- AP (Accounts Payable)
- AR (Accounts Receivable)
- Gate Pass
- Security
- HR
- Payroll
- Patient Billing
- Lab Interfacing
- CMS (Complain Management System)

APOLLO PACs Solution

- DICOM Protocol Compliant
- Multi-Modality Support
- EHR,HIS and RIS Connectivity
- Advance Visualization Tools
- Tiered Archival & Secure Storage
- Communication, Distribution and Security

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Introduction

PrimeByte is a next-generation technology solutions provider at the forefront of digital transformation. We specialize in custom software development, AI-driven automation, cybersecurity, cloud computing, and strategic IT consulting. Our team of experts is passionate about harnessing the power of technology to solve complex challenges, optimize operations, and fuel business growth. Whether you're a startup looking to disrupt the market or an enterprise seeking scalable digital solutions, PrimeByte delivers cutting-edge, reliable, and future-ready technology tailored to your unique needs.

Vision

To pioneer the future of technology by creating intelligent, secure, and transformative solutions that redefine industries. We aspire to be the trusted partner for businesses worldwide, driving innovation that enhances efficiency, connectivity, and sustainability in an increasingly digital world.

Mission

At PrimeByte, our mission is to:

- Innovate Relentlessly - Develop next-gen software, AI, and automation tools that push boundaries and set new benchmarks.
- Empower Businesses - Provide scalable, high-performance solutions that help companies adapt, compete, and lead in their industries.
- Secure Digital Ecosystems - Deliver robust cybersecurity and data protection to safeguard businesses against evolving threats.
- Deliver Excellence - Commit to quality, agility, and customer success in every project, ensuring measurable impact and long-term value.

PrimeByte - Where Innovation Meets Execution.

Would you like any industry-specific adjustments (e.g., fintech, healthcare, e-commerce) or a stronger emphasis on certain values (sustainability, customer-centricity)

Main Theme for Hospital Digitalization

The digitalization of hospitals is essential for improving healthcare delivery, enhancing patient outcomes, and optimizing operational efficiency. Here are the key reasons why hospitals need to be digitalized:

1. Improved Patient Care & Safety
 - Electronic Health Records (EHRs) reduce errors caused by illegible handwriting and ensure accurate, up-to-date patient information.
 - Clinical Decision Support Systems (CDSS) help doctors make evidence-based decisions, reducing misdiagnoses.
 - Real-time monitoring of patients via IoT devices enables early detection of complications.
2. Enhanced Efficiency & Workflow
 - Automation of administrative tasks (appointments, billing, insurance claims) reduces paperwork and delays.
 - Digital prescriptions (e-prescribing) minimize medication errors and streamline pharmacy workflows.
 - AI-powered diagnostics (e.g., radiology, pathology) speed up test results and reduce human fatigue-related errors.
3. Better Data Management & Interoperability
 - Centralized patient data allows seamless sharing between departments and hospitals, improving continuity of care.
 - Cloud storage ensures secure, scalable, and accessible medical records.
 - Health Information Exchanges (HIEs) enable collaboration across different healthcare providers.
4. Cost Reduction & Resource Optimization
 - Predictive analytics helps in better resource allocation (staff, equipment, beds).
 - Telemedicine reduces unnecessary hospital visits, saving costs for patients and providers.
 - AI-driven inventory management prevents overstocking or shortages of medical supplies.
5. Remote & Telehealth Services
 - Virtual consultations expand access to healthcare, especially in rural areas.
 - Wearable health devices allow continuous remote monitoring of chronic conditions (diabetes, hypertension).
6. Enhanced Security & Compliance
 - Blockchain & encryption protect sensitive patient data from breaches.
 - Automated compliance tracking ensures adherence to regulations (HIPAA, GDPR).
7. Patient Empowerment & Engagement
 - Patient portals allow individuals to access their medical records, test results, and treatment plans.
 - Mobile health apps encourage proactive health management (medication reminders, fitness tracking).
8. Research & Public Health Benefits
 - Big data analytics helps in medical research, drug development, and tracking disease outbreaks.
 - AI-driven predictive models assist in pandemic preparedness and personalized medicine.

Conclusion

Digital hospitals lead to faster, safer, and more cost-effective healthcare, benefiting patients, doctors, and administrators. Governments and healthcare institutions must invest in digital transformation to keep up with modern medical demands.



Executive Summary

Apollo Hospital Management Software, the software for hospitals is developed considering how a hospital operates. Based on best practices with workflow and required checks and controls this software is a proven tool of efficiency and productivity.

Covering operational domains of a hospital with real-time integration comprising Indoor & Outdoor Patients Registration and Ward Management, Pharmacy, Lab, Radiology, ER, Patient's Diet, Inventory, Purchase/Payable, Cheque Writing, Gate pass, Patient Billing and Financial Accounts makes Apollo a complete suite.

This software is developed having approach of eliminated data redundancy and user-friendly way of operation and paperless approach.

Comprehensive reports covering all operational sections of hospital facilitates in information accessibility quick and hassle-free manner. Apollo is attributed with enhanced productivity and profitability giving quick ROI.

Major Business Processes & Features

- Appointment for OPD Patients
- Lifetime ID for every patient through OPD, ER or IPD
- OPD Patients Registration
- ER Registration & billing or transfer as indoor patient
- Room/Bed reservation for indoor patients
- Indoor Patients Registration & Admission with patient management at ward
- Census
- Electronic Requisitions for Pharmacy, Lab, Radiology and diagnostic services
- Automatic application of room/bed charges, medicine cost, lab/radiology/diagnostic and other daily charges giving instant and accurate running bill or final bill at discharge
- Patients discharge with follow-up plan and home medicines
- Integration with appropriate equipment for patient wrist band and door panel
- Medicines refunds
- Surgeon and procedure wise packages with no. of admission days, medicines and services
- Operation theater scheduling
- Procedure wise definition of medicines and consumables

- Diet plan and electronic diet request for individual patient with history of diet provided to patients
- Real-time and instant running bill of indoor patients
- Automatic birth certificate, discharge/follow-up notes and death certificate
- Corporate OPD & IPD billing
- Doctors/Consultants share
- Instant, hassle free & accurate bills upon discharge for private & corporate patients
- Purchase and payables related workflows
- Shelf and par level items definition and batch wise stock with expiry.
- Request for patient diet for all admitted patients is generated electronically through automatic process on the basis



of predefined parameters.

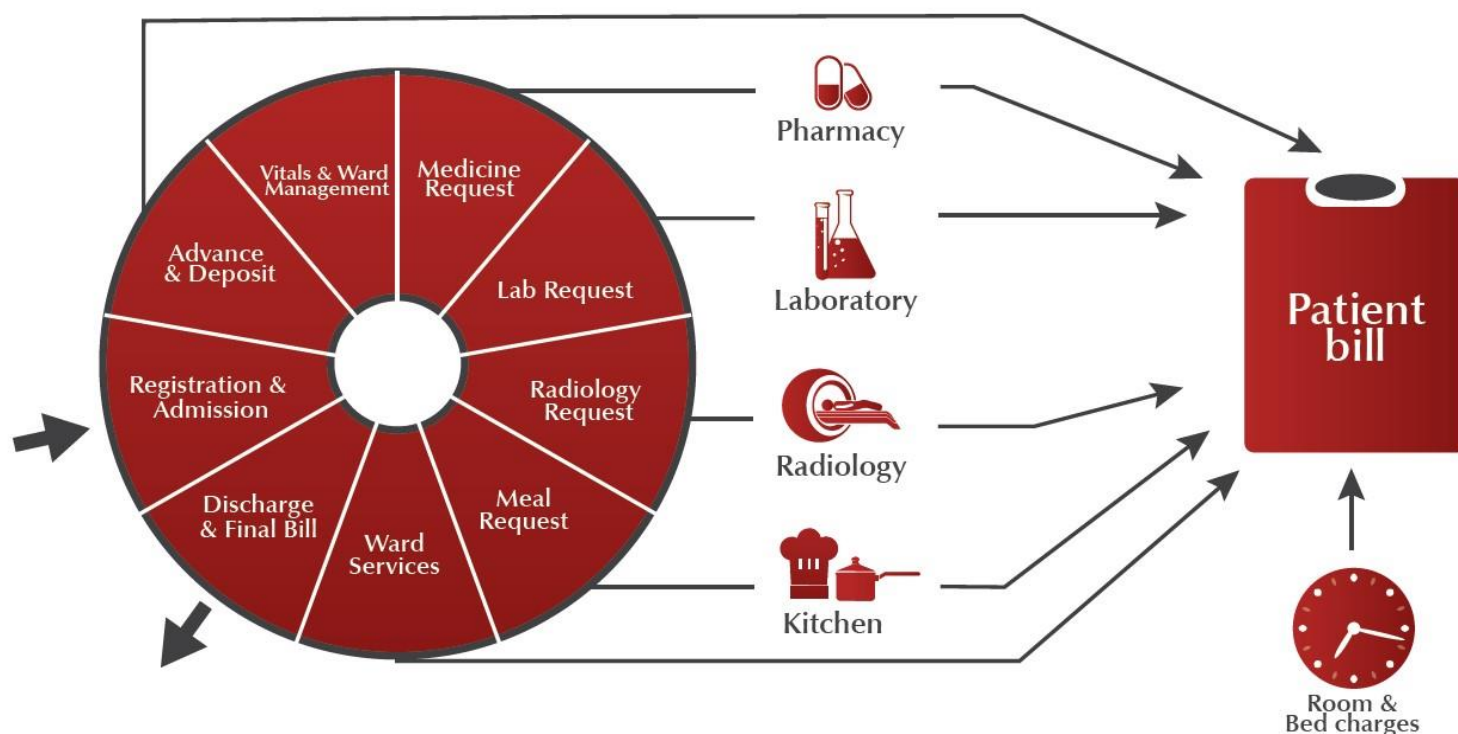
- Provision is available to charge patient diet as a separate head to make part of hospital services. Similarly, diet for attendants/guests also has provision to be charged or make part of hospital services.
- Cheque printing with automatic adjustment of advance given to supplier and withholding tax
- Financial accounts management with

automatic update through transactions from various modules

- Reports related to financial accounts accessible on the basis of various filters and criteria
- Statistical Analyses
- Dashboard

Apollo Software provides various statistical analysis apart from routinely required information like head wise revenue collection and receivables/payables management etc. So, you greatly benefit through elimination of pilferages, reduced operating cost and more profits with enhanced efficiency and productivity. Real time approach enables managers and administrator to evaluate critical areas in a proactive manner. The solution is offered with training and implementation support making it functional in soonest possible time. Reduced printing and automated workflows with e-mail alerts and electronic approvals make Apollo convenient and efficient software solution.

PATIENT ADMISSION TILL DISCHARGE



Patient may be admitted against reservation, ER, OPD or referral. Every patient is given a life time ID termed as M.R. No. with optional generation of Plastic ID Card and wristband. In case of old patient, his/her data is automatically retrieved through M.R. No. After input of relevant admission data, patient is registered as Indoor Patient having an Admission No. For private patients advance is received and for corporate patient referral letter information is recorded.

Receiving of advance payment invokes printing Of payment receipt and also updates patient bill Record.

Available Ward and Room or Bed is Suggested by system for allocating to patient. While patient is received at ward, various Diagnostic services are provided through Electronic requisitions and in-ward services like Nebulization, physiotherapy etc.

While for medicines as advised, electronic Requisition is generated at Pharmacy. Services When rendered through electronic requisition or medicine are dispensed at pharmacy, the charges and costs are applied immediately updating patient bill. Services at ward and room/bed charges are also applied automatically. Patient running bill can be viewed any time. Upon discharge, a discharge and follow-up advice is generated along with patient final bill.

For corporate patient, bill generation invokes Generating a Journal Voucher, debiting party and crediting respective hospital revenue accounts.

Charges details for room/bed, medicines, Diagnostic and other services are also printed Simultaneously with patient final bill.

Patient Journey for OPD

1. Arrival & Registration

- Patient arrives (walk-in or scheduled appointment).
- Front desk checks:
 - Verifies appointment (if booked).
 - New patients fill out registration forms (demographics, medical history).
 - Existing patients update records if needed.
- Issued:
 - Hospital ID/OPD card.
 - Queue number/token (if no appointment).

2. Vital Signs & Triage (Nurse Assessment)

- Nurse/preliminary checkup:
 - Measures blood pressure, temperature, pulse, weight, height.
 - Asks about chief complaints (reason for visit).
 - Triage: Prioritizes urgency (e.g., emergency vs. routine).
- Sent to:
 - Consultation room (if stable).
 - Emergency care (if critical).

3. Doctor Consultation

- Doctor examines:
 - Reviews symptoms, medical history.
 - Conducts physical examination.
- Possible outcomes:
 - Prescribes medication → Directs to pharmacy.
 - Orders tests (lab/radiology) → Patient goes for diagnostics.
 - Recommends specialist referral → Scheduled with another department.
 - Discharge (if no further action needed).

4. Diagnostics (If Required)

A. Laboratory Tests

- Blood/urine tests, swabs, etc.
- Patient waits for results (time varies; some tests take hours).
- Results sent back to the doctor.

B. Radiology/Imaging

- X-ray, ultrasound, MRI, etc.
- Images reviewed by radiologist → Report sent to the consulting doctor.

5. Follow-Up Consultation (If Needed)

- Patient returns to the doctor with test results.
- Doctor:
 - Confirms diagnosis.
 - Adjusts treatment plan.
 - Recommends follow-up visits.

6. Pharmacy Visit

- Patient submits prescription.

- Pharmacist:
 - Dispenses medication.
 - Explains dosage/side effects.
- If unavailable: Patient may be referred to an external pharmacy.

7. Billing & Payment

- Payment processed (insurance/cash).
- Receipt issued.

8. Discharge & Follow-Up

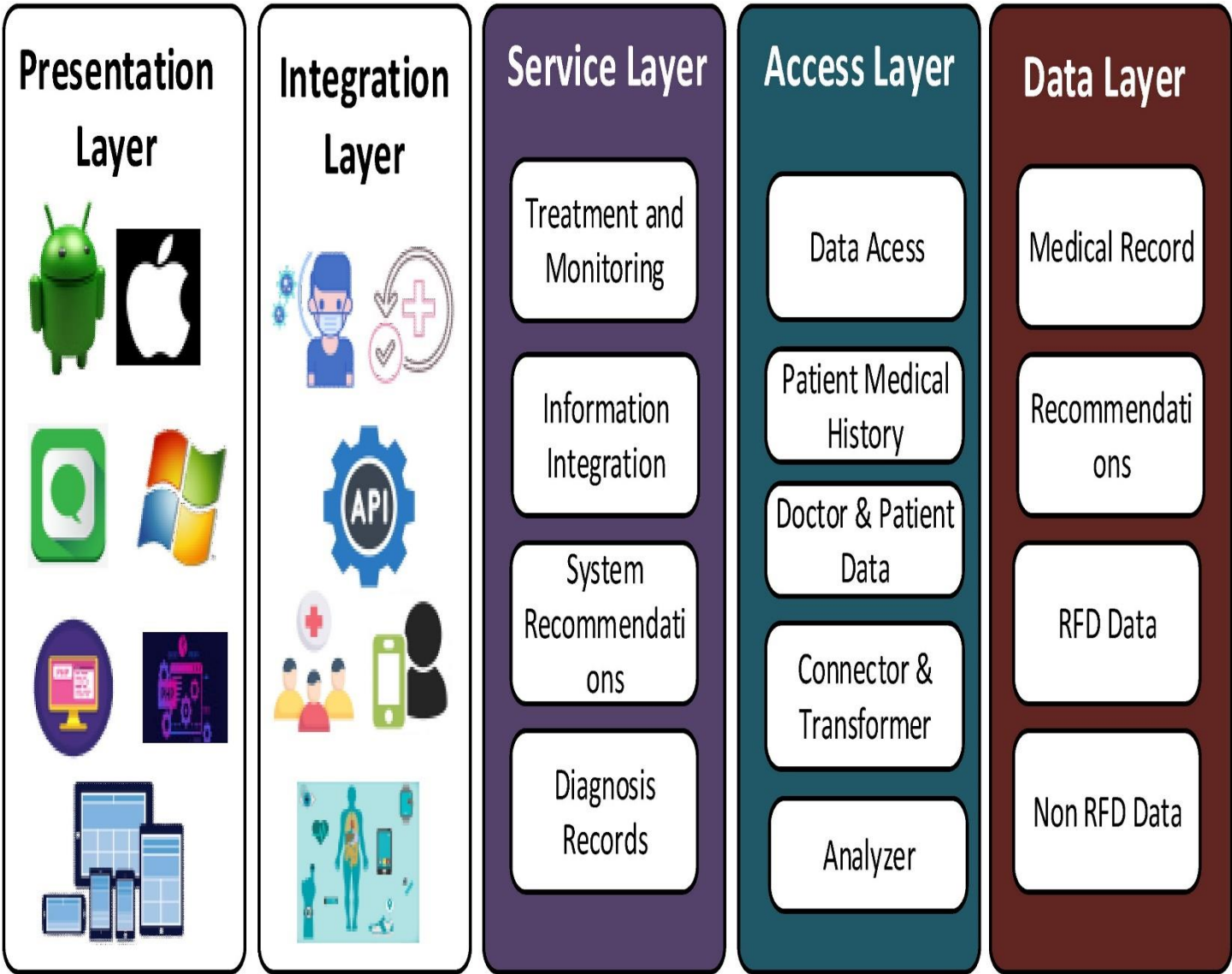
- Discharge summary provided (if needed).
- Next steps:
 - Scheduled for a follow-up visit.
 - Referred to another specialist.
 - Advised on home care/medication.

Patient Journey Mapping



Hospital Informatics High Level Overview

The health informatics system segregation with respect to the framework spread across different layers. Each layer has its different functionality and responsibility to fulfil the ideal representation of the layers cross communicating among the software and hardware is shown below.



Patient Registration

Save Update Clear

Medical Record No: 202411140001 Search Print Registered On: Thursday, November 14, 2024

First Name Title: Mr. TAUSEEF Middle Name: Blood Group: Please Select an Option

Last Name: SIDDIQUI National ID Card No: Religion: Please Select an Option

Guardian Name: Son of ABDULLAH Marital Status: Single

Gender: Male Disability: Please Select an Option

Date of Birth: Saturday, November 14, 1970 Contact No: 0000-0000000

Age: 54 5 17 Adult Alternate No: Year Month Day: Profession: Private Employee

Domicile Type: Country: IRAQ Province: Najaf

City: NAJAF Area: KUPAH

Address: 123#

Active Record

Appointment

Save Update Delete Clear

AppointmentID: 29 Search Specialization: Please Select an Option

Consultant: Shift: Morning Wednesday, April 30, 2025

Appointment # Regular Walk-In Follow up 1 20 20 10 Is Active

Medical Record No: 202412050001 Appointment Type: Regular

First Name: Muhammad Middle Name: Altaf

Last Name: Hussain Contact No: 0000-0000000

Appointment On : 30/04/2025

001 Appointment(s)

Clinic Time 07:00:00 - 22:30:00

Print Report

Drag a column here to group by this column.

ID	MRNo	PatientName	ContactNo	AppointmentOn	SlipTime	Consult...	AppType	Active
40	2025032400...	Uzair Muham...	1684-63165...	4/30/2025 12:00:0...		DR HA...	Regular	☒

Click here to add a new row

Admission Screen

Save
Update
Cancel Admission
Clear

Admission
Next of Kin
Consultants
Ward/Bed Allocation
Procedures
Corporate Details

Admission Form

Medical Record No202504300003

Registered OnWednesday, April 30, 2025

Active

First Name TitleMr.

Last Nameالعامري

Guardian NameSon of

GenderMale

Date of BirthSaturday, July 1, 1944

Age80930Adult

ProfessionRetired

CountryIRAQ

CityNAJAF

Admission NoADM-202504300004

Source of PaymentGovernorate of Najaf

Admission TypeMedication

Age CategoryAdult

Remarks

Middle Nameحسن

Blood GroupO+

National ID Card No19444-2112652-

ReligionIslam

Disability

Contact No0786-0120719

Alternate No

ProvinceNajaf

AreaKUFAH

Admitted OnWednesday, April 30, 2025

FacilityGeneral

Patient TypeCivilian

Referred FromOPD

Ref No

Print
Print Band

Encounter

Patient Name : waseem abbas | Father Name : abdullah | Reference No : INV-102024

OPD

History

Subjective

Objective

Radiology

Laboratory

Pharmacy

Diagnostic Services

Services

Physiotherapy

Doctor Notes

Nursing Notes

Clinical Summary

Upload History Documents

View History Documents

Encounters

Objective

نضال | Reference No : ADM-202504220001 | MRNo : 202502180001 | Gender : Female | Contact No : 0780-4565656 | Age : 35Y 2M 4D | Age CategoryID : 1 | Patient

GPE ED Interventions Impression & Injury Cause Burns Systemic Examination Details

General State :

☐ Conscious
☐ Unconscious
☐ Disoriented
☐ De

☐ Semi-Conscious
☐ Oriented
☐ Stupor
☐ Ma

Others Sign :

☐ Cyanosis
☐ Pallor
☐ Jaundice
☐ Clubbing
☐ Koilonychia

Duration :

☐ < 3hr
☐ < 3-12 hrs
☐ < 12-24 hrs
☐ < 24-72 hrs

Airway :

☐ Clear
☐ Partially Obstructed
☐ Intubated

☐ Obstructed
☐ Stridor

BREATHING

Rate :
☐ Normal
☐ Rapid
☐ Slow

Quality :
☐ Clear
☐ Wheezing
☐ Rales

Side :
☐ Equal Bilat
☐ Absent R
☐ Absent L

Skin :

☐ Normal
☐ Cold
☐ Cyanotic

☐ Hot
☐ Pale
☐ Sweaty

EXTERNAL BLEEDING

Bleeding :
☐ None
☐ Minimal
☐ Moderate
☐ S

Location :
☐ N/A
☐ Head
☐ Neck
☐ C

Injury :

☐ N/A
☐ Pelvis

☐ Head
☐ Upper Extremity

☐ Neck
☐ Lower Extremity

☐ Chest
☐ Back

☐ Abdomen

WOUND DESCRIPTION

Wound :
☐ N/A
☐ Abrasion
☐ Laceration
☐ Bru

Size :
☐ Small
☐ Medium
☐ Large

Location :
☐ N/A
☐ Head
☐ Neck
☐ Chest
☐ Abdomen
☐ Pelvis
☐ Uj

Save GPE

Doctor Notes

Save Update Delete Clear

Patient Name : دعاء ابراهيم السعدي | Father Name : نضال جواد هادي | Referer

Doctor Notes

Drag a column here to group by this column.

DoctorNotes	Consultant	ConsultantSpeciliaztion	CreatedOn
* Click here to add a new row			
Patient History: – 55-year-old male smoker with diabetes, presenting with exertional chest discomfort.			
Consultant's Findings: – ECG shows T-wave inversions in the anterior leads, normal echocardiogram.	shayan.haider		4/30/2025 10:40:16...
Recommendations: – Advise stress testing, consider coronary CT angiography, and follow-up for results. Discuss lifestyle modifications and diabe...			

Objective

Patient Name : دعاء ابراهيم السعدي | Father Name :

GPE ED Interventions Impression & Injury Cause Burns Systemic Examination Details

Burns Degree:

☐ N/A
☐ First
☐ Second
☐ Third

Percentage:

Nursing Notes

Patient Name : دعاء ابراهيم السعدي | Father Name : نضال جواد هادي | Reference No : AD

Nursing Notes

Patient Status:
– 60-year-old female with congestive heart failure, reports improved breathing, less edema.

Treatment Adjustments:
– Diuretic therapy effectiveness, maintaining current dose.

Plans:
– Assess for potential outpatient cardiac support services, consider discharge in three days.

Drag a column here to group by this column.

NursingNotes	CreatedOn	Enteredby
Click here to add a new row		
Patient Status: – 60-year-old female with congestive heart failure, reports improved breathing, less... Treatment Adjustments: – Diuretic therapy effectiveness, maintaining current dose. Plans: – Assess for potential outpatient cardiac support services, consider discharge in three...	4/30/2025 10:40:5...	shayan.haider

Vital Sign :

Systolic BP: mmHg
Diastolic BP: mmHg
Pulse: per min
Weight: Kg

Respiratory Rate: per min
SPO2:
Temperature: °F
Height: cm
BMI:
Normal

Drag a column here to group by this column.

Pulse	Temp	Resp Rate	Systolic	Diastolic	SPO2	Height	Weight	BMI	TakenOn	Enteredby
160	100	68	110	90	75	162	58	22.1	4/30/2025 10:41:49...	shayan.haider

Death Certificate			
Save Update Clear			
Certificate No		Search	Print
	Certificate Date	Wednesday, April 30, 2025	
Deceased's Information			
Admission No	ADM-202503170001	MR No	202412200001
Full Name	Mr. waseem abbas		
Guardian Name	Son abdullah	CNIC	00000-0000000-
Gender	Male	Religion	Islam
Date of Birth	Monday, January 1, 2001	Contact No	0000-0000000
Age	24 3 29 Adult	Blood Group	Please Select an Option
	Year Month Day	Ward	Please Select an Option
Address	fdssdf		
Relative's Information			
Relative Name	hasan	Relative's CNIC	18654-1652333-3
Relation	Father	Contact No	3213-2132165
Cause of Death			
Date of Death	28-04-2025 00:00:00	Received Dead	☐ Yes ☒ No
RMO/ IC	DR MUHAMMAD HUSSAIN JALIL KAZEM AL-HASANI		
Diagnosis/ Immediate Cause of Death	CARDIAC PULMONARY		
Primary Cause	CARDIAC ARREST		
Secondary Cause	ACUTE CARDIOPULMONARY ARREST		
Underlying Cause	ACUTE CARDIAC PULMONARY DISEASE		

Pharmacy



Pharmacy may be operated as stock location making procurement itself or may get medicines and consumables through warehouse on the basis of electronically generated requisitions.

Pharmacy having a concept of batch closing for individual user, maintains credit and cash sales and cash in hand for individual pharmacy users. This helps in smooth handing over of cash and stock to the next user joining in another shift. Medicines and consumables at pharmacy have identifications like par level, critical, shelf location and other details to see available stock at various shelves. This also helps in stock management and request generation for replenishment from warehouse against sold items.

While medicines are dispensed to patient, system prints dispensing label detailing dosage, timings and route for individual medicines with necessary instructions. Users at pharmacy can locate stock of any particular medicine (or item) in all stock locations. Back-order management and local purchase related function are also a part of pharmacy management.

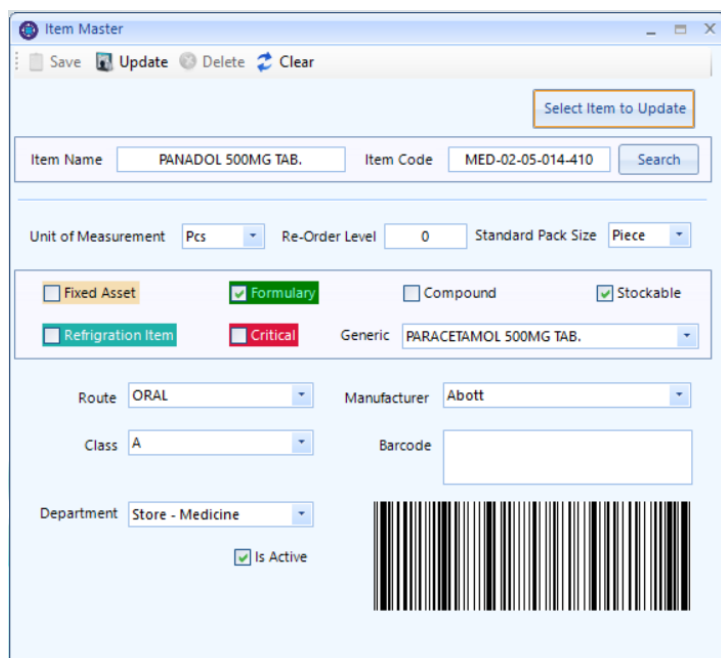
A centralized software platform that automates medication management, linking pharmacy operations with EHR, CPOE, and other hospital systems (e.g., LIS/RIS for lab/imaging data).

Core Modules of an Integrated Pharmacy System

1. Medication Order Entry
 - Integrates with CPOE (Computerized Physician Order Entry) to reduce errors.
 - Example: MD orders vancomycin in EHR → system checks renal function (via LIS) → auto-adjusts dose.
2. Clinical Decision Support (CDS)
 - Alerts for drug interactions, allergies, or duplicate therapies (pulled from EHR).
3. Inventory Management
 - Tracks drug stock, expiry dates, and automates reordering.
4. Billing & Claims Processing
 - Auto-generates billing codes (e.g., NDC) and interfaces with payers.
5. Dispensing Automation
 - Connects to robotic dispensers or smart cabinets (e.g., Pyxis).
6. Interoperability
 - Shares data with LIS (e.g., lab values affecting dosing), RIS (e.g., contrast meds for imaging), and EHR.

Cash and Pharmacy Batch Close

All cash collecting locations including of pharmacy have batch closing and handing over workflow. This facilitates in handing over cash and stock to next shift or even staff member of the shift in hassle free and transparent way accurately.



Item Master

Save Update Delete Clear

Select Item to Update

Item Name: PANADOL 500MG TAB. Item Code: MED-02-05-014-410 Search

Unit of Measurement: Pcs Re-Order Level: 0 Standard Pack Size: Piece

☐ Fixed Asset
 ☒ Formulary
 ☐ Compound
 ☒ Stockable

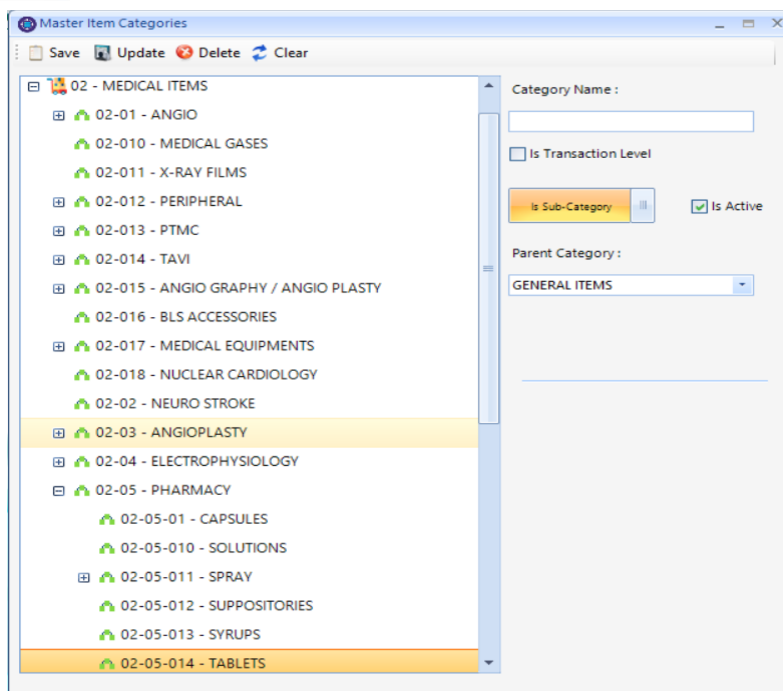
☒ Refrigeration Item
 ☒ Critical
 Generic: PARACETAMOL 500MG TAB.

Route: ORAL Manufacturer: Abott

Class: A Barcode:

Department: Store - Medicine

☒ Is Active

Master Item Categories

Save Update Delete Clear

Category Name:

☐ Is Transaction Level

☒ Is Sub-Category ☒ Is Active

Parent Category: GENERAL ITEMS

- 02 - MEDICAL ITEMS
 - 02-01 - ANGIO
 - 02-010 - MEDICAL GASES
 - 02-011 - X-RAY FILMS
 - 02-012 - PERIPHERAL
 - 02-013 - PTMC
 - 02-014 - TAVI
 - 02-015 - ANGIO GRAPHY / ANGIO PLASTY
 - 02-016 - BLS ACCESSORIES
 - 02-017 - MEDICAL EQUIPMENTS
 - 02-018 - NUCLEAR CARDIOLOGY
 - 02-02 - NEURO STROKE
 - 02-03 - ANGIOPLASTY
 - 02-04 - ELECTROPHYSIOLOGY
 - 02-05 - PHARMACY
 - 02-05-01 - CAPSULES
 - 02-05-010 - SOLUTIONS
 - 02-05-011 - SPRAY
 - 02-05-012 - SUPPOSITORIES
 - 02-05-013 - SYRUPS
 - 02-05-014 - TABLETS

Pharmacy Worklist

Refresh

Drag a column here to group by this column.

MRNo	FullName	Gender	Age	ConsultantName	Dept	Enteredby	Requisition No	ReqTime	Ward	BedNo
Contains: ▼	Contains: ▼	Contai... ▼	Contains: ▼	Contains: ▼	Con... ▼	Contains: ▼	Contains: ▼	Equals: ▼	Conta... ▼	Conta... ▼
202403150351	ERUM SAJID	Female	40Y 0M 0D	General Cardiology Clinic	OPD	azadar.hussain	REQ-68202409140001	9/14/2024 9:08:28 AM		
202310130175	BABAR ALI	Male	25Y 0M 0D	Dr. Saba Hussain	OPD	mohsinshakeel	REQ-68202409130008	9/13/2024 10:43:09 AM		
202310130175	BABAR ALI	Male	25Y 0M 0D	Dr. Saba Hussain	OPD	mohsinshakeel	REQ-68202409130007	9/13/2024 10:41:50 AM		
202306130302	SHAHIDA ABDUL MAJEED	Female	44Y 9M 12D	Dr. Furqan Ahmed	OPD	mohsinshakeel	REQ-68202409130006	9/13/2024 10:40:31 AM		
202306130302	SHAHIDA ABDUL MAJEED	Female	44Y 9M 12D	Dr. Furqan Ahmed	OPD	mohsinshakeel	REQ-68202409130005	9/13/2024 10:39:12 AM		
202310130620	KOUSAR PARVEEN	Female	50Y 0M 0D	General Cardiology Clinic	OPD	mohsinshakeel	REQ-68202409130004	9/13/2024 10:37:54 AM		
202309250504	NADEEM UDDIN	Male	54Y 5M 3D	PT-INR	OPD	mohsinshakeel	REQ-68202409130003	9/13/2024 10:25:00 AM		
202309250504	NADEEM UDDIN	Male	54Y 5M 3D	PT-INR	OPD	mohsinshakeel	REQ-68202409130002	9/13/2024 10:23:38 AM		
202306090135	GLORIA AFZAL MASIH	Female	60Y 4M 5D	PT-INR	OPD	mohsinshakeel	REQ-68202409130001	9/13/2024 9:28:41 AM		
202309110413	MUHAMMAD ALI	Male	21Y 7M 12D	Dr. Muhammad Naeem Mengal	OPD	mohsinshakeel	REQ-68202409120009	9/12/2024 12:27:46 PM		
202401030275	SANIA MUHAMMAD	Female	18Y 0M 17D	Dr. Raheela Khowaja	OPD	mohsinshakeel	REQ-68202409120008	9/12/2024 12:16:55 PM		
202401200213	MUHAMMAD SALEEM	Male	70Y 0M 0D	Dr. Muhammad Zia Yaqoob	OPD	mohsinshakeel	REQ-68202409120007	9/12/2024 11:00:48 AM		
202307150155	MUHAMMAD IMTIAZ	Male	40Y 6M 5D	PT-INR	OPD	mohsinshakeel	REQ-68202409120006	9/12/2024 10:57:36 AM		
202307150155	MUHAMMAD IMTIAZ	Male	40Y 6M 5D	PT-INR	OPD	mohsinshakeel	REQ-68202409120005	9/12/2024 10:57:01 AM		
202401110183	MIR HASSAN	Male	48Y 5M 6D	Dr. Ali Raza Mangi	OPD	mohsinshakeel	REQ-68202409120004	9/12/2024 10:21:15 AM		

Pharmacy Receipt

Save Cancel Receipts Clear

Invoice Search Reprint Invoice

Req # REQ-68202409130001

Med Record No 202306090135 First Name GLORIA Last Name AFZAL MASIH

Age 60 4 5

Consultant PT-INR Facility General

Profile Government Of Sindh Priority Routine

Payment Mode Credit ☐ Employee Click and Press F1

Item Doctor Prescription

Doctor Prescription

ItemName	Dose	Signa	Duration	Route	ReqQty	Qty	Rate	TradePrice	BatchNo	LotNo	Ac
ASPIRIN 75MG TAB.		QD	1	1.00	ff						
ASPIRIN+ CLOPIDOGREL 75MG TAB.		QD	1	1.00	ff						

Grand Total: 0 Account off: 0 Net Pay: 0

Discount: 0 Cash Received: 0

Zakat: 0 Cash Refund: 0



Radiology

Radiology as a diagnostic center operates on the basis of requisitions generated from nursing stations at wards, ER or test booking for OPD or walk-in patients on cash basis.

Radiology maintains its medicines stock with monitoring of dispensing in case of some specific radiology test requests.

Requisitions from wards when tagged as confirmation that service has been provided, the charges of radiology service are automatically updated in patient bill.

Radiology module is provided with complete stock management and reports including cash collection with cash batch closing.

Key features include:

- Image storage & retrieval (DICOM compatibility)
- Workflow management (scheduling, reporting)
- AI-assisted diagnostics (e.g., AI for X-rays, CT scans)

A Picture Archiving and Communication System (PACS) integrated with a Radiology Information System (RIS) creates a seamless workflow for managing medical imaging, from order entry to diagnosis and reporting.

◆ Key Benefits of PACS-RIS Integration

- ✓ **Streamlined Workflow** – Eliminates manual steps between ordering, imaging, and reporting.
- ✓ **Faster Diagnoses** – Radiologists access images and reports in one system.
- ✓ **Improved Compliance** – Tracks studies for audits (e.g., HIPAA, MQSA for mammography).
- ✓ **Cost Efficiency** – Reduces film costs and duplicate imaging.

Radiology Worklist										
Service Done Refresh										
Friday, March 1, 2024										
Drag a column here to group by this column.										
Done	Invoice	MRNo	FullName	Gender	Age	ServiceName	Dept	Facility	Req-Time	
☐	Contains:	Contains:	Contains:	Cont...	Contains:	Contains:	C...	Con...	Equals:	
☐	INV-54202403012333	202402280827	MUHAMMAD MASROOR...	Male	55Y 0M 0D	CHEST AP	IPD	General	3/1/2024 10:29:25 PM	
☐	INV-54202403012332	202402270505	SHAKEEL AHMED	Male	62Y 0M 0D	CHEST AP	IPD	General	3/1/2024 10:28:54 PM	
☐	INV-48202403012331	202306140831	GULSHAN BEGUM KARIM	Female	56Y 4M 30D	CHEST PA	IPD	General	3/1/2024 10:28:53 PM	
☐	INV-54202403012329	202402030852	SYED IQBAL HUSSAIN	Male	59Y 0M 0D	CHEST AP	IPD	General	3/1/2024 10:28:27 PM	
☐	INV-54202403012328	202402280892	NAZEER AHMED	Male	50Y 0M 1D	CHEST PA	IPD	General	3/1/2024 10:27:38 PM	
☐	INV-54202403012327	202402280846	NAJM US SAHAR FAREED	Male	65Y 0M 0D	CHEST AP	IPD	General	3/1/2024 10:26:49 PM	
☐	INV-54202403012318	202402290495	ABIDA BIBI	Female	60Y 0M 0D	CHEST AP	IPD	General	3/1/2024 10:16:28 PM	
☐	INV-09202403012291	202403010524	SALEEM AHMED	Male	76Y 0M 0D	CHEST AP	ER	General	3/1/2024 9:56:07 PM	
☐	INV-09202403012291	202403010524	SALEEM AHMED	Male	76Y 0M 0D	CHEST AP	ER	General	3/1/2024 9:46:04 PM	
☐	INV-54202403012253	202402020743	QAISAR SODHO	Female	40Y 0M 18D	CHEST AP	IPD	General	3/1/2024 9:12:04 PM	
☐	INV-09202403012251	202403010509	YASMEEN BIBI	Female	43Y 0M 1D	CHEST PA	ER	General	3/1/2024 9:08:08 PM	
☐	INV-09202403012249	202403010507	FEROZA BIBI	Female	45Y 0M 1D	CHEST PA	ER	General	3/1/2024 9:06:37 PM	
☐	INV-09202403012251	202403010509	YASMEEN BIBI	Female	43Y 0M 1D	CHEST PA	ER	General	3/1/2024 9:06:09 PM	
☐	INV-09202403012249	202403010507	FEROZA BIBI	Female	45Y 0M 1D	CHEST PA	ER	General	3/1/2024 9:05:55 PM	
☐	INV-09202403012243	202305270413	MUMTAZ BEGUM	Female	56Y 9M 6D	CHEST PA	ER	General	3/1/2024 9:03:32 PM	

ETT #

TSE-202403300002

Search

Print

INV #

INV-48202403041546

Search

Date

Saturday, March 30, 2024

First Name

KHAWAJ

Last Name

MUHAMMAD

MR No

202403020668

Gender

Male

Admission No

Ward

Bed

Request From

Walk-in

Refer Doctor

Dr. Hina Sohail

ETT Consultant

Dr. Saba Hussain

Supervising Physician

Dr. Hina Sohail

Indications:

A) Screening

B) Diagnosis of IHD

C) Arrhythmia testing

Chronotropic response testing

Risk Factors:

HTN

IHD

Dyslipidemia

Smoking

Asthma

Baseline / Resting Echo:

LVEDD

2

Septal Thickness

3

RV Base (4 ch)

4

LA Volume

5

LVESD

6

Post wall Thickness

7

Left atrium (long axis)

8

LA Volume Index

9

E/E²

10

E/A

11

Aorta

12

CARDIAC CHAMBERS:

With high dose dobutamine infusion, at peak heart rate no segmental wall motion abnormality noted. LV become Hyperkinetic with decreased LV cavity size.

STRESS DATA:

Normal LV systolic function at rest, with no SWMA.

CARDIAC VALVES:

With low dose dobutamine infusion no segmental wall motion abnormality.

STRESS ECHO FINDINGS:

Right ventricle systolic function is normal.

LV DIASTOLIC FUNCTION:

Normal morphology of cardiac valves.

CONCLUSION:

Patient exercised for __ minutes on Bruce protocol (__ METS). Exercise stopped due to SOB. HR increased from __ bpm to __ bpm (__% of THR). Blood pressure increased from __/__/__ to __/__/__ mmHg. No chest pain noted. Baseline ECG showed __/__/__.

ETT Type

TSE

Test

Text

Enter text to search

DSE Normal size LA and RA.

DSE Normal Left ventricular systolic function.

DSE No segmental wall motion abnormality.

DSE Right ventricle systolic function is normal. TAPSE =

DSE Dobutamine was used in incremental doses of to mcg/kg

DSE With low dose dobutamine infusion no segmental wall mot

DSE With high dose dobutamine infusion, at peak heart rate no

DSE Normal LV systolic function at rest, with no SWMA.

DSE Dobutamine stress echo is negative for symptom, ECG and

DSE PWMSI =

DSE Low risk study group.

TSE Normal size LA and RA.

TSE Normal Left ventricular systolic function.

TSE No segmental wall motion abnormality.

TSE Right ventricle systolic function is normal.

TSE Normal morphology of cardiac valves.

TSE Normal

TSE Patient exercised for __ minutes on Bruce protocol (__ METS)

TSE Immediate post Exercise, no segmental wall motion abnorm

TSE Normal LV systolic function at rest, with no SWMA.

TSE Treadmill stress echo is negative for symptom and echocard

Adult Echo

Save Update Clear

Report No: AECH-202403150121 Search INV #: INV-10202403151951 Search MR No: 202306190696 Date: Friday, March 15, 2024

First Name: FARIHA Last Name: BEGUM Age: 64 10 11 Gender: Female

Admission No: Ward: Bed: Request From: Walk-in

Height (cm): 0 Weight: 0 BP Systolic: BP Diastolic: Heart Rate:

Ref Doctor: Dr. Ayaz Mir Rpt Doctor: Dr. Sumya Gurmani Machine: Echo-02 Is Active: ☒

Report Template: Please Select an Print

Systolic: 27	Left Atrium: 31	EPSS (<7): 5	Aorta (<40): 26
Diastolic (< 50): 41	Mitral Valve: 56	E.F. (> 55%): 50-55%	Aortic Valve: 65
Septal thick (11): 9	Right Ventricle (<25): 18	Post Wall Thickness (<11): 9	Pulmonary Artery: 45

Structural Interpretation
Akinetic basal to mid inferior and mid posterior wall. Remaining segments showing normal contraction. Overall normal size LV with mild systolic dysfunction. Normal size RV with normal systolic function. TAPSE = 18mm.

Flow Abnormality (Map)
No flow abnormality seen.

Pressure Gradient (mmHg)
E/A: Merged. HR = 121bpm.

AV Canal Estimated RV.MPA (mmHg)
PASP = 25 mmHg

Final Echo DX
Normal size LA. Overall normal size LV with mild systolic dysfunction with SWMA. Normal size RV with normal systolic function. Normal valves.

Text
Enter text to search
Age = years, Height = cm, Weight = kg, BP = / mm
Visually estimated EF is %.
AWMI, PPCI to LAD (VD)
AV: Tricommissural with normal mobility and thickness.
Normal thickness and mobility of cardiac valves.
EF by biplane method 50%.
Clinical Indications:
Thickened and domed AML, restricted PML causing s
EF by Simpsons method 50%.
AV: Tricommissural AV with normal mobility and norm
Normal thickness and mobility of all other valves.
Normal all other valves.
No LV thrombus seen.
AVA by planimetry cm2 & cm2 by continuity equation
MVA by planimetry cm2 & cm2 by PHT with PPG & f
Normal RV (RV basal 4ch diameter mm) with normal

Pediatric Echo

Save Update Clear

Echo #: PE-202403070006 Search Print INV #: INV-09202403072714 Search Date: Thursday, March 7, 2024

First Name: KANWAL Last Name: FAHAD MR No: 202403070576 Gestational Age: 26 1 24 Gender: Female

Admission No: Ward: Bed: Request From: Walk-in

Gravida: 1 Para: 0 Is Active: ☒

Ref Doctor: Dr. Farheen Ali Rpt Doctor: Dr. Veena Kumari Machine: Echo-24

Gestational Age By
LMP: weeks BPD: 7.3cm cm HC: cm FL: 5.65cm cm AC: 24.31cm cm

Indications
Study Information: mother history of ASD.

2D Measurements
Mitral Valve Annulus: 7.7mm (-1.9z) Tricuspid Valve Annulus: 1.0mm (-1.6z)
Pulmonic Valve Annulus: 5.2mm (-1.9z) Aortic Valve Annulus: 4.3mm (-1.6z)

Doppler Measurement
IVCT: 39ms LV Tei Index: PI: 1.9 RI: 0.7 E/A Ratio on MV:
IVRT: 33ms Fetal heart rate: 135bpm ET: 144ms E/A Ratio on TV:

Rhythm & Output
the fetal heart rate is 135bpm, heart rate was within normal range during examination. the fetal heart rate rhythm was regular during study. AV delay

Cardiac Segment
(S,D,S) Situs solitus levocardia, 4 chambered heart with 2 normal AV valves and 2 crossing outflow tracts. Atria and Veins: Intact IVC to right atrium Right SVC to RA. PFO measuring 4mm with normal in-utero right to left flow. At least on 2 pulmonary vein seen entering the LA

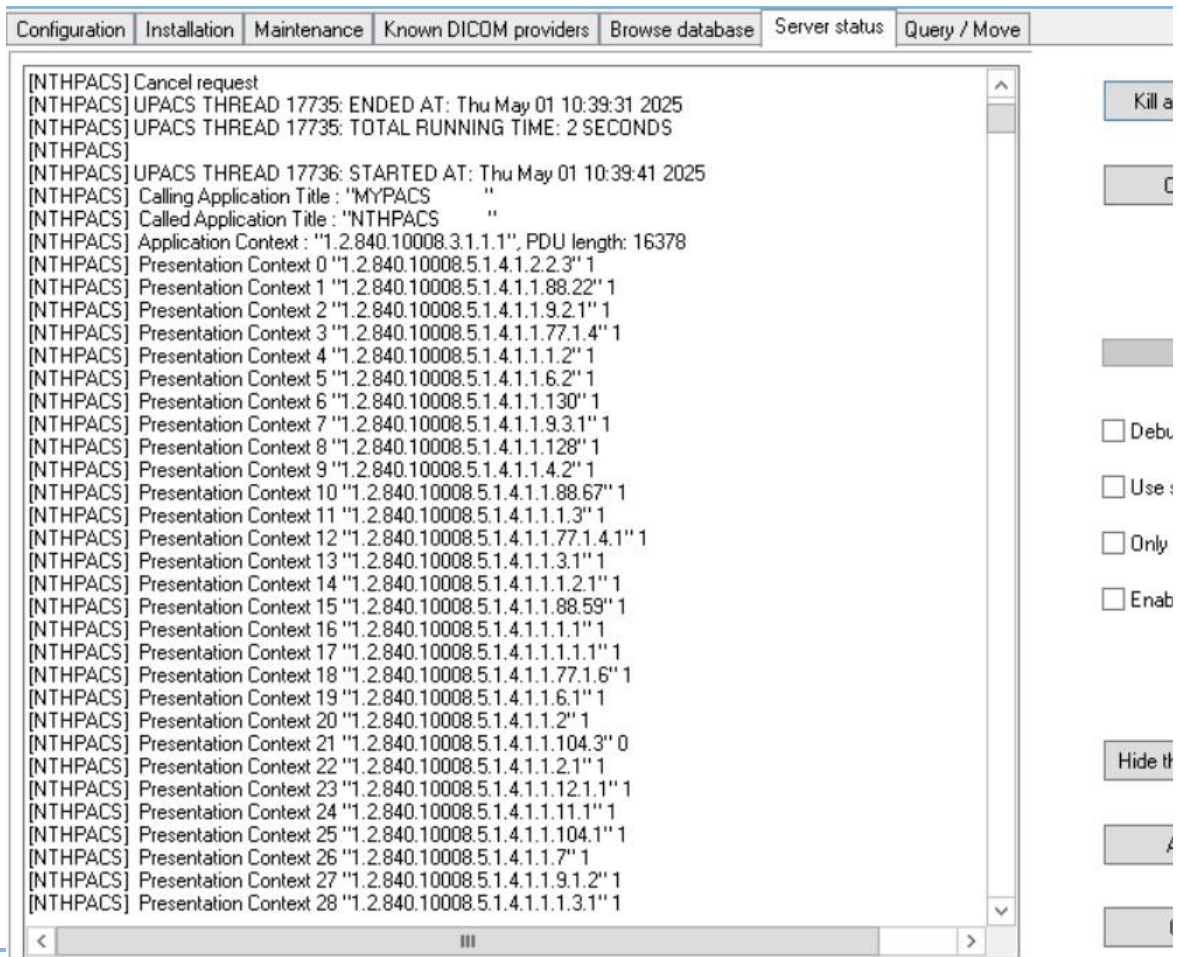
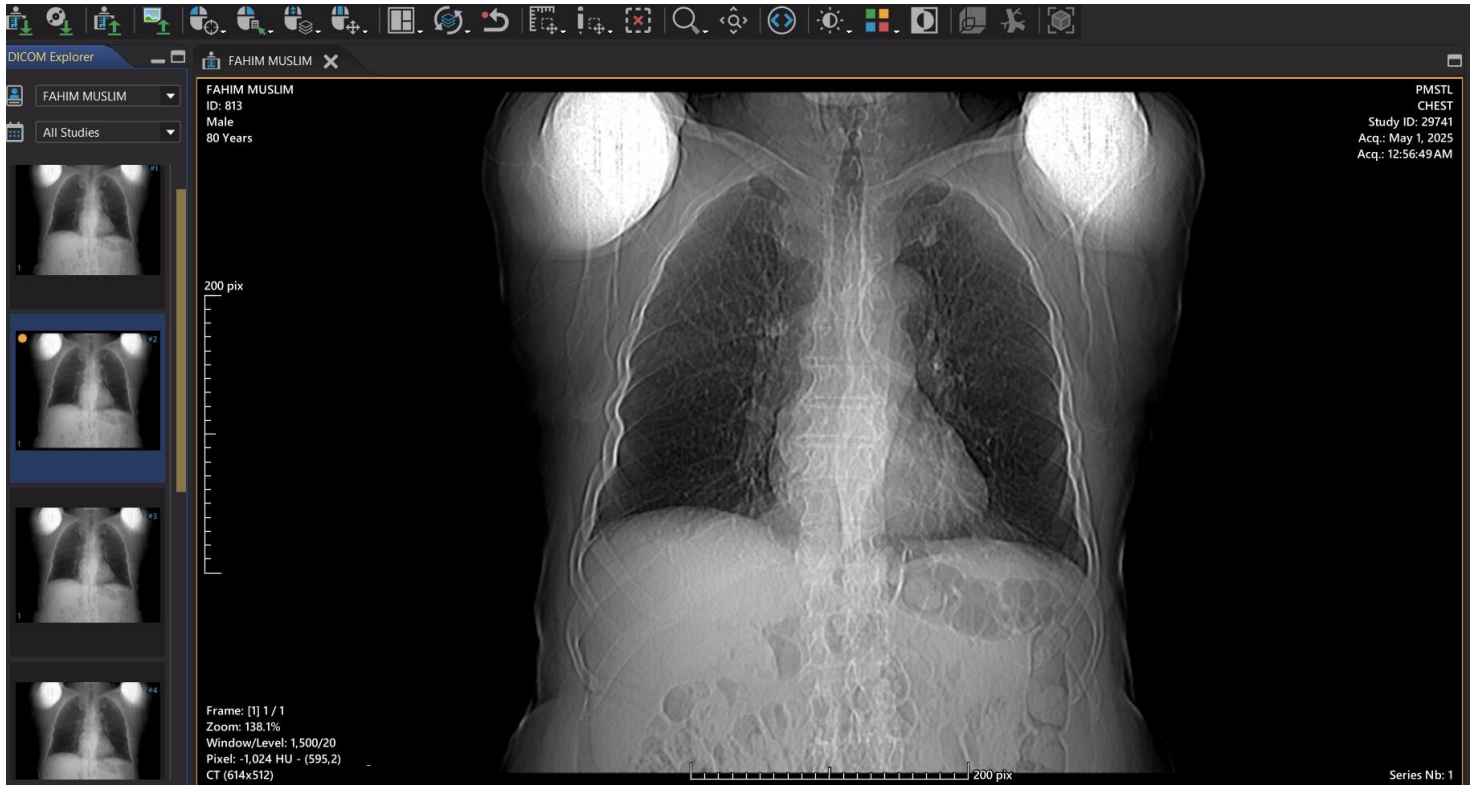
AV Valves
Normal mitral valve there is no regurgitation and stenosis Normal tricuspid valve, there is no regurgitation and stenosis Ventricles: 2 normal, apex forming ventricles with normal function. No significant VSD appreciated

Conotruncus
Normal aortic valve, there is no regurgitation and stenosis. Normal pulmonary valve, there is no regurgitation and stenosis. velocity across aortic valve 73cm/s. velocity across pulmonic valve 70cm/s. Great Vessels: No CoA in the setting of a PDA. Normal in-utero right to left flow across the PDA. Ductal velocity measuring ~ 70cm/sec.

Miscellaneous
No hydrops. Normal ductus venosus flow pattern. 1.1 Limitations: The above findings, its limitation and the general limitation of 2D fetal echocardiogram were explained to the parents. It was mentioned that fetal echocardiogram is not sensitive in

Conclusion
PFO with right to left shunt. Recommendations: send baby after delivery for echo.

Text
Enter text to search
Age = years, Height = cm, Weight = kg, BP = / mmHg. H
Visually estimated EF is %.
AWMI, PPCI to LAD (VD)
AV: Tricommissural with normal mobility and thickness.
Normal thickness and mobility of cardiac valves.
EF by biplane method 50%.
Clinical Indications:
Thickened and domed AML, restricted PML causing severe MS
EF by Simpsons method 50%.
AV: Tricommissural AV with normal mobility and normal thick
Normal thickness and mobility of all other valves.
Normal all other valves.
No LV thrombus seen.
AVA by planimetry cm2 & cm2 by continuity equation.
MVA by planimetry cm2 & cm2 by PHT with PPG & MPG mm
Normal RV (RV basal 4ch diameter mm) with normal systolic f
Intra cardiac leads noted in RA / RV.
Normal size LV with normal systolic function.
Normal size LV with moderate almost generalized systolic dys





LABORATORY

Laboratory management may be operated for multiple labs and collection centers. Being a web based software on the basis of various predefined parameters, the software controls timings and dissemination of collected samples to nearest or predefined lab. Sample management after test booking and sample collection is controlled through a virtual Sample Management Department (SMD). At the time of test booking, the quantity of sample and tube with distinct color is determined by system. Once samples are received at SMD, based on predefined parameters system allocates samples depending on test(s) as to which lab sample shall go to run. If rider has to dispatch the sample to allocated lab then time of sample received by rider and sample received at lab is recorded to maintain efficiency. System also considers nearest lab and facility of the test to run for each lab. In case of sample collection locations also, sample after collection is received at SMD to be decided by system as where the collected sample shall be sent for running the test. Lab working hours is also considered with definition of urgent and normal test. Workload and time lag is also intrinsic part of this software. Patients may also forward request for test(s) through a web portal. These requests when authenticated, the rider (lab person) goes for sample collection and again the sample is received at SMD for onward decision by system followed by required processes. Payment receipt against test(s) may also be received either at a lab or collection point, where sample is received. While when test is done for indoor patient, its charges are automatically updated in patient bill. System generates cash collection and credit report for tests done at laboratory. This also has a concept of batch close and handing over of available cash to the cashier of the hospital (or lab/collection point) or handing over to the next user joining in new shift. Based on cash collection a cash receipt voucher is also automatically generated updating respective heads maintained through financial accounts.

Upon completing results for tests, following a workflow results are checked and approved. After approval of results, reports are printed and simultaneously uploaded on the web portal. Patients can also view their lab reports through web portal using provided ID and password.

Key Features of an Integrated LIS:

1. Sample Tracking & Workflow Automation
 - Barcode/RFID tracking for specimens.
 - Automated routing of tests to appropriate analyzers.
 - Real-time status updates (e.g., "in progress," "completed").
2. Interoperability & Integration
 - EHR/HIS Integration: Seamless sharing of lab results with clinicians.
 - HL7/FHIR Compliance: Standardized data exchange with other systems.
 - Bidirectional Instrument Interfaces: Direct communication with lab analyzers (e.g., Roche, Siemens, Abbott).
3. Data Management & Reporting
 - Centralized database for all lab test results.
 - Customizable report generation (PDF, electronic delivery).
 - Support for LOINC and SNOMED CT coding standards.
4. Quality Control & Compliance
 - CLIA, CAP, HIPAA compliance tools.
 - Audit trails for regulatory requirements.
 - Automated QC (Quality Control) monitoring.
5. Advanced Analytics & AI
 - Trend analysis for patient results.
 - AI-driven flagging of abnormal results.

Laboratory Worklist										
Drag a column here to group by this column.										
☐ Done	Invoice	MRNo	FullName	Gender	Age	ServiceName	Dept	Facility	RequisitionNo	
☐	Contains:	Contains:	Contains:	Cont...	Contains:	Contains:	C...	Con...	Contains:	
☐	INV-54202403160158	202403130461	RAZIA BIBI	Female	65Y 0M 1D	Calcium		General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	PT (Prothrombine Time)	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	CBC Profile	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	HS C-TROPONIN I	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	Creatinine	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	UREA	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	Electrolytes	ER	General		
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	CBC Profile	ER	General	REQ-44202403160084	
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	HS C-TROPONIN I	ER	General	REQ-44202403160084	
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	Creatinine	ER	General	REQ-44202403160084	
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	Electrolytes	ER	General	REQ-44202403160084	
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	UREA	ER	General	REQ-44202403160084	
☐	INV-09202403160156	202401190077	FATIMA BIBI ASIF	Female	56Y 1M 26D	PT (Prothrombine Time)	ER	General	REQ-44202403160084	
☐	INV-09202403160154	202403150659	HAMEEDA BANO HABIB	Female	65Y 0M 2D	PT (Prothrombine Time)	ER	General		
☐	INV-09202403160154	202403150659	HAMEEDA BANO HABIB	Female	65Y 0M 2D	CBC Profile	ER	General		

Test Binding

Save

Update

Delete

Clear

ID

488

Search

Test

Lab Department

Parameter

Please Select an Option

Gender

Please Select an

Unit

Please Select an Option

AgeType

Please Select an

From

To

Order

Min

Max

Panic Value

Ref Ranges

Remarks

☐ Copy All Ranges in All Age Types
 ☒ Is Active
 ☒ Is Group Test

Add to Grid

Update to Grid

Drag a column here to group by this column.

	Test / Parameter	Gender	Ranges	Min	Max	LabUnit	From	To	AgeIn	PanicValue	Remarks	OrderNo	☒ Active
→	25 H Vitamin D Total	Male	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	365	Day(s)	30.00		0	☒
	25 H Vitamin D Total	Female	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	365	Day(s)	30.00		0	☒
	25 H Vitamin D Total	Male	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	11	Month(s)	30.00		0	☒
	25 H Vitamin D Total	Female	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	11	Month(s)	30.00		0	☒
	25 H Vitamin D Total	Male	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	120	Year(s)	30.00		0	☒
	25 H Vitamin D Total	Female	Deficiency <20 Insu...	0.00	0.00	ng/ml	1	120	Year(s)	30.00		0	☒
	Albumin	Male	3.5 - 5.2	0.00	0.00	g/dL	1	365	Day(s)			0	☒
	Albumin	Female	3.5 - 5.2	0.00	0.00	g/dL	1	365	Day(s)			0	☒
	Albumin	Male	3.5 - 5.2	0.00	0.00	g/dL	1	11	Month(s)			0	☒
	Albumin	Female	3.5 - 5.2	0.00	0.00	g/dL	1	11	Month(s)			0	☒
	Albumin	Male	3.5 - 5.2	0.00	0.00	g/dL	1	120	Year(s)			0	☒
	Albumin	Female	3.5 - 5.2	0.00	0.00	g/dL	1	120	Year(s)			0	☒
	Alkaline Phosphatase	Female	46 - 116	0.00	0.00	U/L	1	120	Year(s)			0	☒

Test Tracking Screen

Invoice No

INV-09202412170006

MR No

202411070002

Test Tracking Screen

Thursday, August 1, 2024

Refresh

Drag a column here to group by this column.

	MRNo	PatientName	InvoiceNo	TestName	FatherName	Gender	Age	InvoiceDate	SampleReceivedOn	ResultEnteredOn	Location
Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Co... ▼	Contains: ▼	Equals: ▼	Equals: ▼	Equals: ▼	Con... ▼
	202411070002	شايان حيدر علي	INV-10202503160003	CBC Profile	حيدر	Male	28Y 1M 9D	3/16/2025 10:46:0...			OPD
	202411070002	شايان حيدر علي	INV-09202412170006	CBC Profile	حيدر	Male	28Y 1M 9D	12/17/2024 1:44:4...	12/17/2024 1:46:0...	12/17/2024 1:47:1...	IPD
	202411070002	شايان حيدر علي	INV-09202412170005	CBC Profile	حيدر	Male	28Y 1M 9D	12/17/2024 1:41:4...			IPD
▶	202411070002	شايان حيدر علي	INV-10202412170003	CBC ESR	حيدر	Male	28Y 1M 10D	12/17/2024 12:27:...	12/17/2024 12:30:...	12/17/2024 1:42:2...	OPD
	202411070002	شايان حيدر علي	INV-10202412110002	CBC ESR	حيدر	Male	28Y 1M 4D	12/11/2024 12:55:...			OPD

Step 1
Barcode Generated

Step 2
Sample Received

Step 3
Result Enter by Technologist

Step 4
Send for Consultant Approval

Step 5
Approved By Consultant

Barcode Generated Against
Invoice on:
12/17/2024 12:28:48 PM

Sample Received in Lab On:
12/17/2024 12:30:02 PM

Result Enter in Lab
12/17/2024 1:42:26 PM

Waiting for Consultant
Approval



ER

Patient at ER if new is allotted M.R. No. after that ER Registration takes place. Services or medicines are provided on the basis of electronic requisitions along with the services which are provided at ER directly. Upon discharge patient may be given a bill and payment is received or may be transferred as Indoor Patient. In case of admission as indoor patient, the profile with cost and charges incurred at ER is also transferred in his/her bill database as indoor patient.

Integrated HIS for Emergency Departments: Key Components

A seamless ED system integrates **patient tracking, clinical workflows, diagnostics, and billing** into one platform.

◆ Core Modules of an ED-Integrated HIS

1. **ED Patient Management (Tracking Board)**
 - Real-time dashboard of all ED patients (e.g., **triage status, bed assignment, wait times**).
 - *Integration:* Syncs with **EHR, registration systems, and bed management**.
2. **Triage & Clinical Documentation**
 - **ESI (Emergency Severity Index)** automation for prioritization.
 - Voice-to-text or templated notes for fast documentation.
3. **Order Entry (CPOE) & Diagnostics**
 - Lab orders (LIS), imaging orders (RIS), and pharmacy requests (Pharmacy IS) sent instantly.
 - *Example:* MD orders a "STAT CT Head" → RIS schedules it → PACS receives images → Radiologist reads.
4. **Results Integration**
 - **LIS** (Lab results), **RIS** (Radiology reports), and **Pharmacy** (med alerts) feed into ED workflows.
 - Critical results trigger **alerts** (e.g., "Critical Troponin → STEMI Alert").
5. **Discharge & Referral Management**
 - Auto-generates discharge summaries for EHR.
 - Referrals to specialists (e.g., cardiology for chest pain) tracked in the system.
6. **Billing & Compliance**
 - Auto-codes **CPT (e.g., 99281-99285 for ED visits)** and **ICD-10 (e.g., S72.0 for hip fracture)**.
 - Ensures EMTALA compliance.

OPD

Similar to IPD or ER, if patient comes in contact first time an M.R. No. is generated otherwise his/her profile is retrieved electronically on the basis of already allotted M.R. No. Upon registration an OPD Registration No. is given to the patient with automatic determination of consulting charges and generation of payment receipt. Simultaneously OPD slip is also printed to be taken to doctor/consultant for due recoding of advice, medicines, lab and radiology. This data may also be input by the doctor or may be done later by OPD attendant or nursing staff.

A seamless OPD system integrates **patient scheduling, consultations, diagnostics, prescriptions, and billing** into a unified platform.

◆ Core Modules of an OPD-Integrated HIS

1. **Appointment Scheduling**
 - Online/offline booking with **real-time slot availability**.
 - Automated reminders (SMS/email) to reduce no-shows.
 - *Integration:* Syncs with **EHR, billing, and resource management**.
2. **Electronic Health Records (EHR)**
 - Centralized patient history (e.g., past visits, allergies, chronic conditions).
 - Templates for common OPD

EMR

Through document management, previous (other health facilities/hospitals) prescriptions, lab reports, x-rays etc. can be scanned and tagged with MR No. giving a date wise history of patients diagnosis and treatment Making EMR comprehensive for the patient and giving quick access to information which are critical for patient treatment. This also reduces papers and logistics required for conventional patient file management. Routine nursing notes and patients' treatment progress noted by doctors are also part of EMR.

🏠 Integrated EMR: The Digital Backbone of Healthcare

An Integrated EMR unifies patient data across departments (OPD, IPD, Labs, Pharmacy, Radiology) into a single, accessible record while interfacing with other hospital systems (HIS, LIS, RIS, PACS).

◆ Core Features of an Integrated EMR

Unified Patient Records

Consolidates demographics, allergies, diagnoses, and treatment plans.

Example: A diabetic patient's lab results (LIS), prescriptions (Pharmacy), and radiology reports (RIS) auto-populate in one chart.

Interoperability Modules

System	Integration Benefit
LIS	Lab results (e.g., HbA1c) stream into EMR in real time.
RIS/PACS	Radiology orders + images link to EMR (e.g., X-rays for fractures).
Pharmacy	E-prescriptions with drug-interaction checks.
Billing	Auto-generates claims using CPT/ICD-10 codes from EMR data.

1. Clinical Decision Support (CDS)
 - Alerts for allergies, duplicate orders, or critical results (e.g., low potassium).
 - AI Extensions: Flags sepsis risk based on vitals + labs.
2. Workflow Automation
 - OPD: Online scheduling → auto-reminders → e-prescriptions.
 - IPD: Nurse handoffs + discharge summaries.
3. Patient Portal
 - Patients access records, book appointments, and message providers.



Purchase of medicines, consumables and other items

Purchasing is initiated by generating Purchase Request following pre-defined workflow; Purchase request is approved electronically by respective immediate supervisor and then the Department head to be received electronically at purchase department to initiate purchase Order.

System maintains rate history of individual item and while purchase order is made on The basis of approved purchase request, the current price is applied automatically with option To overrule and give a new price. Purchase Orders are approved also electronically and may Be sent through e-mail using feature of software to supplier/vendor with automatic attachment Of purchase order.

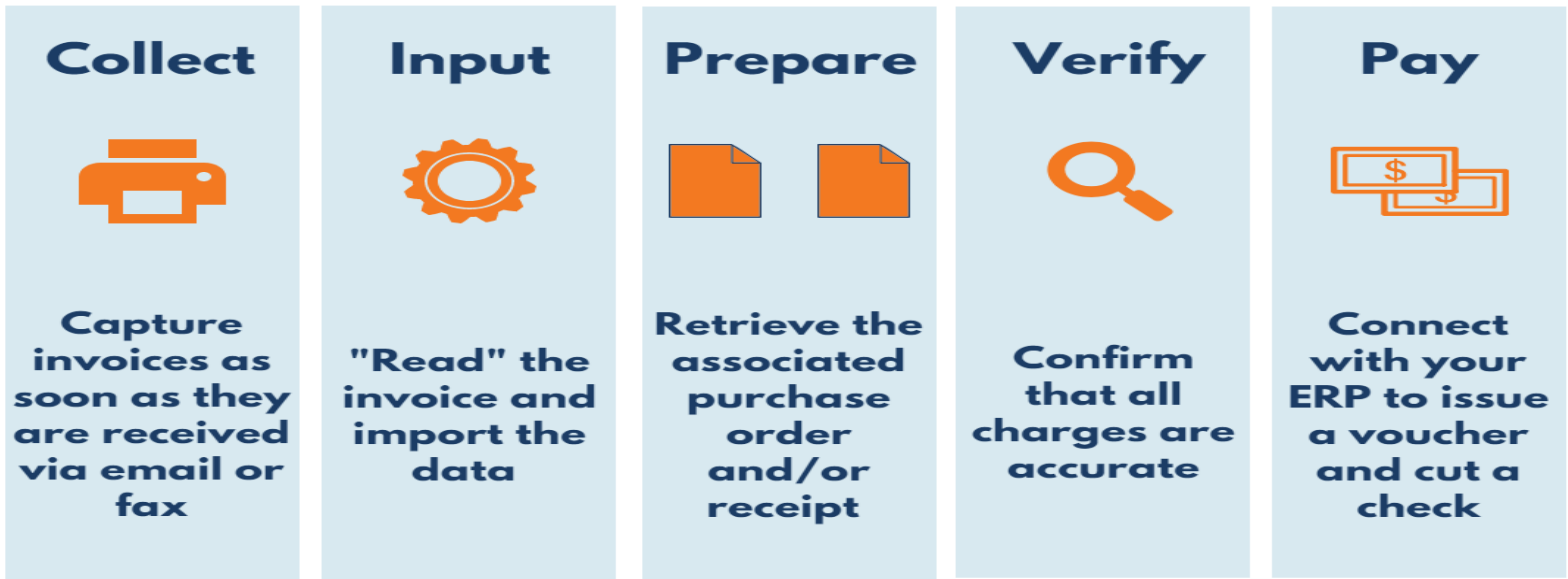
Work Order

Similar to purchase order, work order is also made through system and following electronic approvals may be sent automatically attached with e-mail to the service provider.

Validation of bill received against Purchase Order or Work Order

Validation of bill received against Purchase Order or Work Order Supplier bills are when received, due input like bill no. identifying GRNs against which bill is received is made. System, on the basis of GRN, tracks purchase order confirming rate and other variable to compare with amount of bill received. If tallies, bill is forwarded electronically to audit and upon confirmation of audit is forwarded to accounts with updating cheque writing module enabling user(s) to process payment by issuing cheque.

At this instance, bank payment voucher is automatically generated. While payment is processed withholding tax deduction and advance (if any) adjustment is also made by system without human decision. Same in case of bill received against work order, system checks whether job as per work order has been complete and also compare amount of work order with the amount mentioned in supplier bill. If tallies same processes is followed as in case of purchase order.



Integrated Procurement Module in HIS: Key Features

A procurement module within HIS automates purchasing, vendor management, and inventory reconciliation across:

- Medical supplies (gloves, syringes, implants)
- Pharmaceuticals (drugs, vaccines)
- Equipment (ventilators, MRI coils)
- Consumables (lab reagents, radiology contrast agents)

Core Components of HIS-Integrated Procurement

1. Automated Requisition & Approval Workflow
 - Departmental Requests: Clinics/labs submit digital purchase requests (PRs) via HIS.
 - Approval Chains: Auto-routes PRs based on amount (e.g., >\$5k → CFO approval).
 - Budget Checks: Validates against department budgets in real time.
2. Vendor Management & e-Tendering
 - Supplier Portal: Vendors bid on contracts via HIS-integrated platform.
 - Performance Metrics: Tracks delivery time, defect rates, pricing compliance.
 - Contract Repository: Stores terms, SLAs, and pricing agreements.
3. Purchase Order (PO) Automation
 - Auto-Generated POs: Created from approved PRs; sent to vendors via email/EDI.
- 3-Way Matching: PO ↔ Goods Received Note (GRN) ↔ Invoice (ensures accuracy).
4. Inventory Sync & Demand Forecasting
 - Par-Level Alerts: Auto-generates PRs when stock hits minimum levels.
 - Usage Analytics: Predicts demand based on historical data (e.g., seasonal flu vaccine needs).
5. Integration with Other HIS Modules

Module	Integration Benefit
Inventory	Updates stock levels post-procurement; triggers reorders.
Finance	Syncs invoices with accounting software; ensures accurate accruals.
Pharmacy	Tracks drug procurement expiry dates and batch numbers.
LIS/RIS	Manages reagent/contrast agent orders based on test/scan volumes.

Save

Update

Delete

Clear

PO Number

PO-001-20241115

PO Date

Wednesday, April 30, 2025

Supplier

Add Items from Purchase Requisition

Add Purchase Requisition

Print Report

Payment Term

30 Days

PO Type

Local Purchase

Purchase Head Approval

Audit Department Approval

Goods Received against Purchase Order

✓

✓

✓

Remarks From PR

Remarks

xfsadsadas

☐ Advance
 ☐ Apply Sales Exercise Duty
 ☐ Apply Sales Tax

S.No	Item Code	Item Name	Quantity	Trade Price	GST	Discount	Amount	Retail Price
1	MED-02-05-014-0146	CAPRIL (CAPTOPRIL) 25MG TAB.	0	Rs450.00	0.000	0.000	Rs0.00	Rs529.41
2	MED-02-05-014-066	ASCARD 150MG TAB.	250	Rs400.00	0.000	0.000	Rs100,000.00	Rs470.59
3	MED-02-05-014-580	WARFIN 5MG TAB.	0	Rs390.00	0.000	0.000	Rs0.00	Rs458.82

Total Discount Amount

0.00

Sales Tax Amount

0.00

Advance Paid

0

Total Amount

1295000.00

Freight

0.00

Handling Charges

0.00

Other Charges

0.00

Send Email

Cost Details

Payment Schedule

Save

Update

Delete

Clear

PR No.

PRI-0013-20240315

Supplier

Life Cares

PR Category

Quotation

Get Items from Requisition

Upload Document

View Documents

Document Date.

Friday, March 15, 2024

Document No.

QUOTATION

	Generic Name	Remarks	Item	Req. Qty	Pending Qty.	PR Qty.	Rate	Amount	Last Rate
+	PERIPHERAL BTK BALLOON 25...	QUOTATION - REQUIREMENT FOR PERIPHERAL CASES - Req-006-20240312-Req-004-20240304-Req-004-20240313	BALLOON TRITON BTK 25 X 1...	16	0.00	7	55000.00	385000.00	

Remarks

QUOTATION - REQUIREMENT FOR PERIPHERAL CASES - Req-006-20240312-Req-004-20240304-Req-004-20240313

Total Amount

Rs385,000.00

Step 1

Head of Purchase

Step 2

Audit Department

Step 3

Chairman Purchase Committee

Step 4

Chief Finance Officer

Step 5

Executive Director

Cancel PR



Inventory Management

Apollo has multi location inventory concept; even ward, radiology, lab and back office departments may be defined as inventory location having their stock including location wise stock ledger. Inventory management is comprehensively provided with all best practice based processes and workflow. Inventory module is capable with par level, re-order, maximum and minimum level for each item and can be categorized as medicines, consumable, building maintenance items etc. With inter location transfer Inventory management is also provided with physical stocktaking and adjustment for Short, Excess, Damaged and Scarpred items reflecting in stock status and stock ledgers. All items have provision to be defined with batch and expiry date.

Integrated Inventory Module for HIS: Key Features

A robust inventory system within HIS automates **stock tracking, procurement, and distribution** across:

- **Pharmacy** (medications, vaccines)
- **Medical Supplies** (syringes, gloves, implants)
- **Equipment** (ventilators, infusion pumps)
- **Radiology** (contrast agents, films)
- **Laboratory** (reagents, specimen kits)

Core Components of HIS-Integrated Inventory

1. Real-Time Stock Tracking

- **Barcode/RFID Scanning:** Updates stock levels automatically.
- **Batch/Lot Tracking:** For expiry dates and recalls (critical for vaccines/drugs).
- **Par-Level Alerts:** Auto-generates purchase requests when stock is low.

2. Procurement & Vendor Management

- **Automated Purchase Orders (POs):** Sent to vendors when thresholds are breached.
- **Contract Compliance:** Tenders, pricing agreements, and vendor performance metrics.

3. Department-Specific Workflows

- **Pharmacy:** Tracks narcotics (with audit trails for compliance).
- **Radiology:** Manages contrast media expiry.
- **Lab:** Monitors reagent usage vs. test volumes.

4. Integration with Other HIS Modules

Module	Integration Benefit
EHR/CPOE	Ensures medications ordered are in stock; alerts if substitutes needed.
LIS	Reagent inventory linked to test volumes (e.g., CBC kits vs. daily lab requests).

RIS Tracks contrast media usage per imaging procedure.

Billing Auto-captures inventory charges (e.g., stent used in cath lab → billed to patient).

5. Reporting & Analytics

- **Wastage Reports:** Identifies expired/unused supplies.
- **Cost Analysis:** Tracks spending by department/supplier.
- **Demand Forecasting:** Uses historical data to predict future needs.

Generic Item Requisition

Save Update Delete Clear

Request No. Req-004-20241025 Item Code Click and Press F1 Check Issuance Pending Load Requisition

Sno	Generic Name	UoM	Item Category	Required Qty	Remarks	HOD	HOD Qty
1	ENOXAPARIN SODIUM 40MG INJ.	Pcs	INJECTIONS	10.00		☒	10.00
2	PARACETAMOL 500MG TAB.	Pcs	TABLETS	450.00		☒	450.00

HOD Approved	To Purchase	To Store	ITN Number	ITN Audited	ITN Posted	Pending Issue Qty
☒	☐	☐		☐	☐	

Issuance Pending

Drag a column here to group by this column.

Requisition No.	Generic ID	Generic Name	HOD Qty	Balance Qty	In Store	In Purchase	PR Made	Requisition By
Req-004-20241025	530	ENOXAPARIN SODIUM 40MG INJ.	10.00	10.00	☐	☐	☐	azadar.hussain
Req-002-20241026	856	ASPIRIN 150MG TAB.	10.00	10.00	☐	☐	☐	hyder.ali
Req-002-20241026	809	PARACETAMOL SYRUP	10.00	10.00	☐	☐	☐	hyder.ali
Req-001-20241029	2097	PENCIL	10.00	10.00	☐	☐	☐	urooj.queshi
Req-001-20241014	3	VSD DEVICE 10 WITH DELIVERY SYSTEM	111.00	111.00	☐	☐	☐	monis.8697
Req-002-20241014	12	ASD DEVICE 09 WITH DELIVERY SYSTEM	140.00	140.00	☐	☐	☐	monis.8697
Req-004-20241026	952	FEXOFENADINE 60MG TAB.	400.00	400.00	☐	☐	☐	azadar.hussain
Req-004-20241025	1041	PARACETAMOL 500MG TAB.	450.00	450.00	☐	☐	☐	azadar.hussain
Req-005-20241026	872	BETAMETHASONE TAB.	451.00	451.00	☐	☐	☐	azadar.hussain
Req-002-20241025	530	ENOXAPARIN SODIUM 40MG INJ.	500.00	500.00	☐	☐	☐	azadar.hussain
Req-004-20241026	1007	LOSARTAN POTASSIUM 50MG TAB.	500.00	500.00	☐	☐	☐	azadar.hussain
Req-005-20241026	901	CILOSTAZOLE 100MG TAB.	840.00	840.00	☐	☐	☐	azadar.hussain
Req-003-20241026	2153	COMPUTER SET Core i3	1.00	1.00	☒	☐	☐	hyder.ali
Req-002-20241029	3536	TISSUE HI-JEEN PACKET	10.00	10.00	☒	☐	☐	urooj.queshi
Req-001-20241026	856	ASPIRIN 150MG TAB.	110.00	110.00	☒	☐	☐	hyder.ali
Req-001-20241026	809	PARACETAMOL SYRUP	120.00	120.00	☒	☐	☐	hyder.ali

Goods Receipt Note - GRN

Save

Print

Update

Delete

Clear

PO Number

PO-001-20241115

PO Vise

DC No

dc-001221

GRN Number

GRN-001-20241115

PO Date

Friday, November 15, 2024

GRN is Posted

DC Date

Friday, November 15, 2024

GRN Date

Friday, November 15, 2024

PO Items

Please Select an Option

Add Item

Supplier

Digital Imaging Sytems

Payment Term

30 Days

Req. No

Req-001-20241113

Cost Center

General Pharmacy

Remarks

xfdsadsadas

ItemNo

SNo	Item Code	Item Name	PO Quantity	Barcode	GRN Quantity	Expiry...	Batch...	Lot No.	Rate	Discount %	Gross Amount	PO Balance Qty
1	MED-02-05-014-0146	CAPRIL (CAPTOPRIL) 25MG TAB.	2000		2000	27/11/...	ytd01	ltyp0...	450.000	0.000	900000.000	0
2	MED-02-05-014-066	ASCARD 150MG TAB.	500		250	29/11/...	ytd02	ltyp0...	400.000	0.000	100000.000	250
3	MED-02-05-014-580	WARFIN 5MG TAB.	500		500	05/12/...	ytd03	ltyp0...	390.000	0.000	195000.000	0

Upload Document

View Document

GST Amount

0

Total Amount

Rs1,195,000.00

Bin Card Screen

Department Name

Central Pharmacy

Item Name

PANADOL 500MG TAB.

Display

From Date

Tuesday, October 1, 2024

To Date

Wednesday, April 30, 2025

Print

Item Code	Transfer Type	Document No	To Department	Batch No.	Lot No.	Expiry Date	Trade Rate	Quantity	Balance	Total Stock	TrxDate
Contains:	Contains:	Contains:	Contains:	Contains:	Contains:	Contains:					
MED-02-05-014-410	ITN	ITN-001-20241105		BT-001	LT-001	05/10/2026	15.00	100000	100000	100000	2024-11-05
MED-02-05-014-410	Sale	PHA-26202411060001		BT-001	LT-001	05/10/2026	15.00	-24	99976	99976	2024-11-06
MED-02-05-014-410	Sale	PHA-26202411060002		BT-001	LT-001	05/10/2026	15.00	-9	99967	99967	2024-11-06
MED-02-05-014-410	Sale	PHA-26202411140001		BT-001	LT-001	05/10/2026	15.00	-18	99949	99949	2024-11-14
MED-02-05-014-410	Sale	PHA-26202412180001		BT-001	LT-001	05/10/2026	15.00	-6	99943	99943	2024-12-18
MED-02-05-014-410	Sale	PHA-26202412180002		BT-001	LT-001	05/10/2026	15.00	-60	99883	99883	2024-12-18
MED-02-05-014-410	Sale	PHA-26202502160001		BT-001	LT-001	05/10/2026	15.00	-4	99879	99879	2025-02-16
MED-02-05-014-410	Sale	PHA-26202502270001		BT-001	LT-001	05/10/2026	15.00	-8	99871	99871	2025-02-27
MED-02-05-014-410	ITN	PHA-26202502270001		BT-003	LT-003	05/10/2026	15.00	100	100	99971	2025-02-27
MED-02-05-014-410	Sale	PHA-26202504150001		BT-003	LT-003	05/10/2026	18.00	-8	92	99863	2025-04-15
MED-02-05-014-410	Sale	PHA-26202504150002		BT-003	LT-003	05/10/2026	18.00	-6	86	99857	2025-04-15

Stock Balance

99857

Automatic Application of Cost and Charges in Patient Bills

All cost and charges including bed/room charges and other daily charges are automatically applied in patient bill whenever any transaction related to medicine issuance and diagnostic services, special visits of doctors occurs. Bed or Room charges are also automatically applied on the basis of ward or bed/room where patient is with defined room/bed charges. In case when patient is transferred to any other ward or shifted from bed to room, charges are applied accordingly.

Integrated Patient Billing in HIS: Key Components

A seamless billing system automates charge capture, claims processing, and revenue cycle management (RCM) while interfacing with clinical and administrative systems.

Core Features of an Integrated Billing Module

1. Automated Charge Capture

- Real-Time Posting: Charges auto-generated from:
 - CPOE (e.g., lab tests, radiology orders)
 - EHR documentation (e.g., ICU days, surgical procedures)
 - Medical devices (e.g., ventilator hours, implant scans)
- Example: A CT scan (RIS) → Auto-captures CPT code 70450 + contrast charge.

2. Claims Management & Submission

- Smart Coding: Auto-selects ICD-10 (diagnoses) + CPT/HCPCS (procedures).
- EDI Integration: Submits claims to payers (Medicare, private insurers) via HL7/X12.
- Denial Prevention: Validates insurance eligibility pre-service.

3. Patient Financial Services

- Estimator Tool: Generates out-of-pocket costs upfront (for elective procedures).
- Payment Plans: Integrates with fintech platforms for self-pay.
- Paperless Statements: Sent via patient portal/SMS.

4. Integration with Other HIS Modules

Module	Billing Integration Benefit
EHR/CPOE	Links orders (e.g., medications) to charges.
LIS/RIS	Bills for labs/imaging automatically.
Pharmacy	Captures drug costs (NDC codes).
ADT	Tracks inpatient stays for per-diem billing.

5. Analytics & Reporting

- AR Dashboards: Tracks aging claims, denial rates, and collections.
- Cost vs. Revenue: Compares procedure costs to reimbursements.

Patient Billing

Save Update Delete Clear

First Name Title	Mr.	Uzair	Middle Name	Muhammad	Last Name	Ali
Guardian Name	Son of	Abdullah	Gender	Male	Age	30 Y 1 M 7 D Adult
MR No	202503240001	Date of Birth	Friday, March 24, 1995	OLD MR No		
CNIC	18646-5163163_	Contact No	1684-6316516	Alternate No	6854-165165_	
Admission #	ADM-202503240001	Consultant	RIN JALIL KAZEM AL-HASANI	Facility	General	
Profile	Governorate of Najaf	Adm Type	Medication	Patient Type	Civilian	
Ward	Please Select an Option	Ward Facility	Please Select an Option	Bed	Please Select an Option	

Bill # Click and Press F1 Search Admission # ADM-202503240001 Search Admitted On Monday, March 24, 2025 Bill Type Please Select an Option Report

Summary Ward/Bed Procedures Laboratory Radiology Pharmacy Inward Procedures Hospital Services Physiotherapy Patient Diet Consultant Visits Advance Pharmacy Refund Consumption

Summary

	Charges	Packages Discount		
Ward/ Bed	0.000	0	Procedures	4000.000
Lab	0	0	Advance	0
Radiology	0	0	Account off	0
Pharmacy	0	0	Zakat	0
Inward Procedures	0	0	Discount	0
Physiotherapy	0	0	Consumption Item	0
Diet	0	0	Pharmacy Refund	0
Hospital Services	0	0	Consumption Refund	0
Consultant Visit	0	0	Outstanding/ Refund	-4000.000
			Grand Total	4000.000

In collaboration with
I.R.C.C.S. Policlinico San Donato
Gruppo Eser Conato



بالتعاون مع
مستشفيات سان دوناتو
متعددة الاختصاصات
مجموعه سان دوناتو ميكان- إيطاليا



AL-NAJAF AL-ASHRAF TEACHING HOSPITAL

BILLING STATEMENT

Printed By: shayan.haider

Billing Dept Bill

Print Date: 30/04/2025 Print On: 11:35:57PM

Bill #	IPB-202503180002	Patient	شاهان حيدر علي	CNIC	456245696559
Admission #	ADM-202412110001	Age - Gender	28 Y 1 M 9 D-Male	Admission Date	11/12/2024 2:02:03PM
MRNo	202411070002	Father Name	حيدر	Admission Type	Surgery
Facility	General	Profile	Governorate of Najaf	Bill Date	18/03/2025 8:42:34AM
Patient Type	Govt Services	Ward - Bed #	General Ward-BED-001	Bill Created by	shayan.haider

Particulars	Package	No(s)	Rate	Amount
Bed Charges	0.00			0.00
Procedures	0.00			0.00
Laboratory	0.00			12,000.00
Radiology	0.00			4,000.00
Pharmacy	0.00			141.18
In Ward Procedures	0.00			4,000.00
Physiotherapy	0.00			0.00
Diet	0.00			0.00
Hospital Services	0.00			0.00
Consultant Visit	0.00			0.00
Consumption Items	0.00			0.00
Total Bill Amount				20,141.18
Pharmacy Refund	0.00			0.00
Consumption Refund	0.00			0.00
Total Refunds				0.00
Advance	0.00			10,000.00
Total Advance				10,000.00



Patients' Diet Management

The Patients' Diet Management module integrated with Indoor Patients' and Financial Accounts generates automatic diet request as per defined time for individual indoor patients. While patient is admitted, the Dietician Office determines the diet to be given to patient. The diet for patient is decided having consent of doctor or consultant at the time when patient is admitted. There are various categories of diet like NPO, Soft, Pasty, Liquid, Regular, Diabetic, Cardiac etc. While for each category of diet specific food items are defined like rice, bread, chicken curry, cereals, chocolate milk etc. System maintains available menu for breakfast, brunch, lunch, evening tea, dinner and supper based on type of diet. Diet request as per time is automatically generated and electronically made available at Kitchen. Diet to individual patient is provided with a printed slip detailing individual item. Provision is also available for meals for attendants and guests of the patient, which may be charged in patient bill being a separate G/L head. This module covers diet history of the patient including individual food items given to patient with cost and time of request and time of dispensing to patient.

There is an embedded electronic approval mechanism as per defined work flow for diet request or change in suggested patient diet. This eliminates logistic cost of preparing diet request and forwarding it to Kitchen and other reporting efforts and involved human resource.

Using this module, patient diet chart is always available detailing the diet cost incurred for each patient. Period based reports for diet cost and other variables facilitates in determining one of the cost component of individual patient.



Financial Accounts

Financial Accounts has real-time interfacing with all relevant modules including Indoor Patient Billing, Pharmacy, Purchase, Inventory, Cheque Writing etc. Having a dynamic approach of defining chart of accounts as per user's discretion, where users themselves can define hierarchy either to restrict for two, three, four, five or any level within 13 characters of account code. Giving a diversified format of ledgers, trial balance with drilldown embedded with various parameters makes financial accounts very user friendly. Every created transaction is stamped with user ID, date and time making transaction to be audited at any time. Predefined workflow for audit, approval and posting eliminates erroneous or invalid transactions. Budget for departments, cost centers and sub cost centers gives and extended control over financial transactions including expenses.

Report writer feature as part of Financial Accounts, enables users to define notes and schedule in multiple formats of P/L Statement and Balance Sheet. Financial transaction generating from any module results in generating an automatic voucher (JV or Bank Payment etc.) automatically depending on nature of transaction.

Inter module integration and integration with financial accounts

All transactions occurring in any of the module impacts seamlessly to data of respective modules, achieving automatic update. Journal, Bank/Cash Receipt and Bank/Cash Payment vouchers are also automatically and instantly generated on the basis of transaction occurring through external application or module (like supplier bill receiving, advance payments, IPD/OPD billing, payment receipts, supplier bill payment etc.) to impact data of financial accounts. This facilitates in having up-to-date information i.e. updated ledgers, trial balance and other financial reports on real-time basis.

🔗 Integrated Finance Module for HIS: The Complete Guide

An Integrated Finance Module within a Hospital Information System (HIS) automates accounting, budgeting, and financial reporting while ensuring seamless interoperability with clinical and administrative workflows.

🔑 Core Components of an Integrated Finance Module

1. General Ledger & Accounting

- Automated Journal Entries: Syncs transactions from billing, procurement, and payroll.
- Multi-Dimensional Reporting: Tracks costs by department, project, or funding source.
- Compliance: Supports GAAP, IFRS, and HIPAA financial standards.

2. Budgeting & Cost Control

- Departmental Budgets: Allocates funds to OPD, IPD, Labs, etc.
- Real-Time Variance Analysis: Alerts when spending exceeds budget.
- Forecasting: Uses AI to predict future expenses (e.g., seasonal demand for medicines).

3. Revenue Cycle Management (RCM)

- Claims Processing: Integrates with billing to track payer reimbursements.
- Denial Management: Identifies and appeals underpaid/denied claims.
- Patient Payments: Manages copays, deductibles, and payment plans

4. Procurement & Payables

- Purchase Order (PO) Automation: Syncs with inventory for accurate accruals.
- Vendor Payments: Processes invoices and schedules payments.
- Contract Management: Tracks supplier agreements and pricing terms.

5. Payroll & HR Integration

- Staff Salary Processing: Links to attendance (biometric/RFID systems).
- Benefits & Deductions: Manages taxes, insurance, and retirement contributions.
- Overtime/Leave Tracking: Ensures compliance with labor laws.

6. Financial Analytics & Dashboards

- Profit & Loss (P/L) Statements: By department, service line, or physician.
- Cash Flow Monitoring: Predicts liquidity needs.
 - KPI Tracking:
 - Days in Accounts Receivable (A/R)
 - Operating Margin %
 - Cost per Patient Visit

Cheque Writing

Cheque writing module receives data of processed and audited bill automatically to print cheque (printing is optional). While payment against bill is processed system checks and deducts advance, withholding tax or other deductions, if any, through pre-defined and configured policy of withholding tax. Advance request against Purchase or Work Order are also processed through cheque writing module. This module facilitates in payment of direct bills i.e. those against which there is no purchase order or work order. Through this approach up to date payable with aging is always available. This module is backed with its own comprehensive reports including those to be submitted to FBR.

Master Chart of Accounts

Save Update Delete Clear

- 01 - Total Assets
- 02 - Total Equity
- 03 - Total Liability
- 04 - Total Income
- 05 - Total Expense
 - 05-01 - Fuel Expense
 - 05-02 - Salaries and Wages
 - 05-03 - Utility Expenses
 - 05-04 - Pension
 - 05-05 - Graduatyi
 - 05-06 - Staff Loans
 - 05-010 - Service Charges
 - 05-010 - Miscellaneous Charges
 - 05-09 - Advertisement
 - 05-015 - Repair and Maintainance
 - 05-011 - Software Service Charges
 - 05-012 - Depreciation

Account Definition

Select Company :

Account Description :

☐ Is Transaction Level ☒ Is Active

Parent Account :

Account Type and Nature

Account Nature :

Account Type :

Bank Account Number :

Account Category and Limit

Account Category :

Amount Limit :

Foreign Currency

Currency Code :

Generate Journal Voucher

Save Print Update Clear

Voucher Code : JV001-20241116 Voucher Amount : 300000.00 Voucher Date : 11/16/2024

Pay To : Interex Cheque No : Cheque Date : 1/1/1900

Narration : Amount is being paid to M/s Interex.

GL Type : Asset Account : Press F1 to select GL Code Amount ☐ Debit ☐ Credit

Reference Number : Transaction Narration : Add

Account Code	Account Description	Reference Number	Narration	Debit Amount	Credit Amount
05-013-016-02-...	Repair & Maintenance Expenses - PABX Board	BFS-001-20241116 ...	Interex b-001	300000.00	0.00
03-06-01-01	CREDITORS FOR SUPPLIES	BFS-001-20241116 ...	Interex b-001	0.00	300000.00

Total Amount : Rs300,000.00 Rs300,000.00

Bill From Supplier

Save

Update

Delete

Clear

Supplier

6

ACP SYSTEMS

Bill ID.

Supplier Bill Type:

Normal Bill

Bill No.

188

Bill Date

11/15/2024

Bill Amount

3870000.00

Date

11/16/2024

Remarks

Account :

Press F1 to select GL Code

Purchase Order or Work Order

Click and Press F1

	Pur. Order / Work Order	Amount	GRN	GRN Date	Bill Amount
→	PO-007-20230615	3870000.00	GRN-004-20240119	1/19/2024 10:04:56 AM	Rs 3,870,000.00

Delivery to Account

Revert Back

None

User Remarks about reverting

Total GRN Reversal Amount

0

Gross Amount

3870000.00

Amount with Tax

0

Discount Amount

0.00

Discount %

0.0

Net Amount

3870000.00

HR & Payroll

The HR (Human Resources) Module in a Hospital Information System (HIS) is a specialized software component designed to manage staff-related functions, from recruitment to retirement. It ensures efficient workforce management while complying with healthcare regulations.

- 1. Key Functions of the HR Module
- A. Employee Data Management
- Centralized employee database (doctors, nurses, admin staff)
- Demographic details (contact info, qualifications, licenses)
- Certification tracking (medical licenses, CPR/BLS expiry)
- Document storage (CVs, contracts, performance reviews)
- B. Recruitment & Onboarding
- Job posting & applicant tracking
- Interview scheduling
- Digital onboarding (e-forms, policy acknowledgments)
- Credentialing (background checks, medical board verifications)
- C. Time & Attendance
- Shift scheduling (rotations for nurses, residents)
- Biometric/ID card clock-in systems
- Overtime tracking
- Leave management (sick days, vacations, CME time)
- D. Payroll & Benefits
- Salary processing (including differentials for night shifts)

- Tax compliance
- Benefits administration (health insurance, retirement plans)
- Bonus/incentive tracking (performance-based pay)
- E. Performance Management
- Goal setting & KPIs
- 360-degree feedback
- Competency assessments (clinical skills for medical staff)
- Promotion/disciplinary tracking
- F. Training & Compliance
- Mandatory training (HIPAA, infection control)
- CME (Continuing Medical Education) tracking
- Skill gap analysis
- Certification renewal alerts

Employee Profile

Save Update Delete Clear

Candidate No :

Get Employee :

Personal Information
Employment Status
Qualifications
Employment History
Beneficiary Information
Dependants Information

BASIC INFORMATION

Organization Al Najaf Al Ashraf - PSD

Print Employee Profile
Print Employee Card

Title * Mr. Emp Name M. UZAIR CNIC Number * 65655-6156165-6 Issue Date 3/22/2023

Relation * S/O Father's Name TEST ERP Father/Husband CNIC 17165-1615616-6 Expiry Date 3/22/2027

Gender Male Date of Birth 3/22/1980 Place of Birth KARACHI Marital Status Married

Nationality Pakistan Religion * ISLAM Blood Group AB+

Is Dual National

Select Picture

ADDITIONAL INFORMATION

Primary Contact * 8787-9865515 Secondary Contact 8948-9489448

Present Country IRAQ Province Najaf City NAJAF Present Address H # BDAVV 484 GFCDVDJ5

Permanent Country IRAQ Province Najaf City NAJAF Permanent Address SAME

Domicile * Najaf Domicile City * NAJAF

EMERGENCY CONTACT

Emergency Contact 7878-9498446 Emergency Contact Name TAUSEEF

Relation BROTHER

Master Leave Policy

Save
Update
Delete
Clear

Policy Name
Annual Leaves 2024-25
Leave Policy No :
3

Employee Type
Leave Type
Leave Resets On
Back Year Allowed
1
Minimum Days
0
Maximum Days
0
Total Days
0
No of Attendance
0

Add New Record to Policy

Policy Name	Employee Type	Leave Type	Min Days	Max Days	Total Days	No of Atten...	Back
Annual Leaves...	Permanent	PL	4	20	38	22	20
Annual Leaves...	Contract	PL	4	16	32	22	10
Annual Leaves...	Daily Wages	PL	4	12	20	22	0

Employee Leaves Management

Save
Update
Delete
Clear

Leave Details

Leave Type	Start Date	End Date	Total Days	Remarks
CL	25/12/2024	25/12/2024	1	Testing New 25-12-2024

Employee ID :
8

Select Year :
2025
Leave Type :
Casual Leaves
From Date :
Wednesday, April 30, 20
No of Days :
To Date :
Wednesday, April 30, 2025

EMPLOYEE DETAILS

Employee Name :
Taseef Siddiqui
Job Status :
Active
Designation :
Assistant
Department :
Accounts
Joining Date :
3/22/2023 3:08:40 PM
Location :

Total PL Earned =
0
Total PL Taken =
0
PL Balance =
0
CL Allowed =
20
CL Taken =
0
CL Balance =
20

AL-NAJAF AL-ASHRAF TEACHING HOSPITAL

Employee Attendance Report

Printed On Wednesday, April 30, 2025 11:18 PM

Date 4/30/2025

Employee Name : M. UZAIR
Designation : Network Engineer

Emp Code : 7
Department : Information Technology

Date	Weekday	Shift			Attendance		Total Working	Day Off	Late Coming	Early Going	Absent	Location		Leave Type
		Name	TimeIn	TimeOut	Time In	TimeOut						In	Out	
12/29/2024	Sunday	Day Off	08:00:00	14:00:00				True	0		0			CL
12/30/2024	Monday	General Shift	08:00:00	14:00:00				False	0		0			
12/31/2024	Tuesday	General Shift	08:00:00	14:00:00	08:35 AM	01:00 PM	04:25:00	False	35	60	0	Al Najaf Al Ashraf Teaching	Al Najaf Al Ashraf Teaching	
No of Lates :		1	Total Work Hours :		4.42 / 1		No of Absent :		0		Total Late Coming in Min(s) :		35	
No of Early Going :		1	Total Avg Hrs :		4.42		No of Leaves :		1		Total Early Going in Min(s) :		60	

Interview Evaluation

Save
Update
Delete
Clear

Candidate. No :
Applicant Name :
Position : Please Select an Option
Candidate Evaluation :

Candidate's Understanding of the Position

Relevant Background / Special Skill Set

Overall Evaluation

Professional Impression

Motivation / Initiative

Interviewer's Name :

Interpersonal / Communication Skills

Flexibility

1.

Organizational Fit

Recommendation :

Please Select an Option

Salary BreakUp

Salary Reviews (Bulk)

Upload Salary Review

Salary Review Bulk

Active Payroll Month: June 2022 (01/Jun/2022 - 30/Jun/2022)

Filters

Division

Department

Sub-Department

Location

Region

Shift

Payroll Group

Designation

Grade

Employee Category

Employee Type

Employee Status

Date of Joining

Date of Joining falling between

Date From : Monday, April 21, 2025

Date To : Monday, April 21, 2025

Increment Criteria

Increment Basis*

Increment with effect from*

Monday, April 21, 2025

Remarks

Increment Type*

Amount

Percentage

Salary Filters

Salary Criteria

Operand

Amount

Employee Detail

Employee Information

Division

Department

Sub-Department

Location

Region

Profile Shift

Payroll Group

Designation

Grade

Employee Type

Employee Status

Direct Reporting To

Duty Group

Team

Employee Category

Check All

Uncheck All

Salary Review Information

Division

Department

Sub-Department

Location

Region

Check All

Uncheck All

No data to display

Page 47 of 48

Salary BreakUp
Save Update Delete Clear

Group Information
Grade
Emp Category
Emp Type
Currency

Salary Breakup Calculation Factors

☐ Calculate 'Basic Salary' on the basis of 'Gross Salary'
☐ Calculate 'Gross Salary' on the basis of 'Basic Salary'

Basic salary will be calculated by dividing Gross Salary with (Basic Factor) _____ (but if earnings are defined with a fixed amount, then such amount will be subtracted from Gross Salary. The remaining amount will then be divided by the entered 'Basic Factor' for calculating Basic Salary on the form of Employee Salary)

Earnings
Name
Amount
Percentage of Basic
Is Active
Add

Deductions
Name
Amount
Percentage of Basic
Is Active
Add

Note: Please do not add 'Overtime', 'PF', 'Tax', or any other Earnings or Deductions in the above grid which are to be deducted due to entitlements that you select below.

Regularity Allowance
☐ Regularity Allowance

Regularity Allowance Policy (Payroll Month Wise)

Rate Per Day ☐ From Payroll Policy ☐ Fixed Rate

Absents (Equal to)	Leaves (Equal to)	Late-In (Equal to)	Early-Out (Equal to)	Days to be Paid

☐ Late-in / Early-out policy is applicable on 'Working Days'
☐ Late-in / Early-out policy is applicable on 'Off Days'
☐ Late-in / Early-out policy is applicable on 'Holidays'

Shift Allowance
☐ Shift Allowance

Absents (Equal to)	Leaves (Equal to)	Late-In (Equal to)	Early-Out (Equal to)	Days to be Paid

☐ Policy is applicable on 'Working Days'
☐ Policy is applicable on 'Off Days'
☐ Policy is applicable on 'Holidays'

Note: Allowance will be given against those days where employee's attendance status is 'Present'

Entitlements

Note: Night Shift Allowance approval will be applicable for business days only.

☐ Fuel Allowance (Per Month) _____ Liters
☐ CNG Allowance (Per Month) _____ KGs

☐ Night Shift Allowance (Per Day) _____ Amount
☐ Leave Fare Allowance (LFA)

☐ PF Member
☐ EOBI Member
☐ Pension Member

Extra Compensation Allowance

Note: Extra Compensation Eligibility is based on the configuration done on Shift Setup.

☐ Extra Compensation Allowance

Rate Per Day ☐ From Payroll Policy ☐ Fixed Rate

Extra Compensation (Per Hour) _____

Overtime / Ex-Gratia Allowance

Note: Extra Compensation Eligibility is based on the configuration done on Shift Setup.

☐ Overtime Allowance
☐ Ex-Gratia Allowance

Ex-Gratia Allowance

Ex-Gratia Calculation ☐ Per Day ☐ Per Hour

Rate (Per Day) ☐ From Payroll Policy ☐ Fixed Rate

Working Day (Per Day) _____ Holiday (Per Day) _____ Off Day (Per Day) _____

Punctuality Allowance

☐ Punctuality Allowance

Punctuality Allowance Policy (Payroll Month Wise)

Rate Per Day ☐ From Payroll Policy ☐ Fixed Rate

Absents (Equal to)	Leaves (Equal to)	Late-In (Equal to)	Early-Out (Equal to)	Days to be Paid

☐ Late-in / Early-out policy is applicable on 'Working Days'
☐ Late-in / Early-out policy is applicable on 'Off Days'
☐ Late-in / Early-out policy is applicable on 'Holidays'

Heads Master
Save Update Clear

Head Name
Sequence No
Head Description
Head Section
Please Select an Option
☐ Show on Payslip
☐ Taxable
☐ Deduction

Drag a column here to group by this column.

Head Name	Head Description	Seq No	Head Section	Show on Pays...	Taxable	Deduc...
House Rent	House Rent 25% for all e...	1	Earnings	☒	☒	False
Income Tax	Income Tax according to...	2	Deductions	☒	☐	True