TenaEHR Ethiopia

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OpenMRS O3

EMR System

USER MANUAL

Complete Guide to System Modules & Workflow

Version	2.0
Prepared for	
Prepared by	
Date	August 2026
Classification	Internal / Operational

ጤና ሚኒስቴር - ኢትዮጵያ
MINISTRY OF HEALTH - ETHIOPIA
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1. User Login & Location Selection

This section describes how all users log into the OpenMRS O3 EMR system and select their working location before accessing the homepage.

1.1 Overview

Logging into the EMR is the first step before accessing any clinical or administrative functions. Each user must authenticate using their assigned username and password, then select a working location before entering the system.

The available login locations are based on the user's assigned role. Only locations authorized by the System Administrator are displayed.

The selected location identifies where the user is working during the current session and determines where activities performed in the EMR are recorded.

1.2 Prerequisites

- User account created by the System Administrator
- Username and password issued
- Role assigned with at least one location

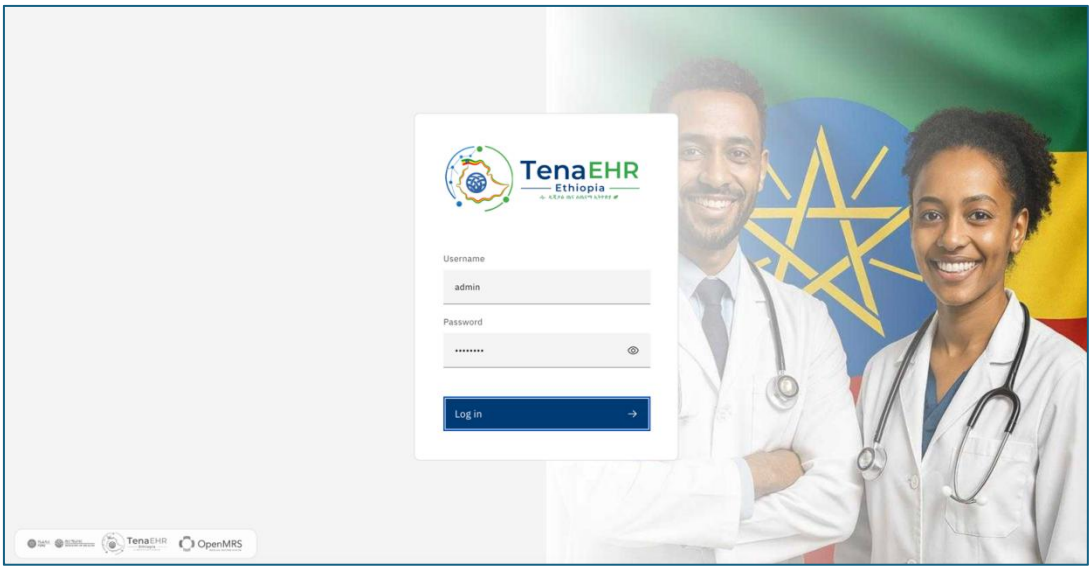
1.3 Step-by-Step Instructions

Step 1 – Open the EMR Login Page

1. Open a supported web browser (Google Chrome recommended).
2. Navigate to the facility's EMR URL provided by your IT department.
3. The Login screen is displayed

Step 2 – Enter Credentials

1. Type your Username in the Username field.
2. Type your Password in the Password field.
3. Click the Log In button.

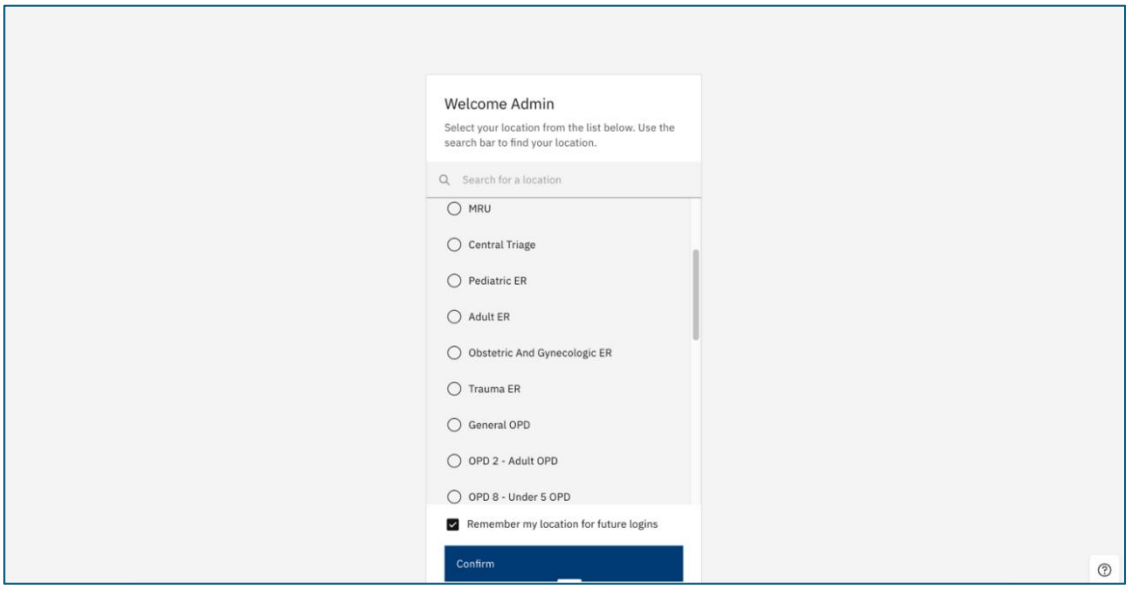


EMR Log-in page

TIP If you have forgotten your password, contact your System Administrator. Do not share your password with anyone.

Step 3 – Select Login Location

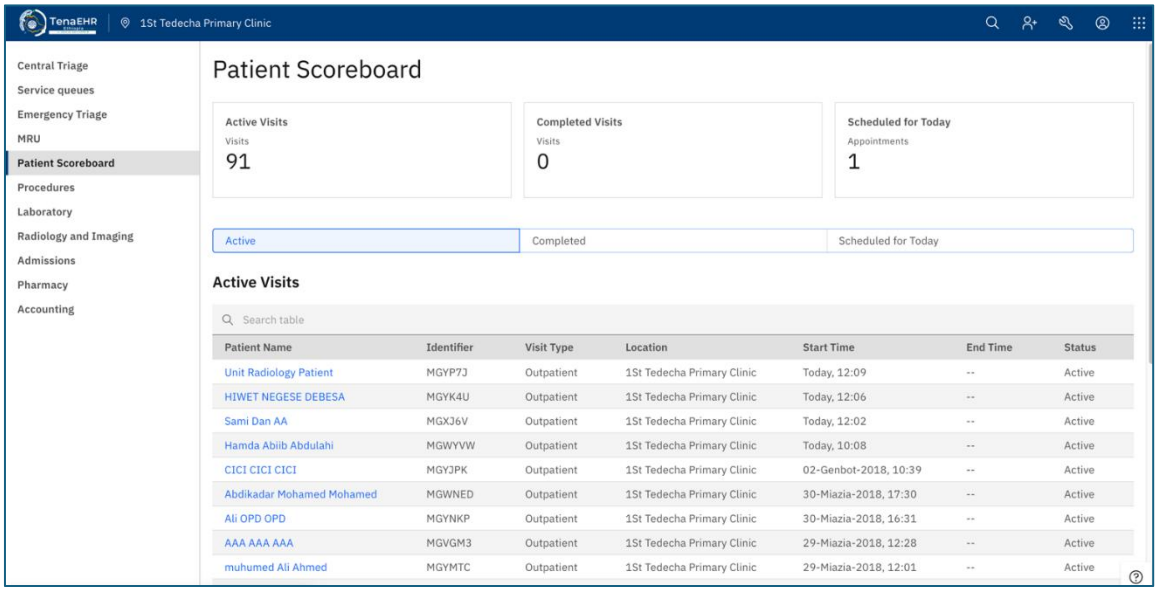
1. After successful authentication, the Select Location screen appears.
2. A list of locations assigned to your role is displayed.
3. Click the location where you are working today.
4. Click Confirm / Log In to proceed.



Log-in selection pop-up page

Step 4 – EMR Homepage

1. The EMR homepage loads, showing modules and menus relevant to your role.



EMR Homepage

1.4 Troubleshooting

Invalid credentials	Check Caps Lock. Try again. Contact Admin if locked out.
No locations shown	Your account has no locations assigned. Contact System Admin.
Page does not load	Check network connection or contact IT support.
Session expired	Sessions expire after 15 minutes of inactivity. Log in again.

2. Patient Identification & Registration

This module covers the identification of returning patients and the registration of new patients at the triage station. The triage personnel determine whether the patient already exists in the system, retrieves existing records, or registers new patients by retrieving demographic information from the Master Patient Index (MPI).

Purpose

The Patient Identification & Registration module enables healthcare workers to accurately identify patients, retrieve existing medical records, or register new patients before triage assessment and clinical care. Integration with the Master Patient Index (MPI) minimizes duplicate records and ensures demographic information is standardized across the health system.

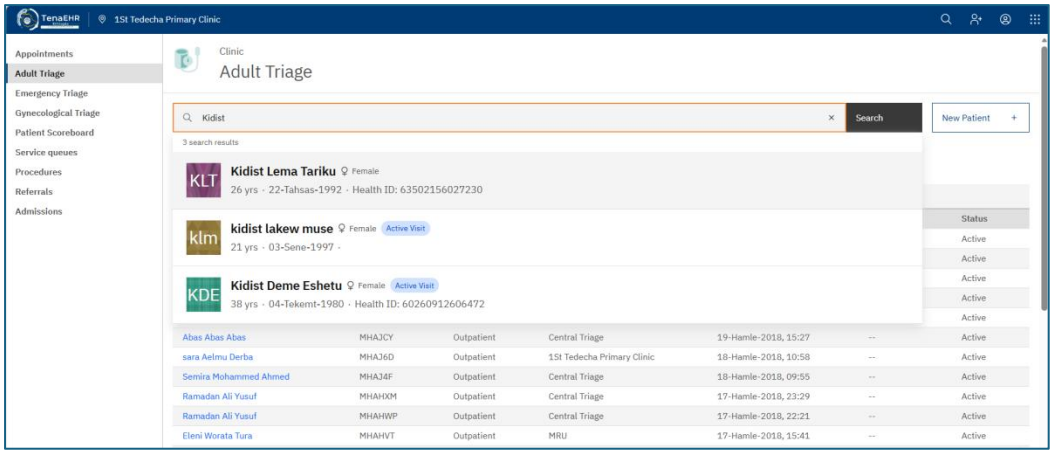
Workflow

Patient Arrives → Search Existing Patient → Existing Patient Retrieved OR New Patient Registered via MPI → Proceed to Triage Assessment

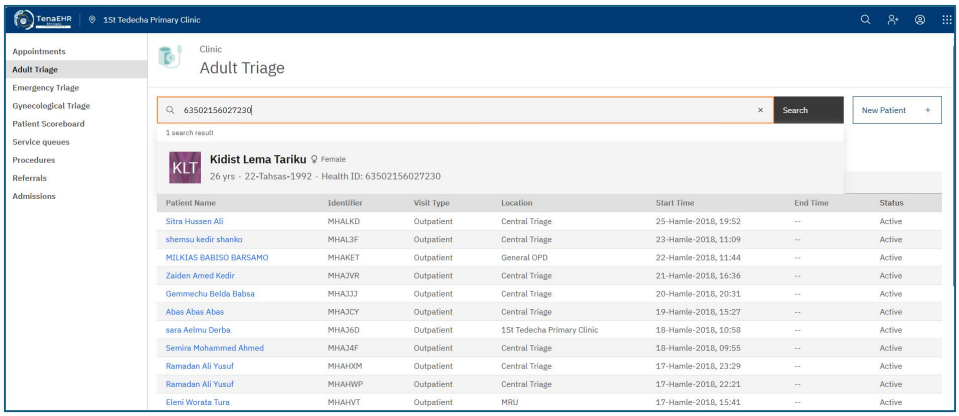
2.1 Identifying a Returning Patient – Search & Verify

Step 1 – Search for Existing Patient

1. From the Triage homepage, locate the patient search field.
2. Enter the patient's Health ID, Phone Number, or Name.
3. Click Search.

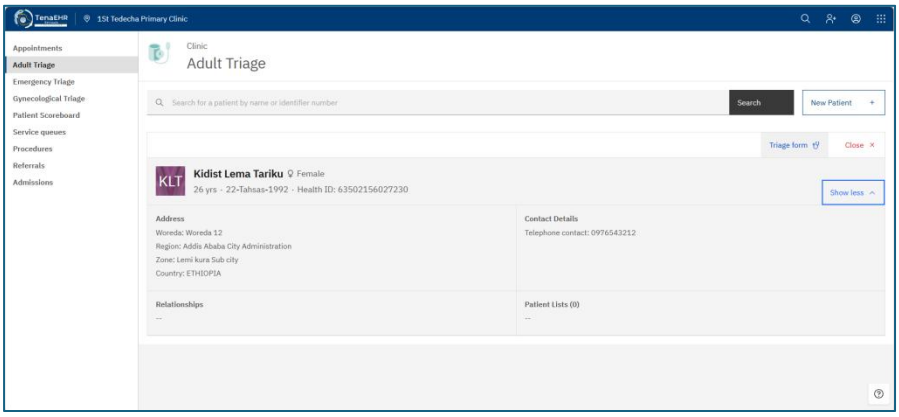


Searching for a patient by Name



Searching for a patient by Health ID

4. If the patient record is found, their name appears in the results list.
5. Click the patient's name to view their record.



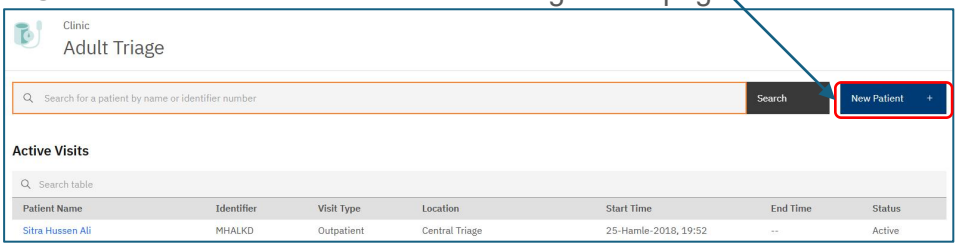
Patients record after finding the name in the search bar and clicking on the name

> **TIP** If the patient's name **does not** appear, or are a new patient to the facility, Proceed to Section 2.2.

2.2 New Patient – Registration via MPI

Step 1 – Initiate New Patient Registration

1. Click the New Patient button on the Triage homepage.

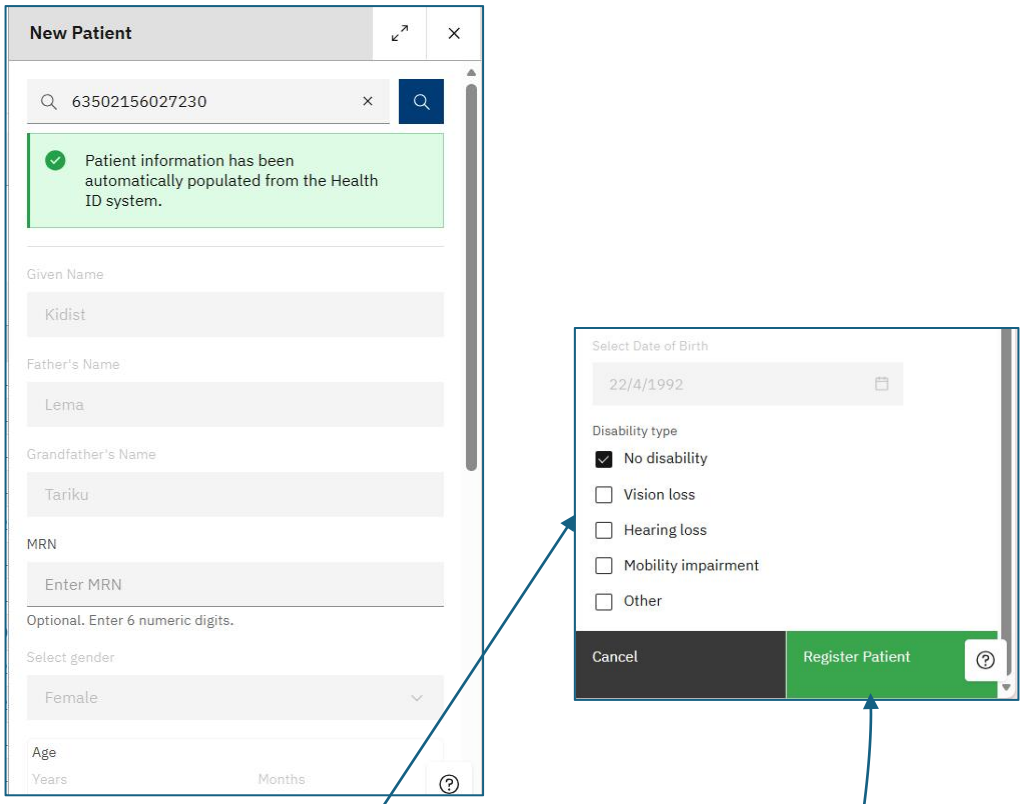


Adult Triage Homepage

2. Enter the patient's Health ID in the search text box.
3. Click Search.

Step 2 – MPI Data Population

1. The system queries the integrated Master Patient Index (MPI).
2. Within a few seconds, the following fields are automatically populated:
   - Given Name, Father's Name, Grandfather's Name
   - Gender and Date of Birth
   - Full Address (Region, Zone, Woreda, Kebele, House Number)
   - Phone Number and Email Address
3. Review the populated information for accuracy.



New Patient Registration Form

Step 3 – Disability Status

1. Review the Disability Status section.
2. If the patient has a disability, tick the appropriate checkbox(es).

Step 4 – Complete Registration

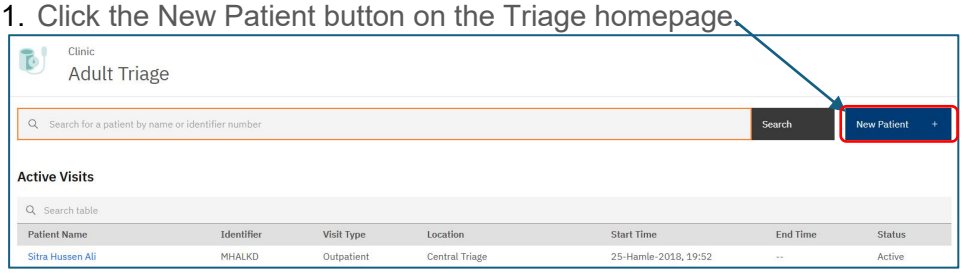
1. Click Register Patient to save the record and assign an MRN and OpenMRS ID.
2. Click Cancel to discard all entries and return to the Triage homepage.

2.3 New Patient – Manual Patient Registration

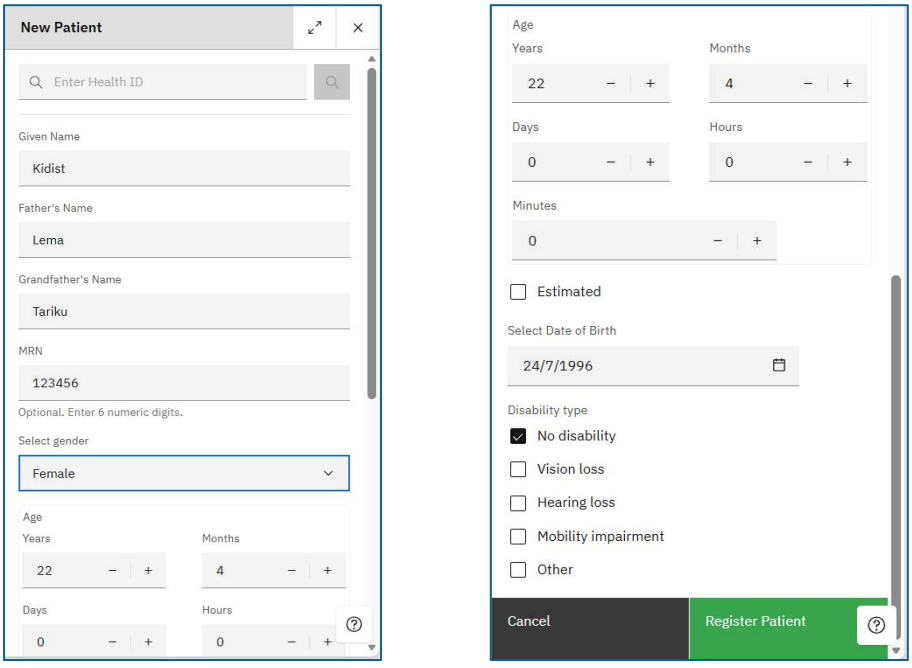
Registration using a Health ID is the preferred method, as it retrieves verified demographic information from the Master Patient Index (MPI) and helps prevent duplicate patient records. However, If a patient does not have a Health ID, the patient may be registered manually by entering the required demographic information in accordance with the facility's registration policy.

Step 1 – Initiate New Patient Registration

1. Click the New Patient button on the Triage homepage.



2. Manually enter enter the required demographic information in the spaces provided with accuracy.
3. Review information and click on Register patient to complete registration process.



Manually registering a new patient

> **TIP** After clicking Register Patient, the Triage Assessment form launches automatically.

3. Triage Assessment & Queue Assignment

Purpose

The Triage module is used to perform the patient's initial clinical assessment after registration. During triage, authorized users record vital signs and other relevant clinical information based on the patient's category. Once the assessment is completed, the patient is assigned to the appropriate service queue for further care.

Workflow

After patient registration, the Triage Nurse completes the clinical assessment and assigns the patient to the appropriate service queue.

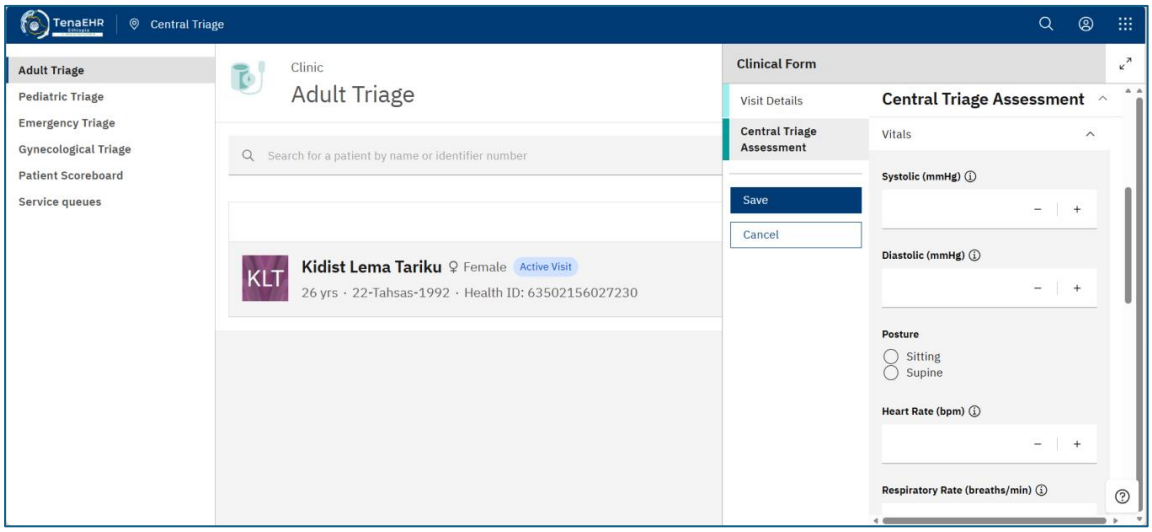
Patient Registration → Triage Assessment → Save Assessment → Add Patient to Queue → Service Queue

3.1 Triage Assessment Form

Step 1 – Form Auto-Launch

1. The Triage Assessment Form launches automatically after patient registration.
2. The form type depends on the patient category:

Adult Triage	Standard Adult Triage Assessment Form based on the national clinical guideline.
Pediatric Triage	Pediatric Triage Assessment Form based on the national clinical guideline.
Gynecology and Obstetrics Triage	Gynecology and Obstetrics Triage Assessment Form based on the national clinical guideline.
Emergency Triage	Emergency Triage Assessment Form based on the national clinical guideline.
PsychiatricTriage	Psychiatric Triage Assessment Form based on the national clinical guideline.



Central Triage Assessment Form

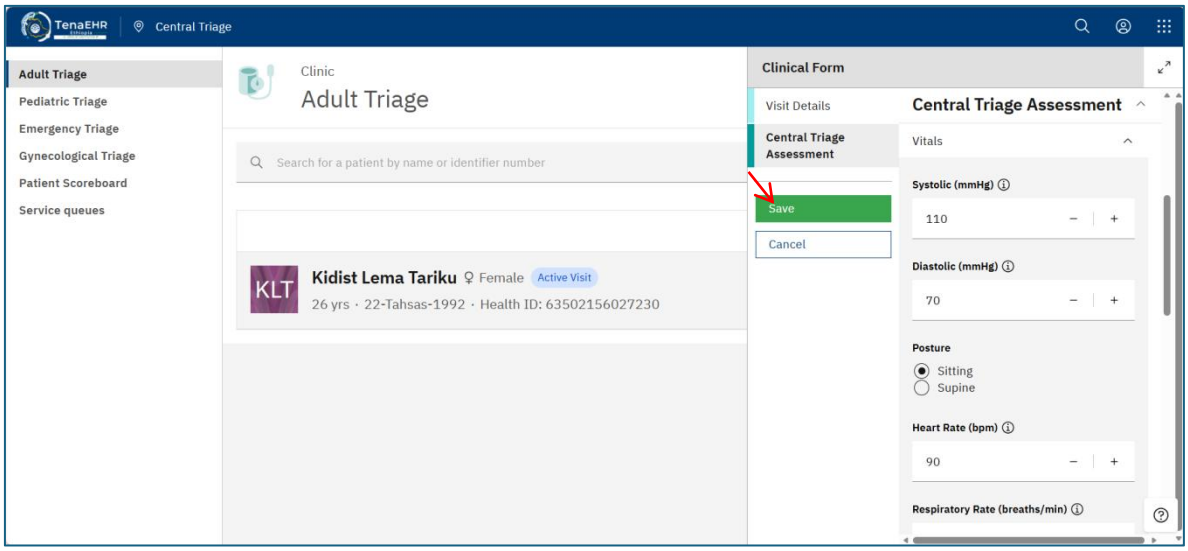
Step 2 – Enter Vital Signs

1. Enter all required vital signs and assessment information.
2. Verify that the recorded values are accurate before saving.
3. Complete any additional fields specific to the selected patient category.

Step 3 – Save or Cancel

1. Click Save to record the assessment.
2. Click Cancel to discard entries and return to the Triage homepage.

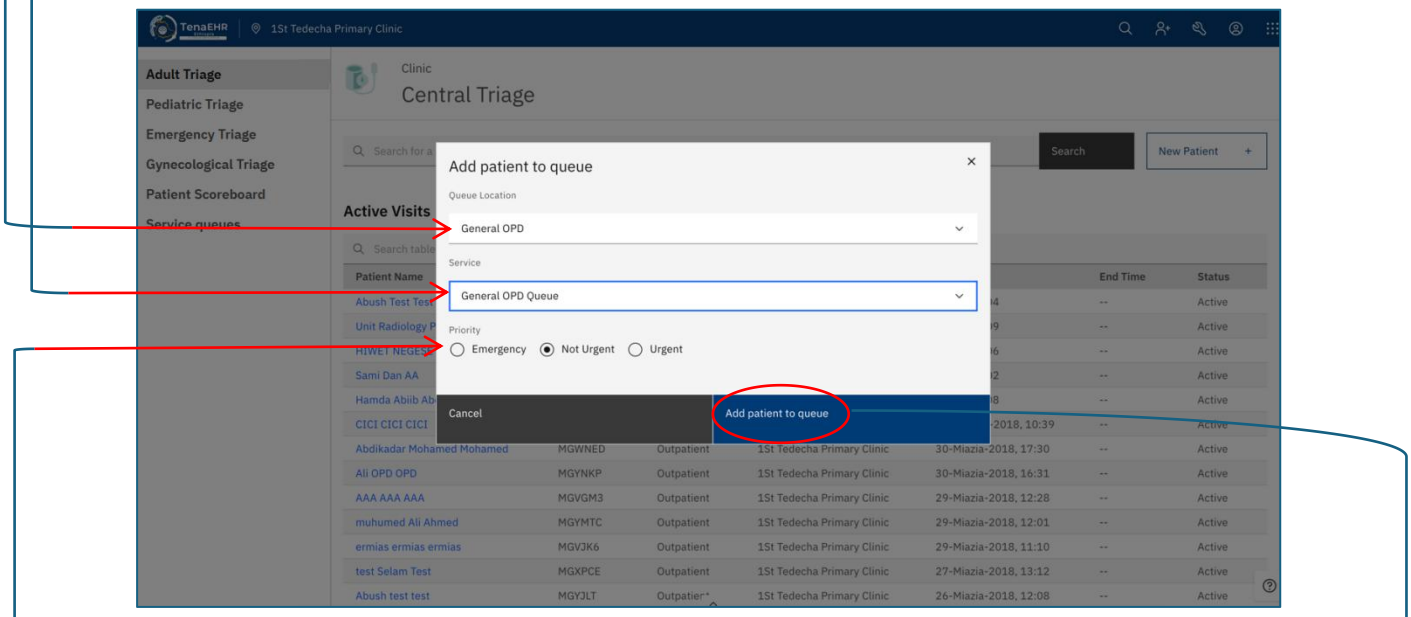
> **TIP** Once saved, the assessment is stored in the patient's chart. The 'Add Patient to Queue' modal appears automatically.



3.2 Queue Assignment

Step 1 – Add Patient to Queue Modal

1. After saving the triage form, the Add Patient to Queue modal appears.
2. Select the Queue Location (the service area where the patient will wait).
3. Select the Service (the clinical service the patient requires).



Queue assignment pop-up page

Step 2 – Set Priority

1. Choose the patient's priority level:

Emergency	Life-threatening conditions requiring immediate attention (Patient needs to go to the emergency department for evaluation).
Urgent	Acute conditions needing prompt attention but not immediately life-threatening.
Not Urgent	Routine consultations, follow-up visits, and check-ups.

Step 3 – Confirm Queue Assignment

1. Click Add Patient to Queue to place the patient in the selected queue.
2. Click Cancel to return to the triage homepage without queuing the patient.

> **TIP** A patient can be added to the queue later from the Service Queue module if not queued at triage.

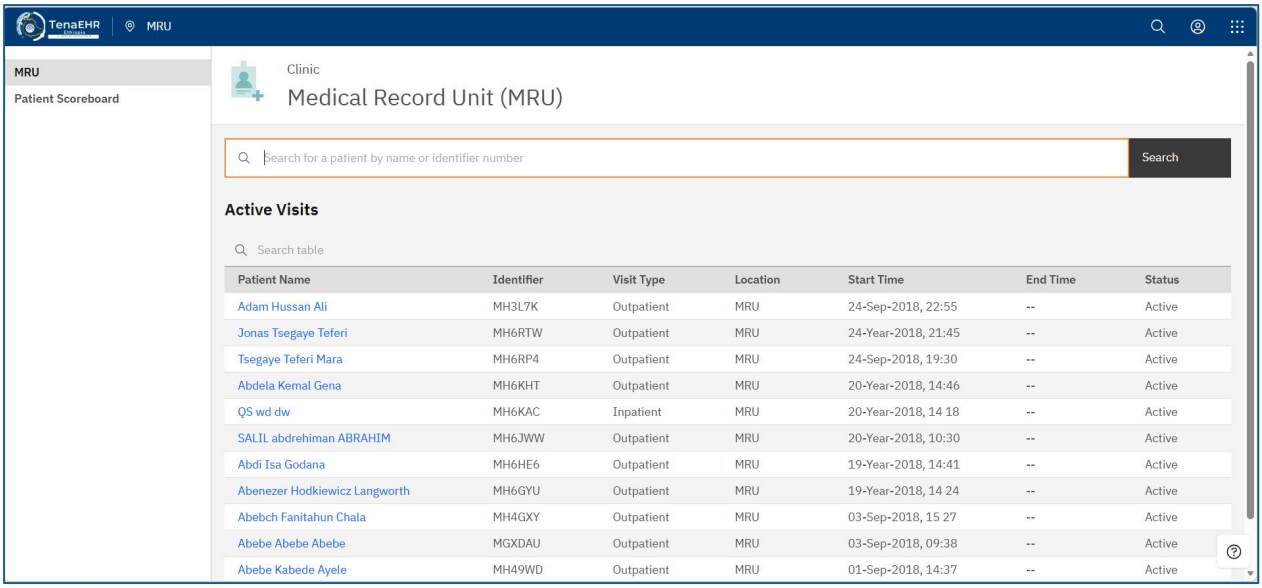
4. Medical Record Unit (MRU)

Purpose

The Medical Records Unit (MRU) verifies patient records after triage, records additional information, configures billing for the current visit, and creates the initial consultation bill before the patient proceeds to the cashier/ accounting unit.

Workflow

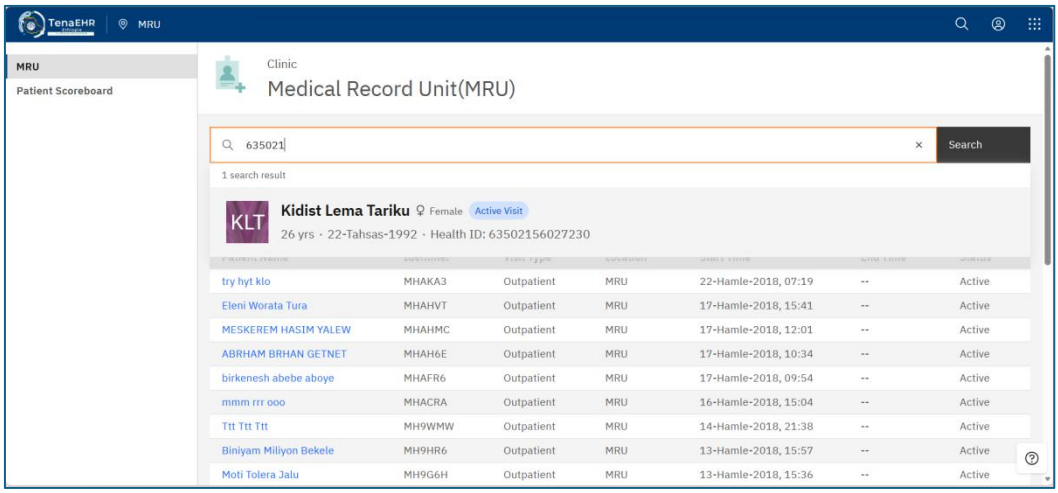
Triage (MRN generated) → MRU → Search Patient → Review Record → Update Additional Information (if needed) → Configure Billing → Patient Proceeds to Accounting/Cashier



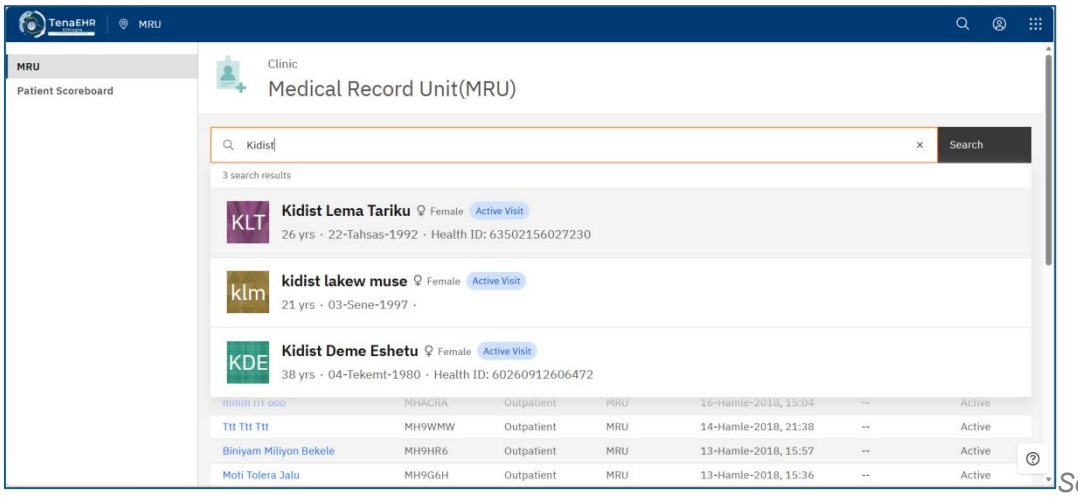
MRU Homepage

4.1 Searching for a Patient

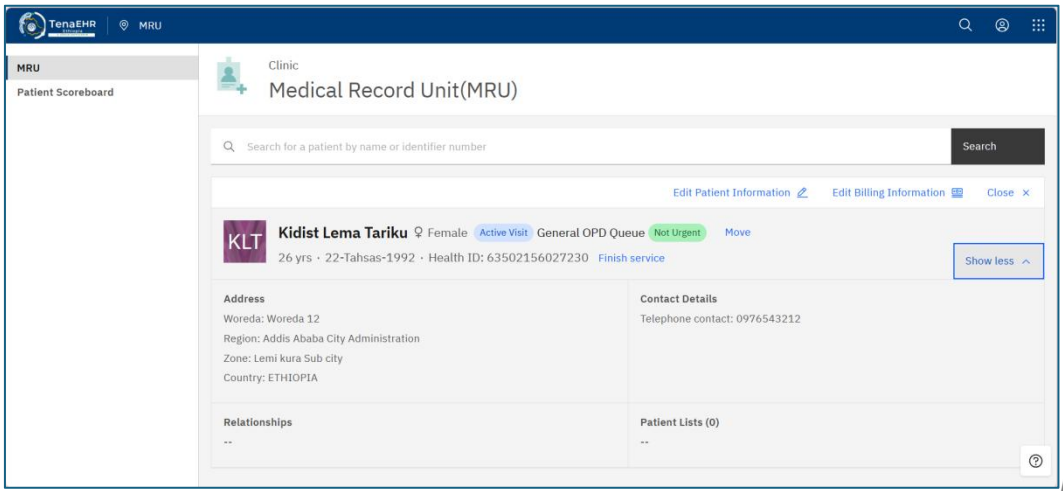
1. From the MRU homepage, locate the patient search box.
   - ✓ Use Health ID, MRN, phone number, or patient name.
   - ✓ Prefer Health ID or MRN because they are unique.
2. Select the correct patient from the search results.
3. Click the patient's name from the results to view their summary (Expected result).



Searching by Health ID



Searching by Name



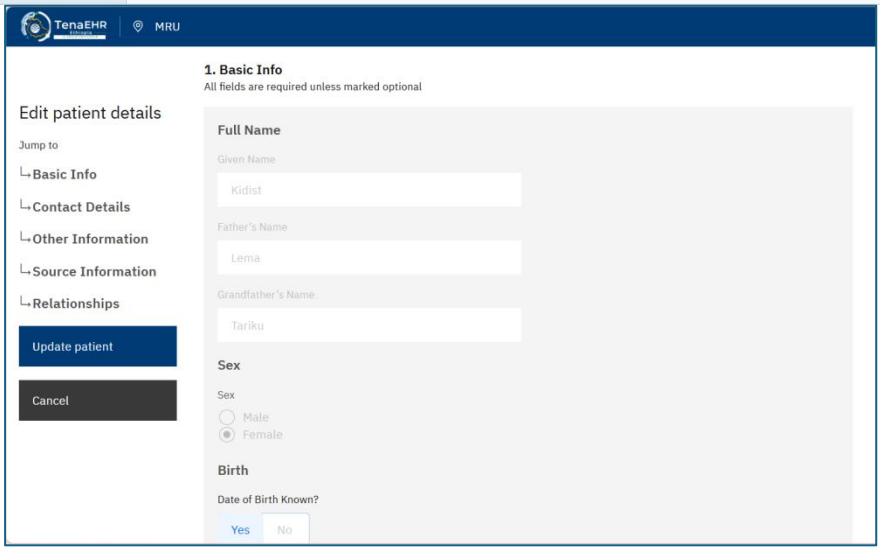
Patient Summary Page

4.2 Editing Patient Information (WF-06)

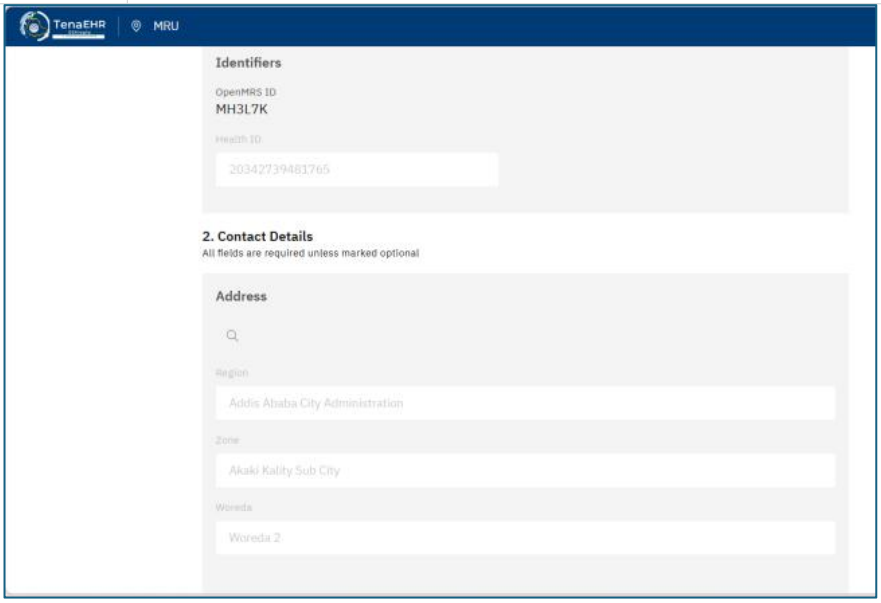
Most demographic fields are read-only because they originate from registration/Health ID. Only additional information, source information, relationships, and designated editable fields may be updated.

1. Click the Edit Patient Information button.
2. The Edit Patient form opens with six sections:

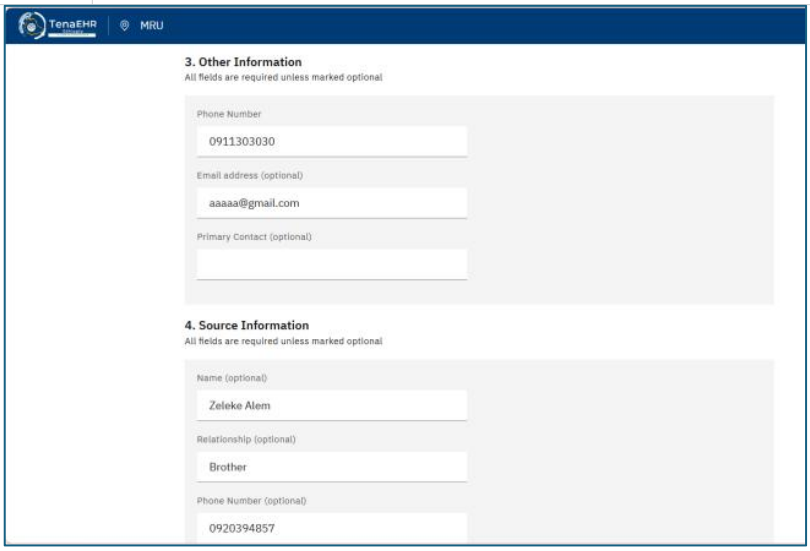
Section 1 – Basic Info	Full Name, Gender, Date of Birth, Health ID



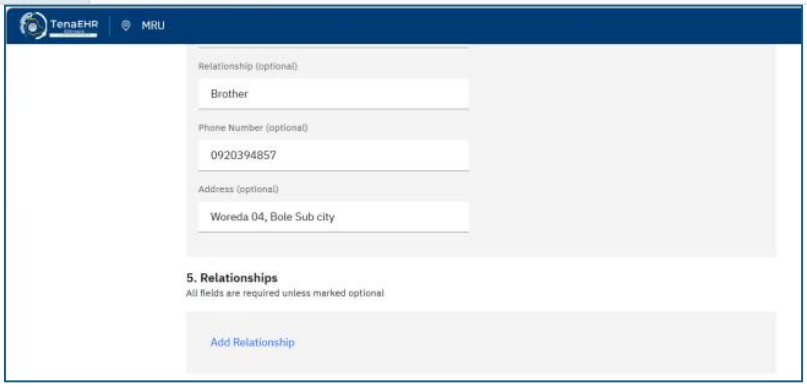
Section 2 – Contact Details	Region, Zone, Woreda, Kebele, House Number



Section 3 – Other Information	Phone Number, Email, Primary Contact
Section 4 – Source of Information	Accompanying Person: Name, Relationship, Phone, Address



Section 5 – Relationships	Family relationships for disease tracking

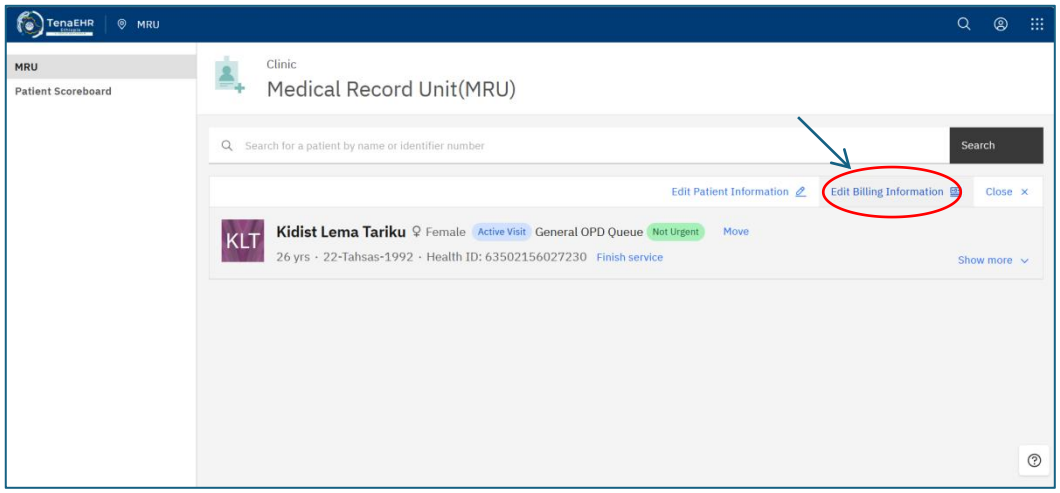


3. Update the relevant fields.
4. Click Update Patient to save changes.
5. Click Cancel to discard changes and return to the MRU page.

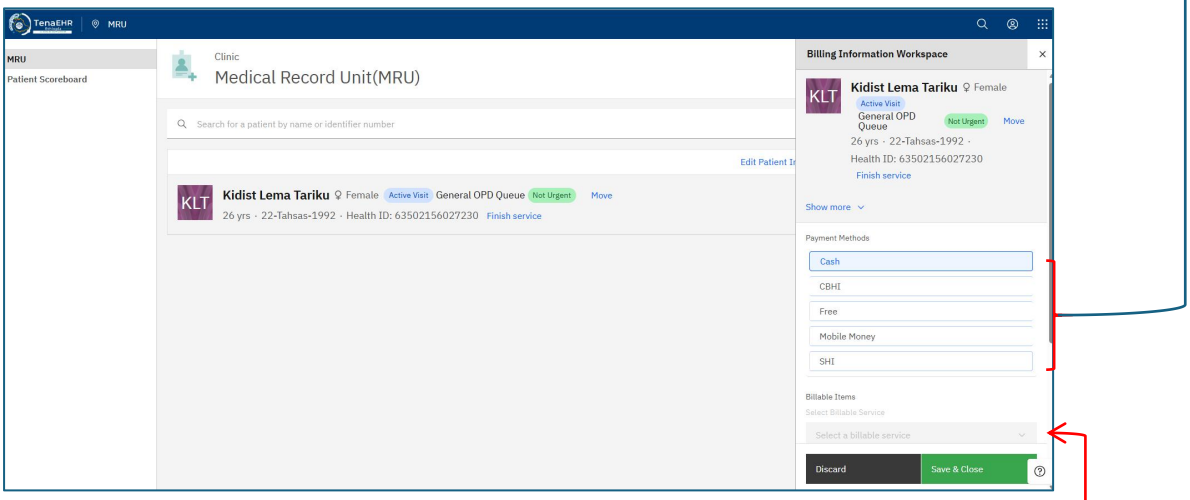
✓ A confirmation message indicating the patient information has been updated will pop up at the left lower corner of the page.

4.3 Adding Billing Information (WF-07)

1. Click the Add Billing Information button.
2. A billing panel slides in from the right side of the screen.

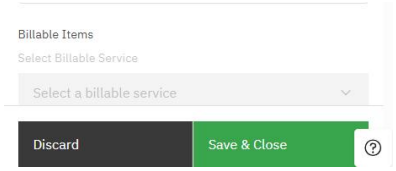


3. Select the Payment Method:
   - Cash
   - CBHI (Community-Based Health Insurance)
   - SHI (Social Health Insurance)
   - Free / Exempted



4. Select the Billable Item (Consultancy Type):
   - GP Consultation
   - Senior Physician Consultation
   - Specialist Consultation
5. Review the consultation fee displayed automatically.

6. Click Save and Close to save the billing record for this visit.



7. Click Discard to cancel and return to the homepage.

✓ A confirmation message indicates billing has been created successfully. The bill is automatically available to the accounting/cashier module.



TIP Billing information must be saved before directing the patient to the Cashier for payment.

5. Accounting & Billing

Purpose

The Accounting & Billing module is used to manage patient invoices and process payments for services provided within the hospital. Billing items are generated automatically when chargeable services are ordered or completed, depending on the service workflow.

Cashiers use this module to:

- ✓ Clock in and start a cashier session.
- ✓ Locate patient invoices.
- ✓ Review invoice details and outstanding balances.
- ✓ Process payments using the available payment methods.
- ✓ Print payment receipts.
- ✓ Clock out at the end of their shift.

Note: A patient may have multiple invoices, each representing a different service. Cashiers may process one invoice at a time. If only part of the patient's required services are paid for, only the paid services may proceed, while unpaid services remain unavailable until payment is completed.

Workflow

Chargeable Service Created → Billing Item Generated → Cashier Clocks In → Locate Patient Invoice → Review Invoice Details → Process Payment → Print Receipt → Patient Proceeds to Paid Service

Prerequisites

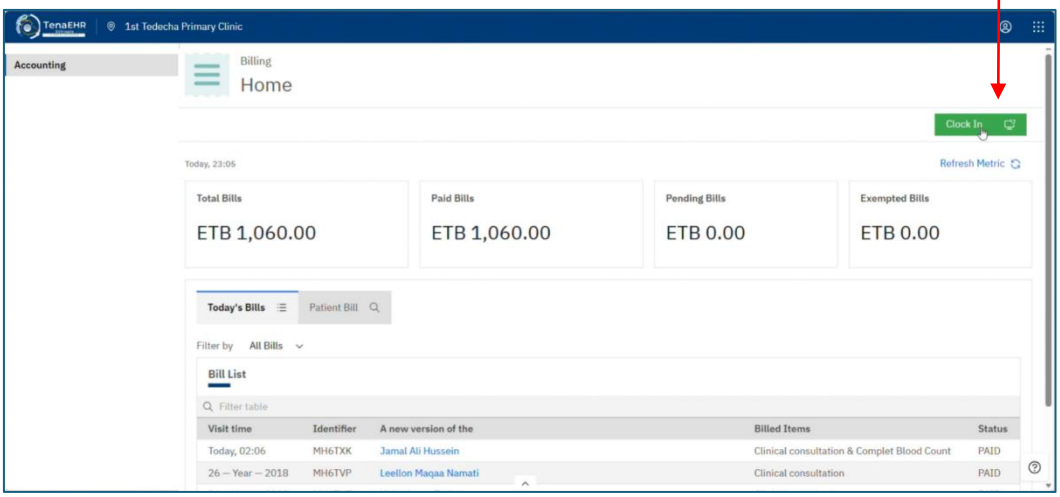
Before processing payments, ensure that:

- ✓ You are logged into the EMR.
- ✓ Your cashier session has been started by clocking in.
- ✓ The patient has an active invoice.
- ✓ The correct patient and invoice have been selected.

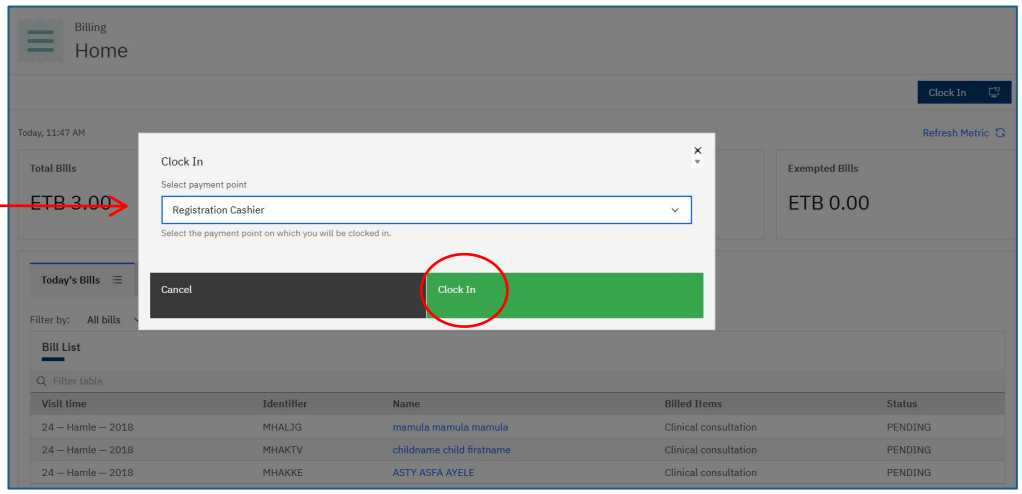
5.1 Cashier Clock-In

✓ Cashiers must clock in before they can process any payments.

1. Navigate to the Accounting module from the EMR homepage.
2. Click the Clock In button.
3. Select your Cash Point location (e.g., Lab Cashier, Main Cashier, Triage Cashier) and click on the clock in button.
4. The Accounting dashboard becomes active.



Accounting Homepage

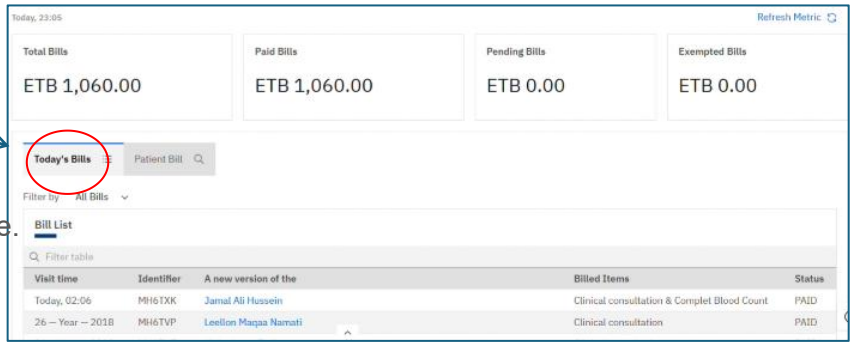


5.2 Finding a Patient Bill

- ✓ Patients may have multiple invoices depending on the services they have received.
- ✓ Invoices can be searched differently depending on when they were created.

Today's Bills (within 24 hours)

1. Click the Today's Bill tab.
2. Find the patient's bill from the list.
3. Click on the pending bill to open the invoice.



Overdue Bills (older than 24 hours)

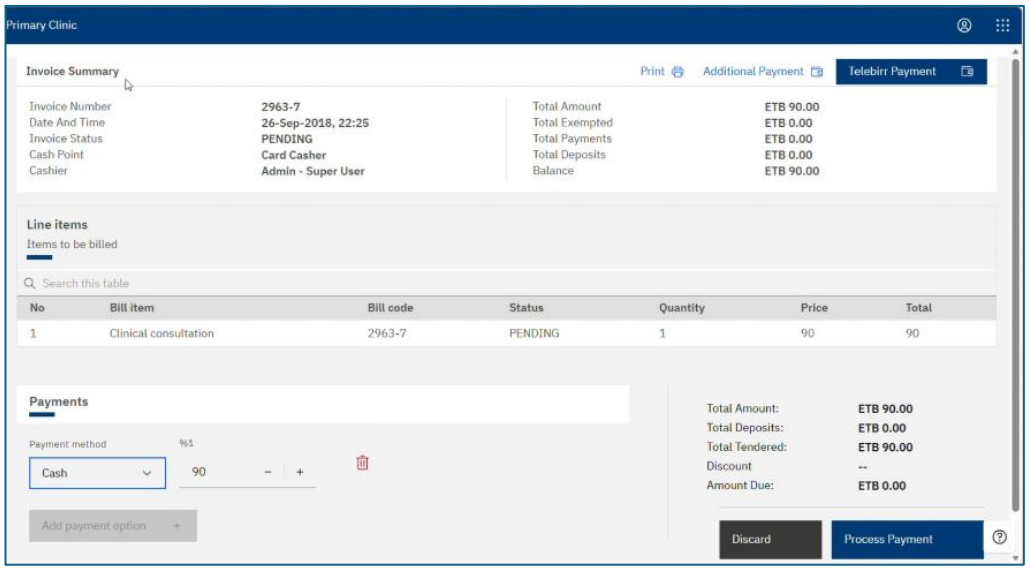
1. Click the Patient Bill tab.
2. Search by patient name.
3. Click on the patient to see the bill summary:Date, Charge Item, Total Amount, Status.
4. Click the pending bill to open the invoice.



5.3 Invoice Summary

The Invoice page displays:

- Invoice Number, Date & Time, Invoice Status, Cash Point, Cashier Name
- Total Amount, Total Exempted, Total Payments, Total Deposit, Balance
- Line Items Table: Bill Item, Bill Code, Status, Quantity, Price, Total
- Previous payments with method and date
- Outstanding amount due

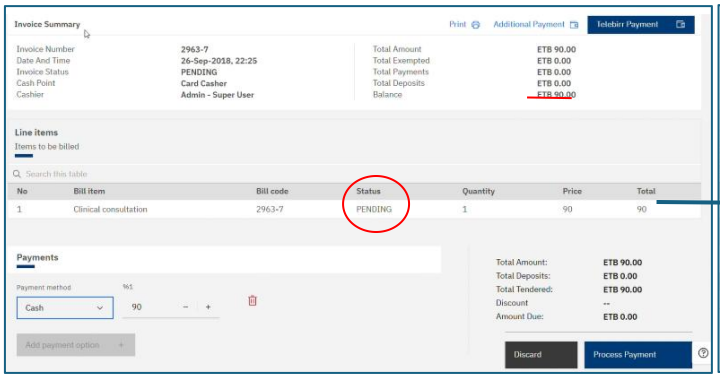


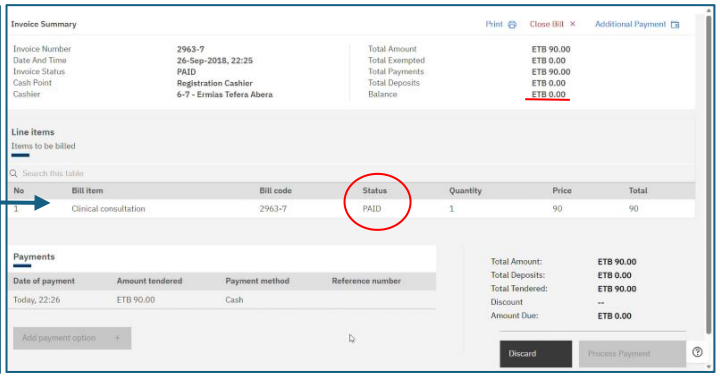
Invoice Summary Page

5.4 Processing Payment (WF-09)

Cash Payment

1. Collect cash from the patient.
2. Click Process Payment.
3. Confirm the amount and click Confirm.
4. Invoice status updates to PAID.





Before Payment *After Payment*

CBHI / SHI Insurance Payment

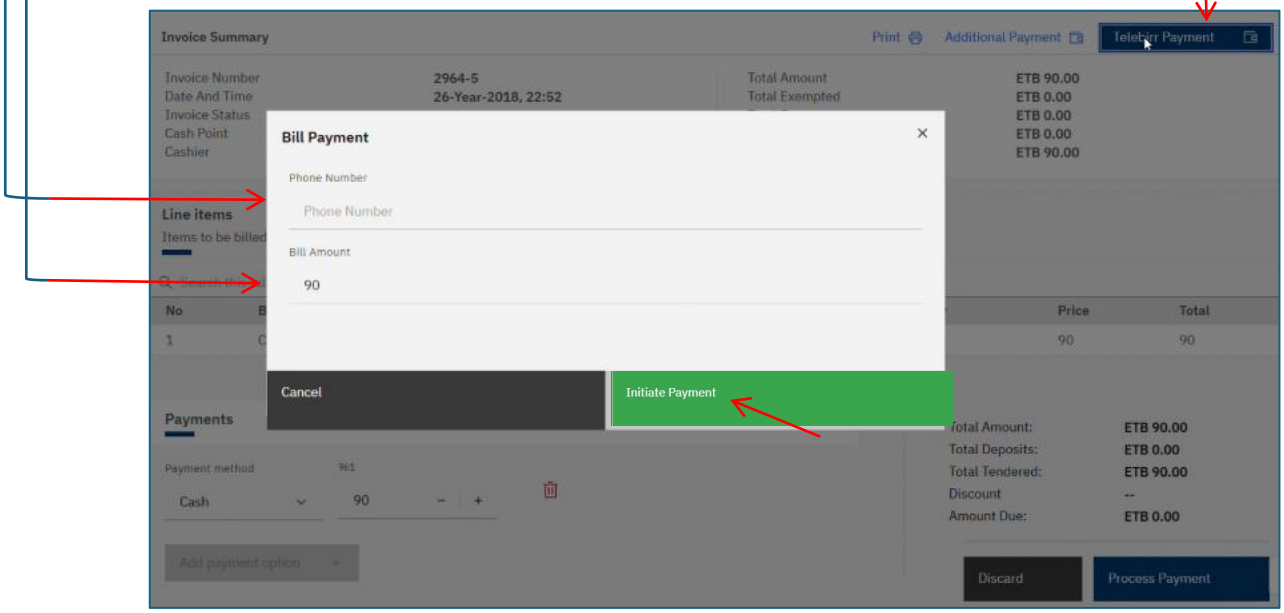
1. Verify the patient's insurance ID and expiry date.
2. Click Process Payment.
3. Enter insurance details and confirm.

Free / Exempted

1. No payment action required.
2. The system automatically marks the bill as exempted.

TeleBirr Mobile Payment

1. Click the TeleBirr Payment button.
2. The TeleBirr modal appears.
3. Enter the patient's Mobile Number.
4. The bill amount is pre-populated by the system.
5. Click Initiate Payment.
6. A USSD prompt is sent to the patient's mobile phone.
7. The patient enters their secret key on their phone to confirm payment.
8. The EMR receives a callback and automatically updates the invoice status to PAID.



TIP TeleBirr requires the patient's registered mobile number. If the patient does not have mobile banking, use Cash or another payment method.

6. Service Queue Management

Purpose

The Service queue Management module is used to organize, monitor, and manage patient flow between service points within the health facility. It enables authorized users to add patients to queues, monitor waiting times, update queue status, transfer patients between services, and call patients for consultation or treatment.

Queue managers, receptionists, nurses, and other authorized staff use this module to:

- ✓ View patients waiting for services.
- ✓ Monitor queue status and waiting times.
- ✓ Add patients to service queues manually.
- ✓ Move patients between service locations.
- ✓ Update patient queue status throughout the care process.
- ✓ Call patients for service or requeue them if they do not respond.
- ✓ Remove patients from the queue when necessary.

Workflow

Patient Registered→ Patient Added to Service Queue → Patient Waits for Service → Patient Called → Patient Marked as In Service → Service Completed → Status Updated to Finished Service

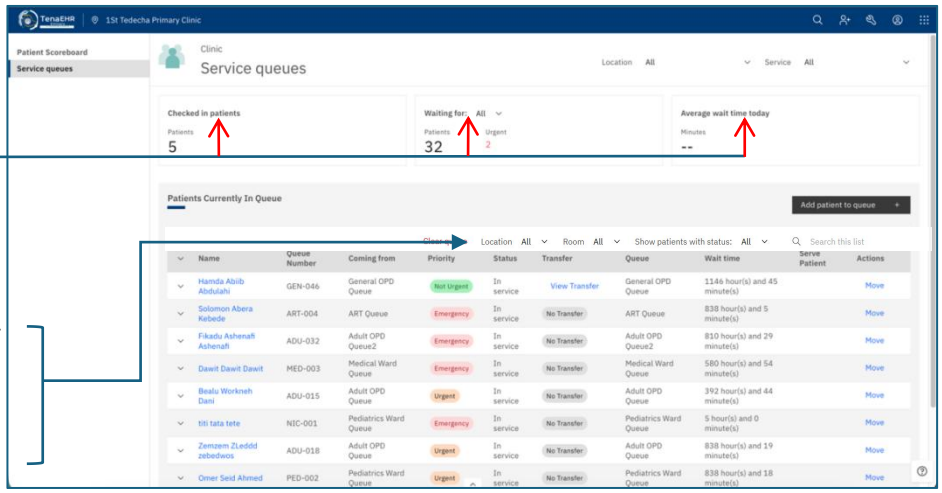
6.1 Queue Dashboard

The dashboard shows three scorecards:

- ✓ Patients Checked In
- ✓ Patients Waiting
- ✓ Average Waiting Time

Filters available:

- ✓ Filter by specific service (Waiting for
- ✓ Filter by Location
- ✓ Filter by Service Type



Service Queue Homepage

6.2 Queue Table

The queue table displays:

Patient Name	Full name of the patient in queue
Queue Number	Assigned queue sequence number
Coming From	Previous service point
Priority	Emergency / Urgent / Not Urgent
Status	Waiting / In Service / Finished Service
Waiting Time	Time elapsed since entering the queue
Action	Available management actions

6.3 Adding a Patient to the Queue

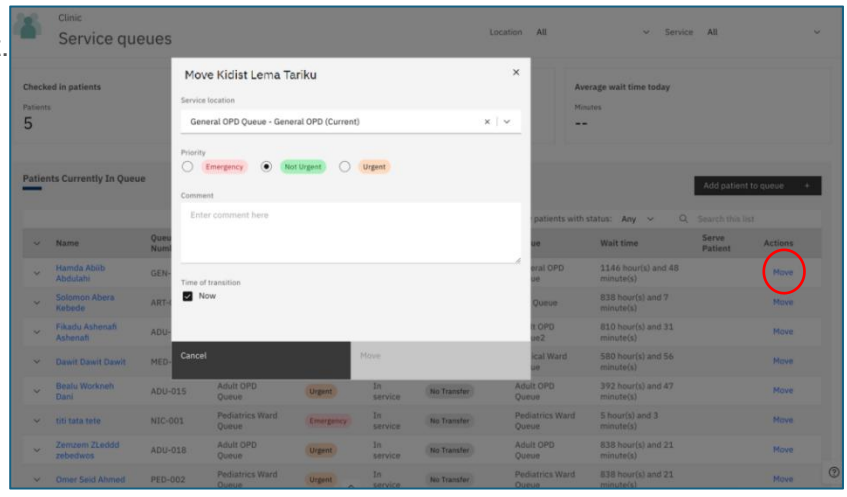
Patients may be added manually to a service queue when required.

1. Click the Add Patient to Queue button.
2. Search for the patient by name.
3. Click on the patient's name.
4. Select Queue Location, Service, and Priority.
5. Click Add Patient to Queue to confirm.
6. Click Discard to cancel.

6.4 Queue Actions

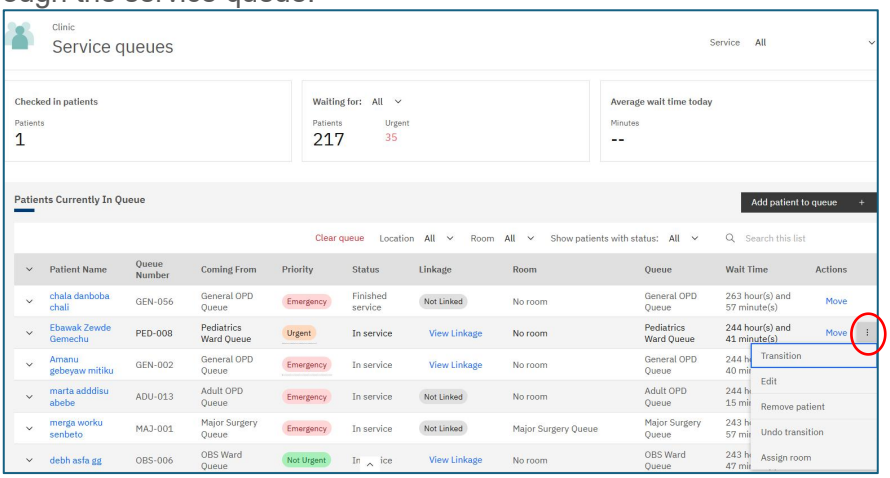
Move – Transfer Patient to Another Location

1. Click the Move action next to the patient.
2. Select the New Service Location.
3. Set Priority (optional).
4. Add a Comment (optional).
5. Click Move to transfer the patient.



Transition – Change Patient Status

Transition updates the patient's progress through the service queue.



Available statuses include:

- ✓ Waiting
- ✓ In Service
- ✓ Finished Service

1. Click the Transition action.
2. Select the new Status:

   In Service / Finished Service / In Waiting.
3. Optionally reset Priority.
4. Add a Comment.
5. Click Transition to apply the change.

Undo Transition

1. Click the Undo Transition action.
2. Confirm the warning dialog.
3. Click Undo Transition to revert the patient to their previous status.

Remove Patient from Queue

1. Click the Remove Patient action.
2. A confirmation warning appears.
3. Click Remove to remove the patient from the queue.

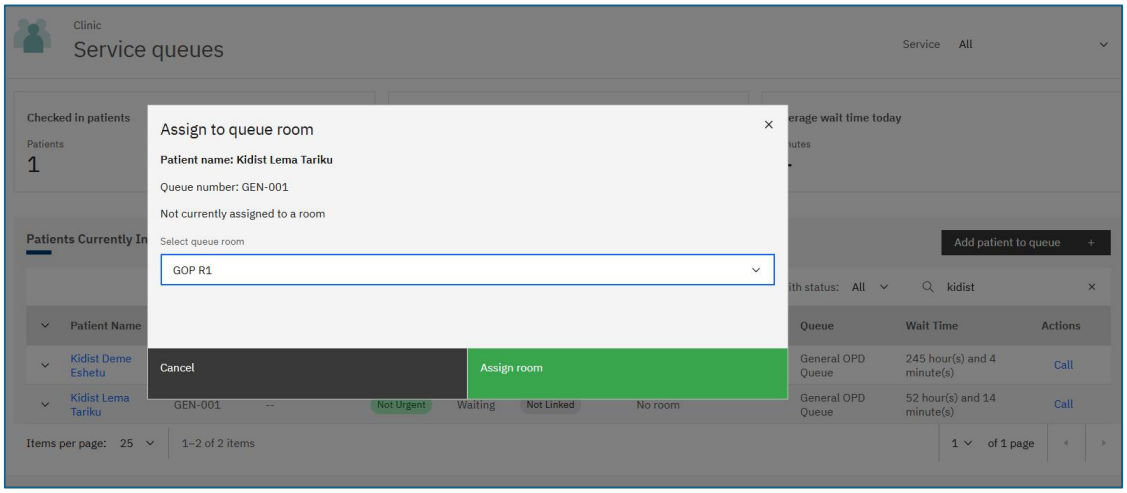
> **TIP** Removing a patient is irreversible. Only remove patients who have left the facility or are being redirected through another process.

Edit Queue Entry

1. Click the Edit action to modify location, priority, and status simultaneously.
2. Make the required changes.
3. Click Edit Queue Entry to save.

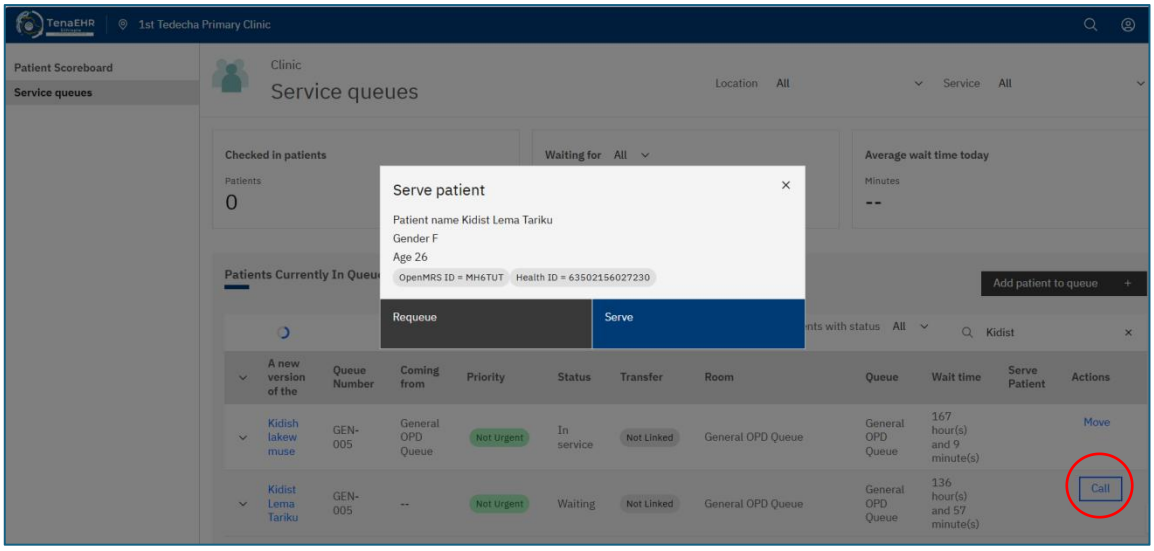
Assign Room

1. Click the Assign room option to allocate specific room/OPD desk to assign the patient (optional).
2. Make the required changes.
3. Click Assign room Entry to save.



Call Patient – Serve or Requeue

1. Click the Call action for the next patient.
2. The Serve Patient popup displays: Name, Gender, Age, Health ID.
3. Click Serve if the patient is present — status changes to In Service and Patient Chart opens.
4. Click Requeue if the patient does not respond — status remains Waiting.



7. Patient Chart & Clinical Documentation

Purpose

The Patient Chart is the primary workspace used by clinicians during a patient encounter. It provides access to the patient's demographic information, clinical history, visit details, investigations, medications, and documentation tools. From the Patient Chart, authorized users can review existing records, document clinical findings, place orders, and manage the patient's care throughout the visit.

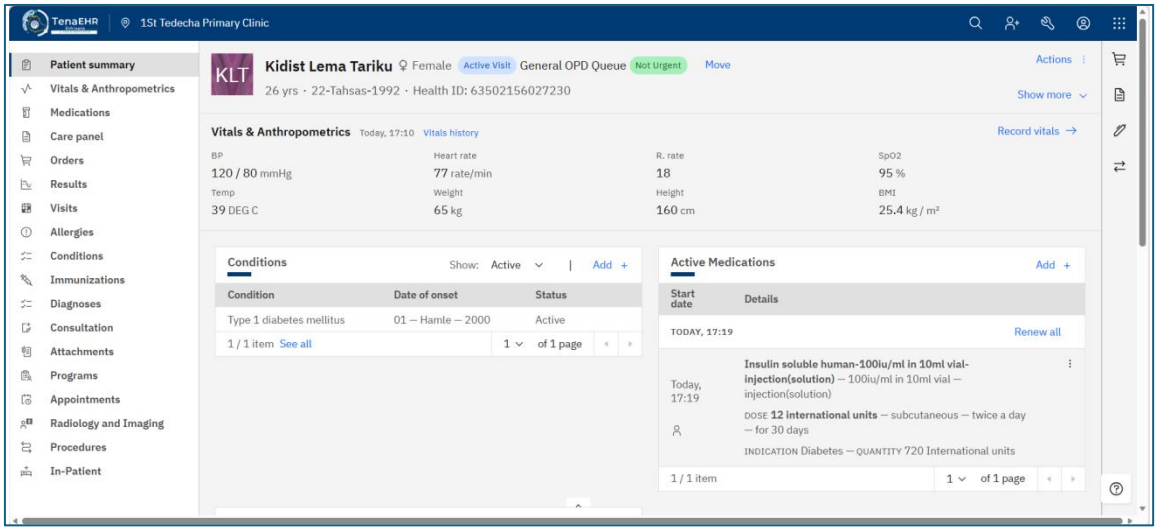
Workflow

Service Queue → Open Patient Chart → Review Patient Information → Document Clinical Findings → Record Diagnosis → Place Orders (Lab/Imaging/Medication/Procedures) → Continue Documentation → Transfer or Complete Visit

7.1 Patient Summary (Homepage)

The Patient Summary displays:

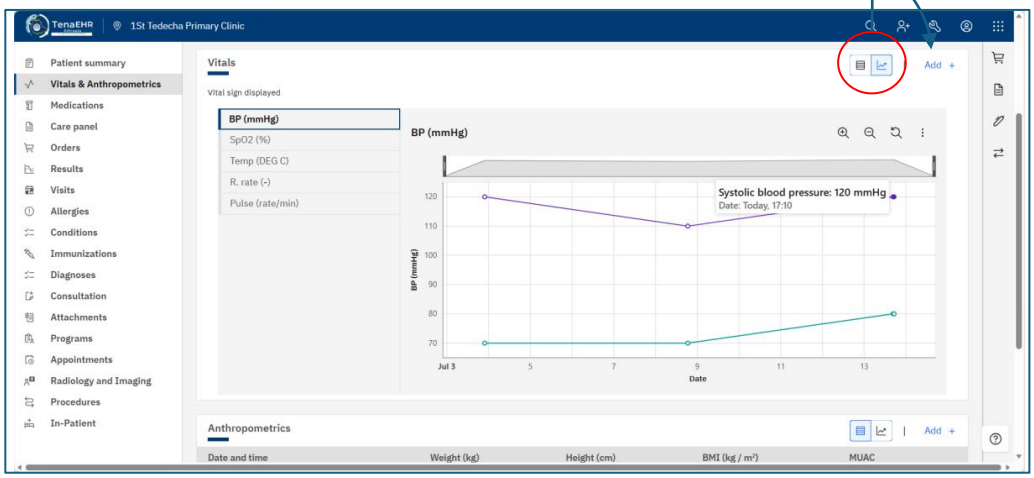
- Patient Banner: Name, Gender, Current Queue, Active Visit Status, Priority, Age, Date of Birth, Health ID
- Triage Assessment: BP, Temperature, Heart Rate, Weight, Height, BMI, RR, SpO2
- Recorded Conditions, Active/Past Medications, Immunizations, Allergies



Patient Summary Page/Chart

7.2 Vitals & Anthropometrics

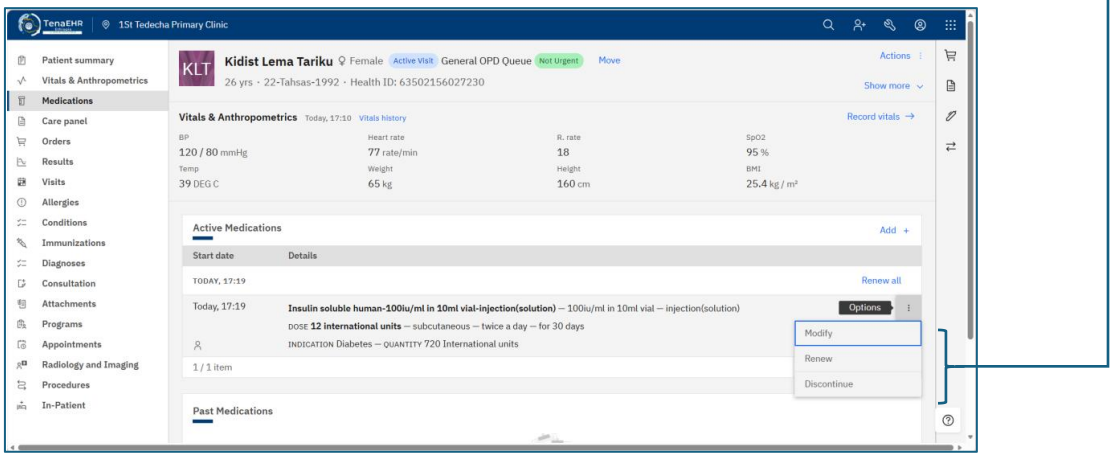
1. Click Vitals & Anthropometrics from the left-side menu.
2. The Vitals table shows: Date/Time, Temperature, BP, Pulse, RR, SpO2.
3. The Anthropometrics table shows: Date/Time, Weight, Height, BMI.
4. Toggle between Table View and Chart View using the buttons above each table.
5. Chart options: Zoom In/Out, Reset, Full Screen, Export CSV, Export PNG.
6. To add new vitals: Click the Add button — a form slides in from the right.



Vital signs in chart view

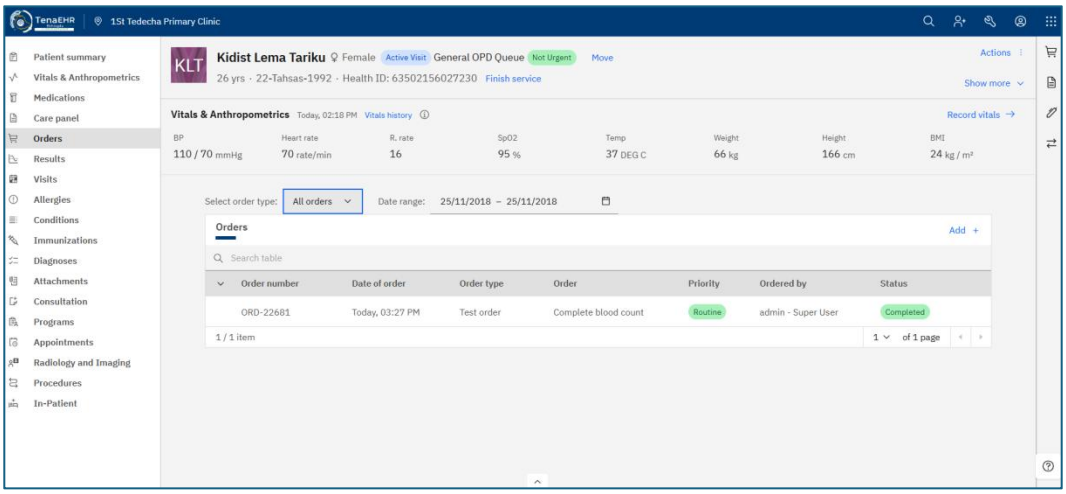
7.3 Medications

1. Click Medications from the left menu.
2. View Active Medications (Start Date, Drug, Dose, Route, Frequency, Quantity).
3. View Past Medications (Order Date, Duration).
4. Actions available for each medication:



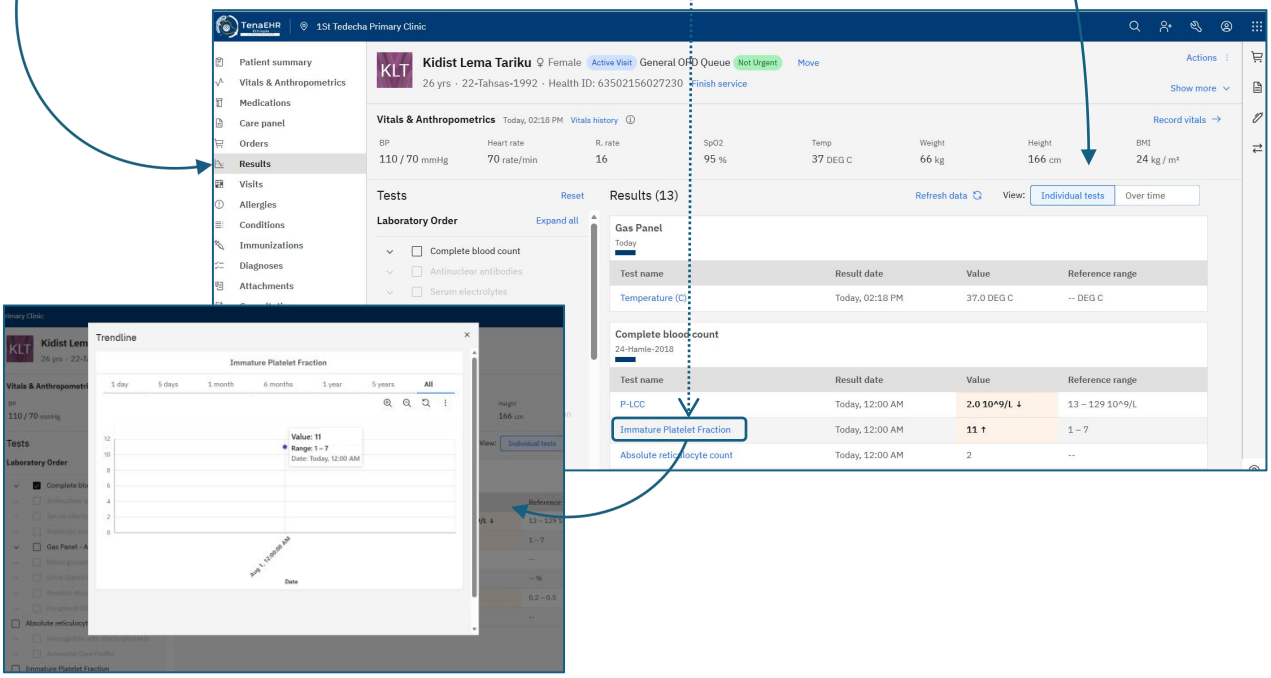
7.4 Orders

1. Click Orders from the left menu.
2. Filter by Order Type: Drug / Lab / Procedure / Imaging / Medical Supplies.
3. Use the Date Range filter to view historical orders.
4. The orders table shows: Order Number, Date, Type, Order, Priority, Ordered By, Status.



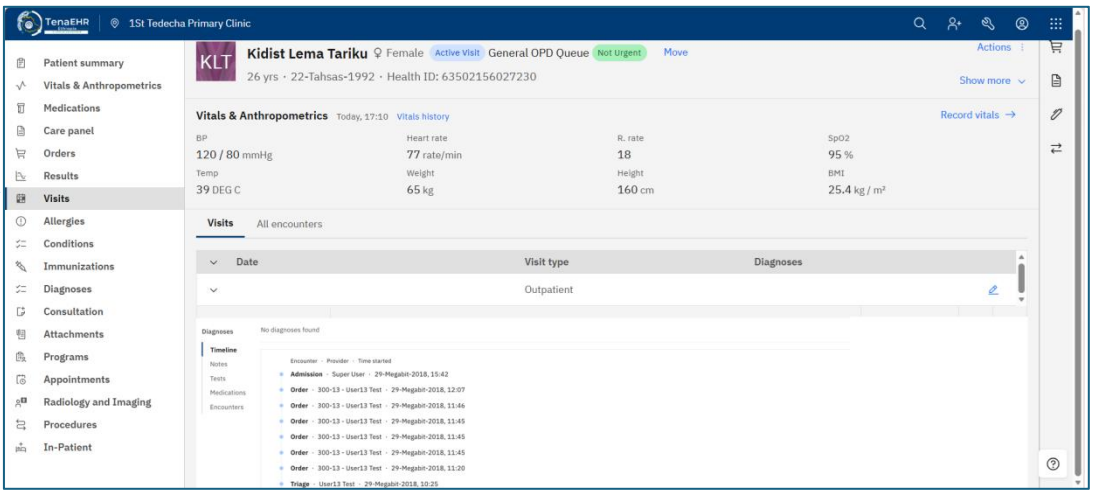
7.5 Results

1. Click Results from the left menu.
2. Select Individual Test view (latest result) or Overtime view (trend).
3. Click on a result to view its Trendline Chart.



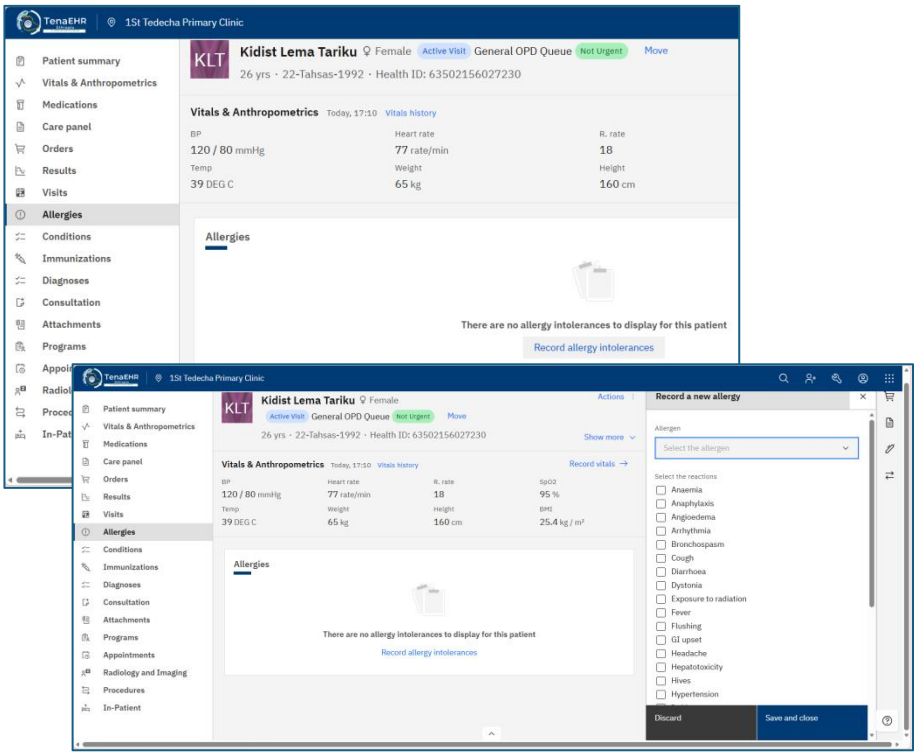
7.6 Visits & All Encounters

1. Click Visits from the left menu.
2. The Visits tab shows: Date, Visit Type, Diagnosis.
3. Expand a visit row to see: Timeline, Visit Notes, Tests & Results, Medications, Encounters.
4. The All Encounters tab filters by Encounter Type (Triage, Order, Lab, Pharmacy, etc.).
5. Expand any encounter row to view filled forms, orders, and results.



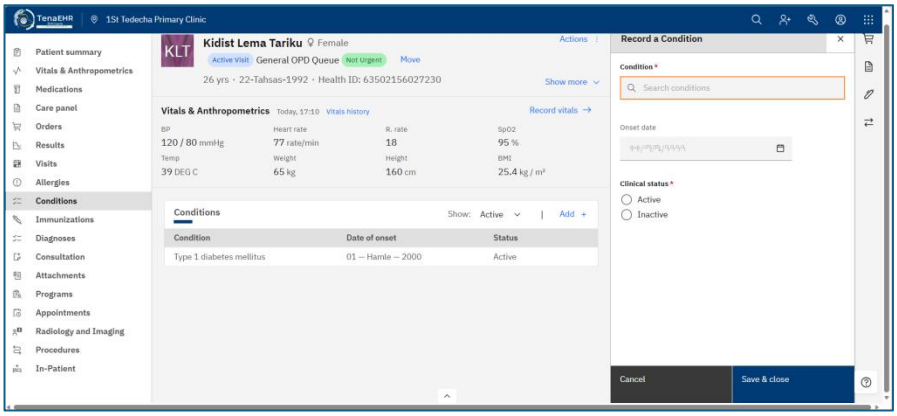
7.7 Allergies

1. Click Allergies from the left menu.
2. Click Record Allergy Intolerance — a form slides in from the right.
3. Select Allergen from the dropdown.
4. Select Reactions (e.g., anemia, cough, diarrhea).
5. Select Severity: Mild / Moderate / Severe.
6. Add a Comment if needed.
7. Click Save and Close, or Discard.



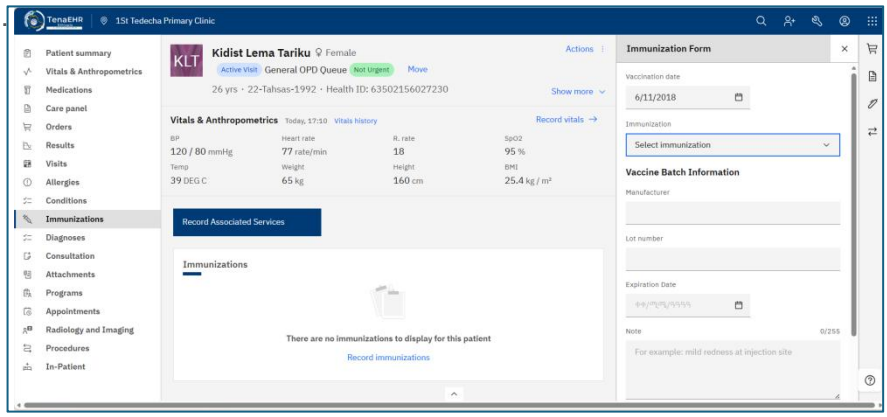
7.8 Conditions

1. Click Conditions from the left menu.
2. Click Record Condition.
3. Enter the condition name and Onset Date.
4. Set Status: Active or Inactive.
5. Click Save and Close.



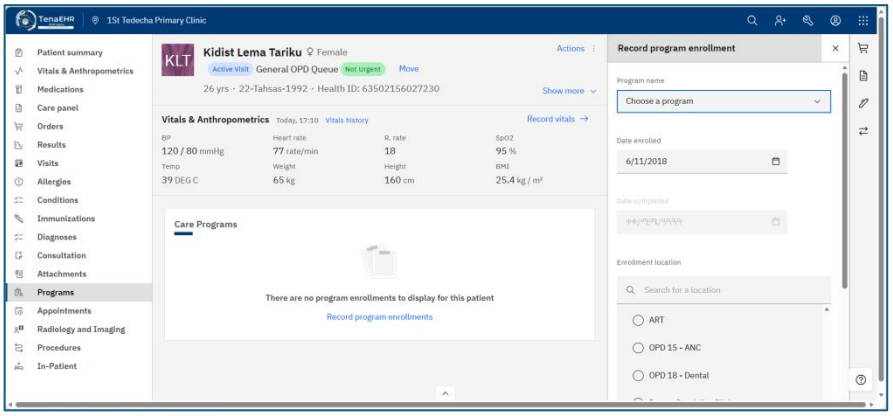
7.9 Immunizations

1. Click Immunization from the left menu.
2. Click Record Immunization.
3. Enter: Vaccination Date, Vaccine Name, Dosage Series.
4. Enter batch info: Manufacturer, Lot Number, Expiry Date.
5. Set next dosage date and notes.
6. Click Save.



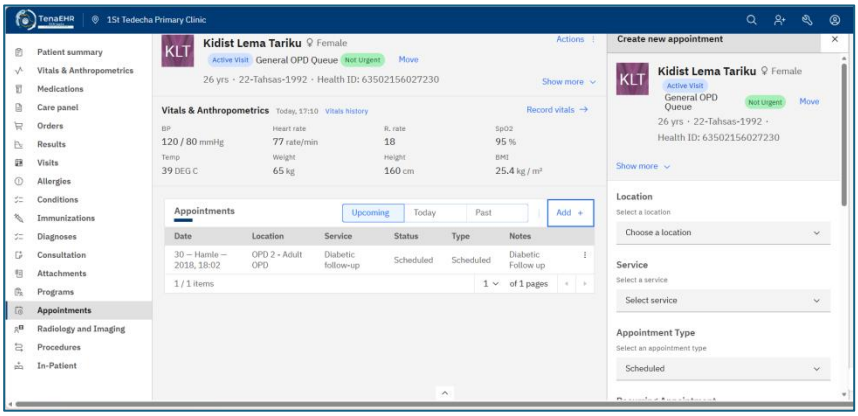
7.10 Programs Enrollment

1. Click Programs from the left menu.
2. Click Record Program Enrollment.
3. Select: Program Name (HIV, TB, Malaria, etc.), Enrollment Date, Location.
4. Click Save and Close.



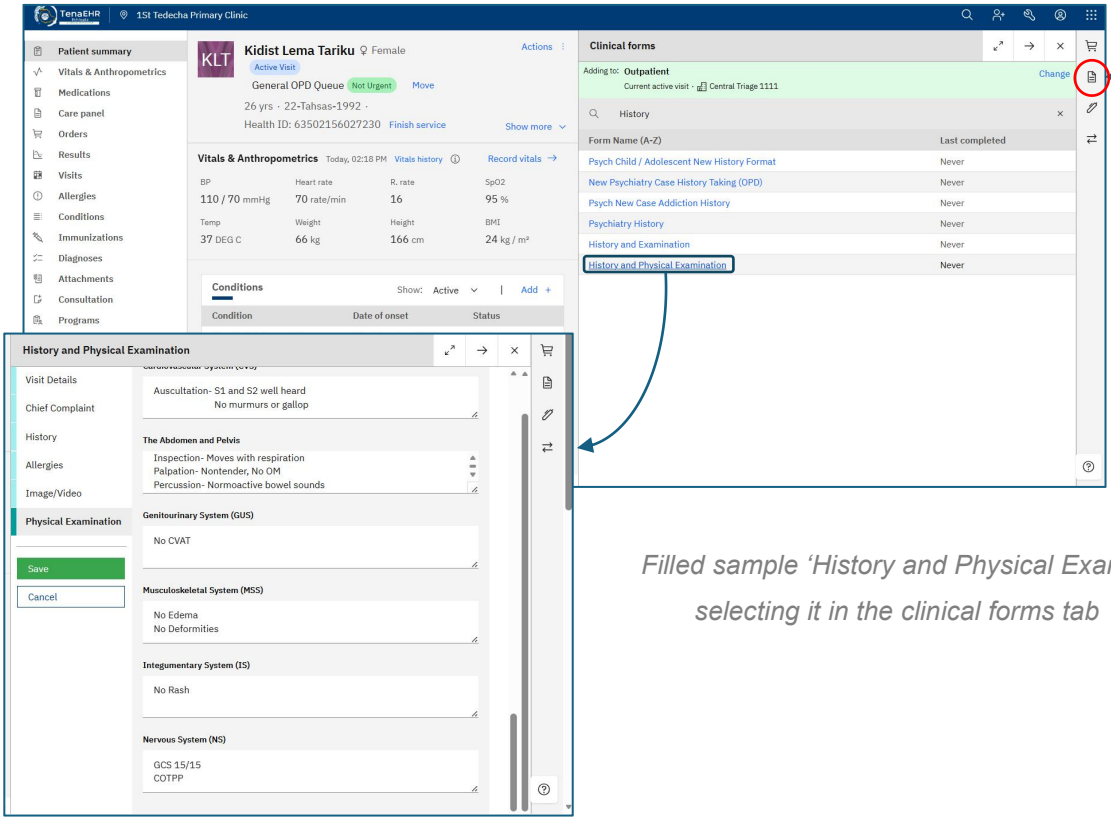
7.11 Appointments

1. Click Appointments from the left menu.
2. View tabs: Upcoming Appointments, Today's Appointments, Past Appointments.
3. Click Add to create a new appointment.
4. Complete the appointment form:
5. Click Save and Close, or Discard.



7.12 Clinical Forms (Right-Side Menu)

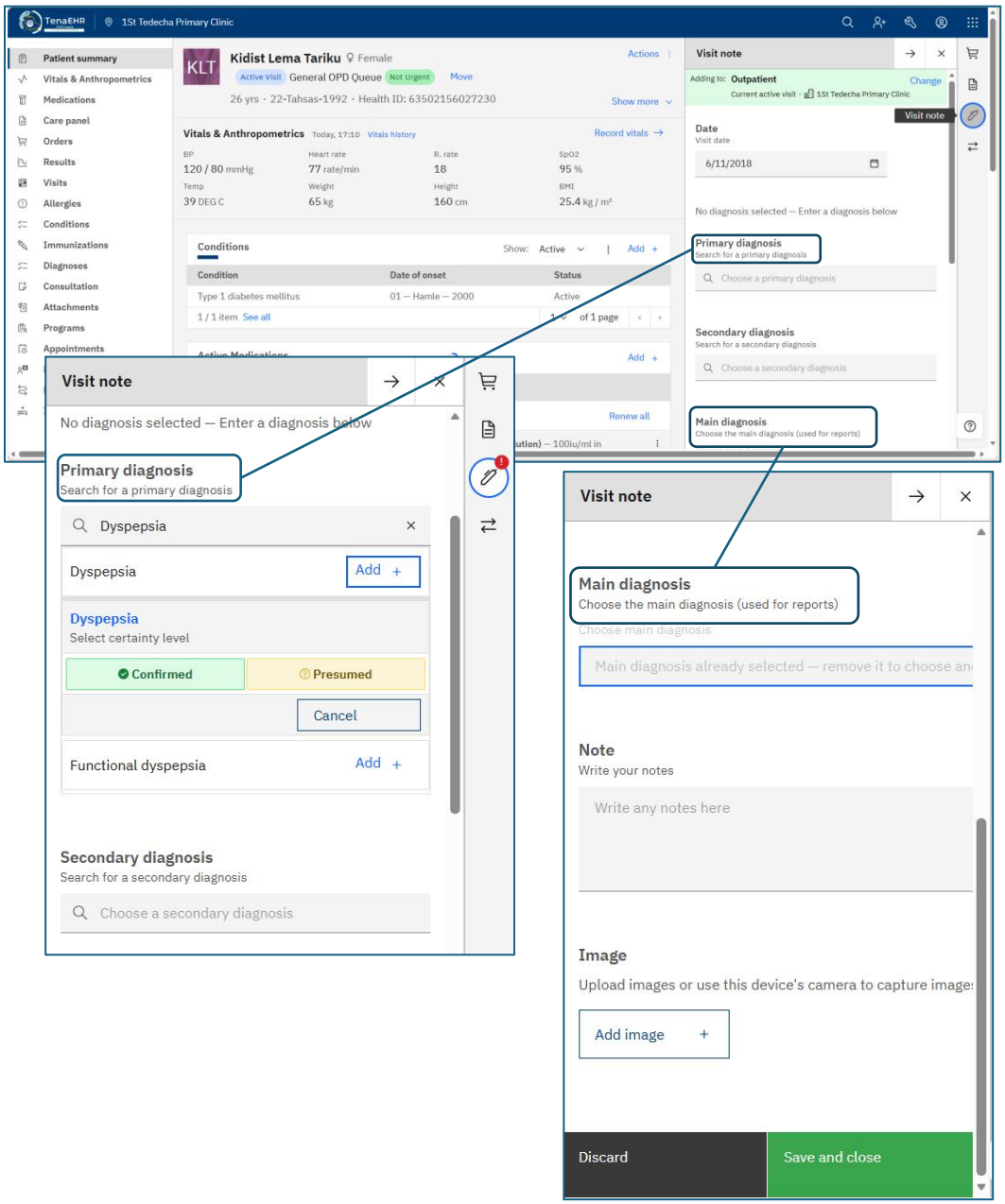
1. Click the Clinical Forms icon on the right-side menu.
2. Search for and select the appropriate clinical form.
3. Complete the structured observation form with the patient.
4. Click Save to record the observation, or Cancel to discard.
5. Saved forms appear under the Visits menu and All Encounters table.



Filled sample 'History and Physical Examination' selecting it in the clinical forms tab

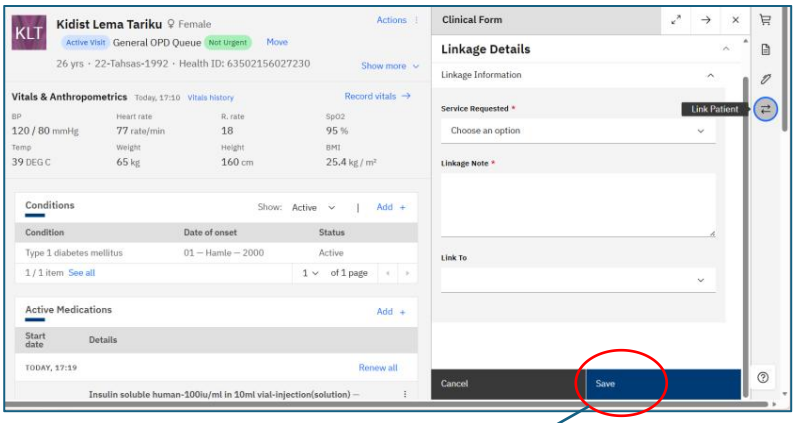
7.13 Visit Notes & Diagnosis

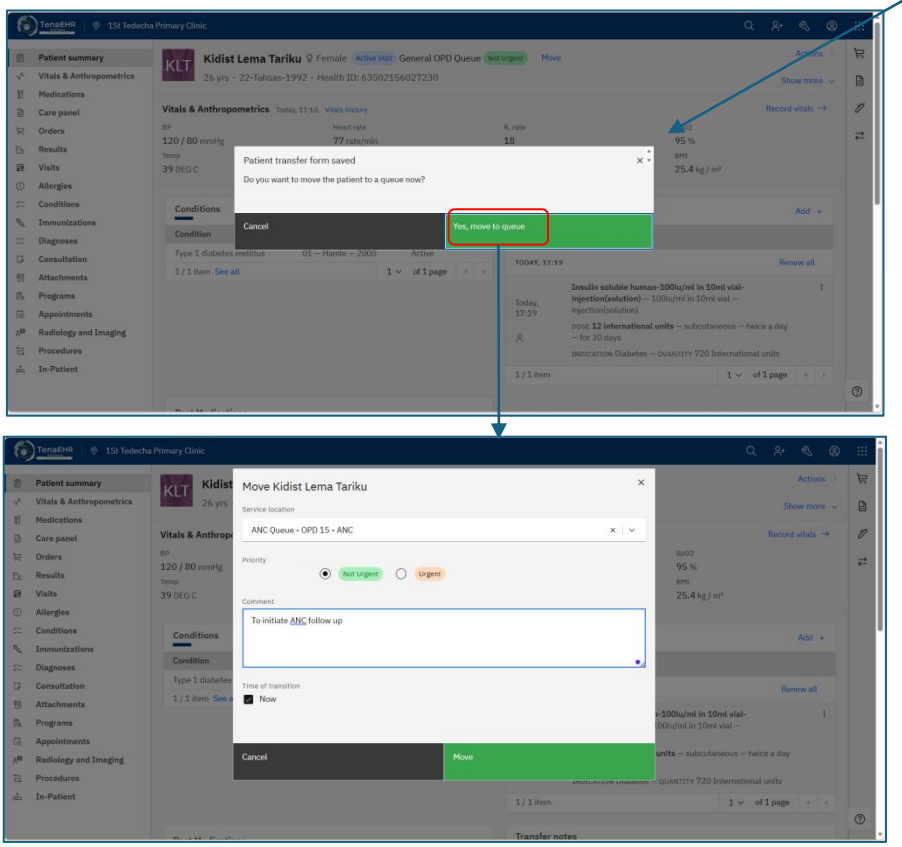
1. Click the Visit Notes icon (stethoscope/notepad) on the right-side menu.
2. Enter Primary Diagnosis by searching ICD-10 codes or terms.
3. Set certainty: Confirmed (checkmark tag) or Presumed (question mark tag).
4. Enter Secondary Diagnosis (optional) and Main Diagnosis with certainty.
5. Add clinical notes in the Notes field.
6. Attach imaging if applicable.
7. Click Save and Close, or Discard.



7.14 Link Patient

1. Click the Link Patient icon on the right-side menu.
2. Select the destination service requested.
3. Write a Linkage Note.
4. Click Save.
5. In the confirmation dialog, click Yes to also move the patient to the new queue.
6. Select the Service, Priority, and add a Comment for the queue assignment.
7. Click Move.





8. Laboratory Orders & Results

This module covers the full laboratory workflow from physician order entry to result validation and delivery to the patient chart, including integration with OpenLIS.

Purpose

The Laboratory module enables clinicians to request laboratory investigations and allows laboratory personnel to receive, process, validate, and publish test results. Laboratory orders are integrated with OpenLIS, ensuring that validated results are automatically synchronized with the patient's medical record.

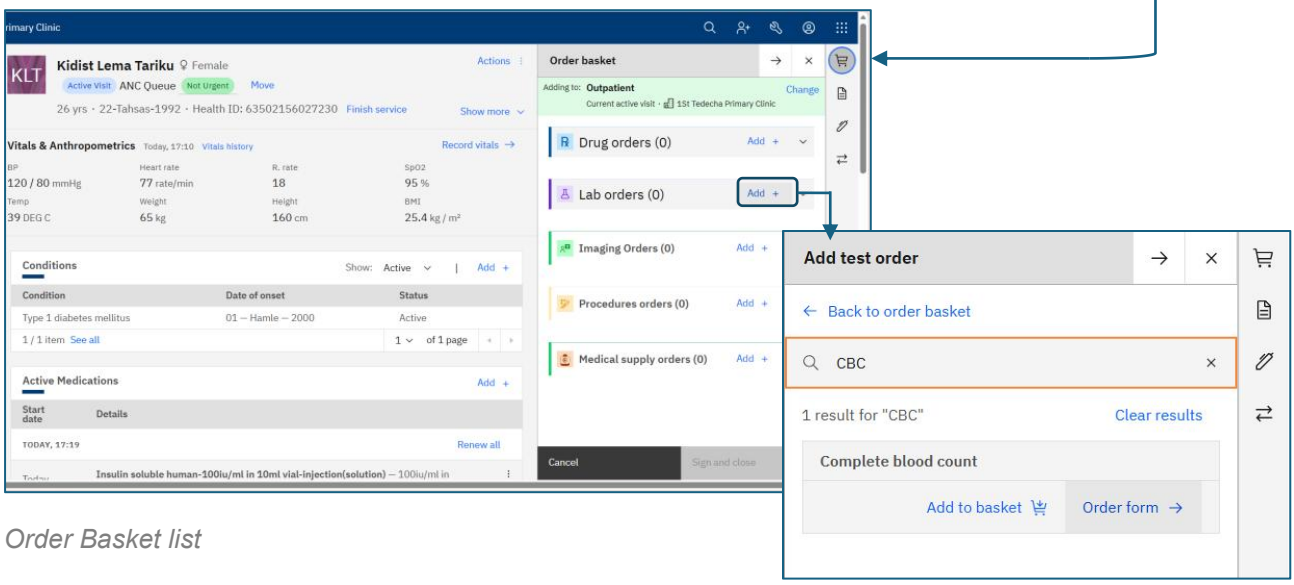
Workflow

Provider Records Diagnosis → Place Laboratory Order → Order Sent to Laboratory/OpenLIS → Specimen Collection → Sample Processing → Result Validation → Results Published to Patient Chart

Note: A diagnosis must be recorded before a laboratory order can be submitted.

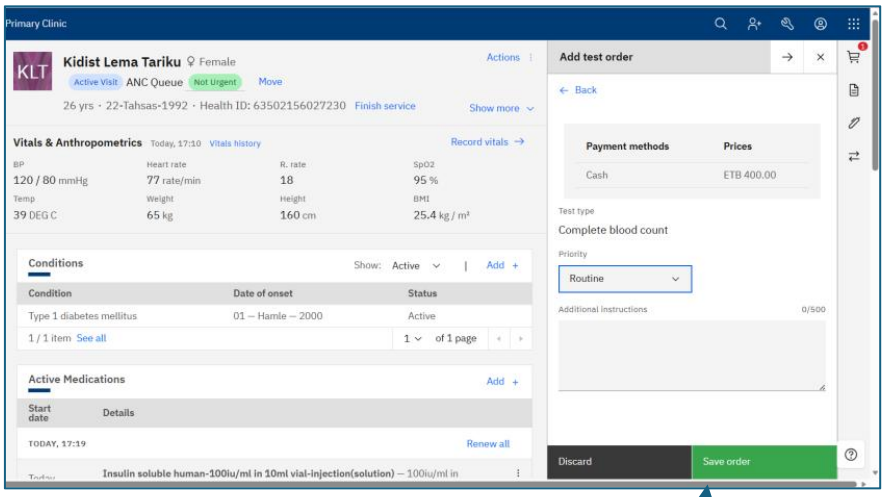
8.1 Ordering Lab Tests (Physician)

1. From the Patient Chart, click the Order Basket icon on the right-side menu.
2. Click Lab Services from the orderable items list.
3. Search for the required lab test(s).
4. Click Add to Basket for multiple tests, or click Order Form to fill the order immediately.



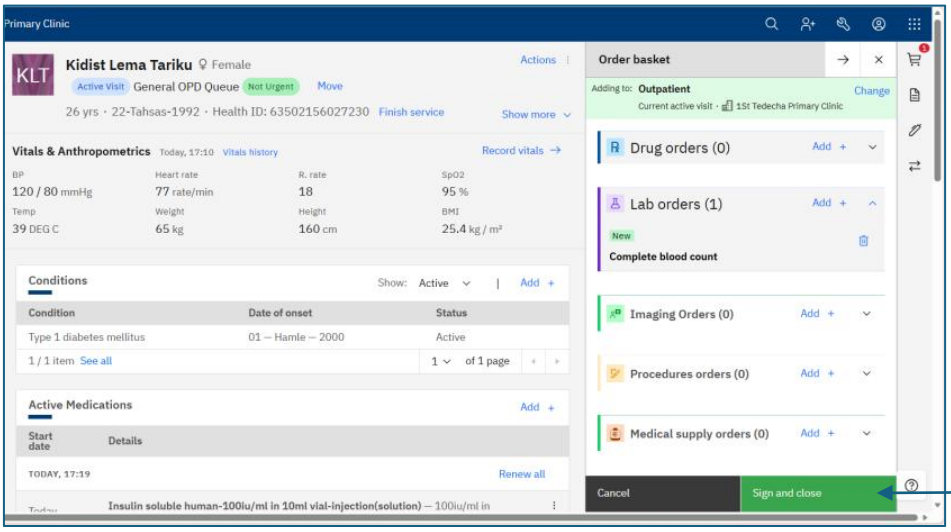
Order Basket list

5. Complete the Order Form:



Sample CBC order form request

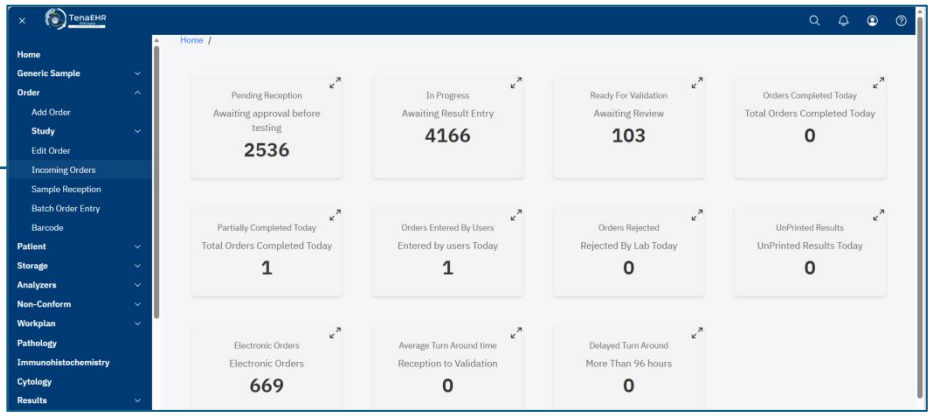
6. Click Save Order to save a draft.
7. Click Sign & Close to submit — the order is sent to the Lab Module and a bill is generated.
8. Click Cancel to discard the order.



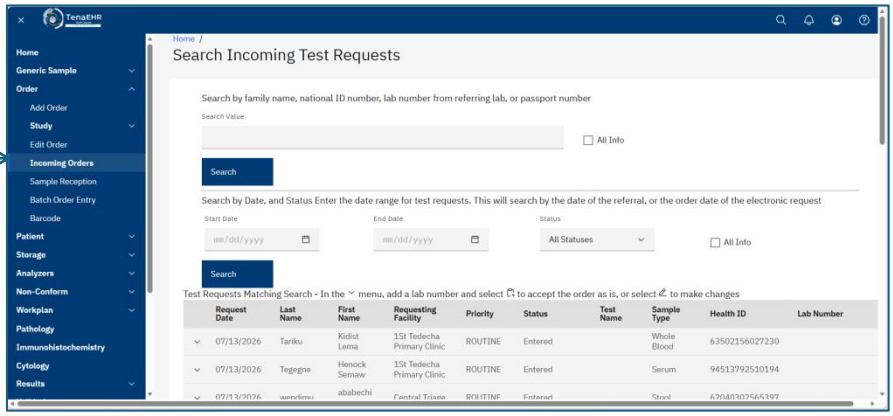
TIP Once signed and closed, the order appears in the Orders menu and is transmitted to OpenLIS automatically.

8.2 Lab Technician – Processing the Order (LIS MODULE)

1. In the Laboratory Module, click Incoming Orders to view today's orders.

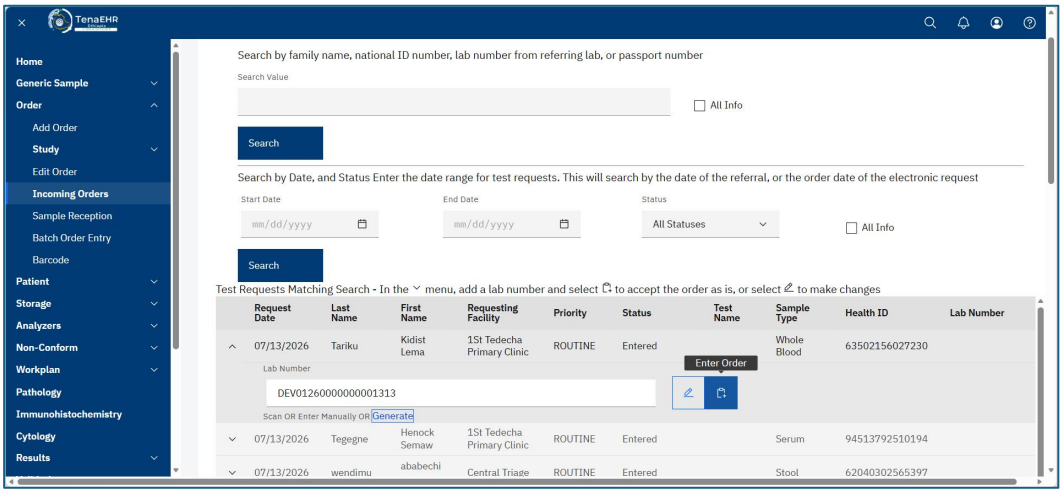


OpenLIS Homepage



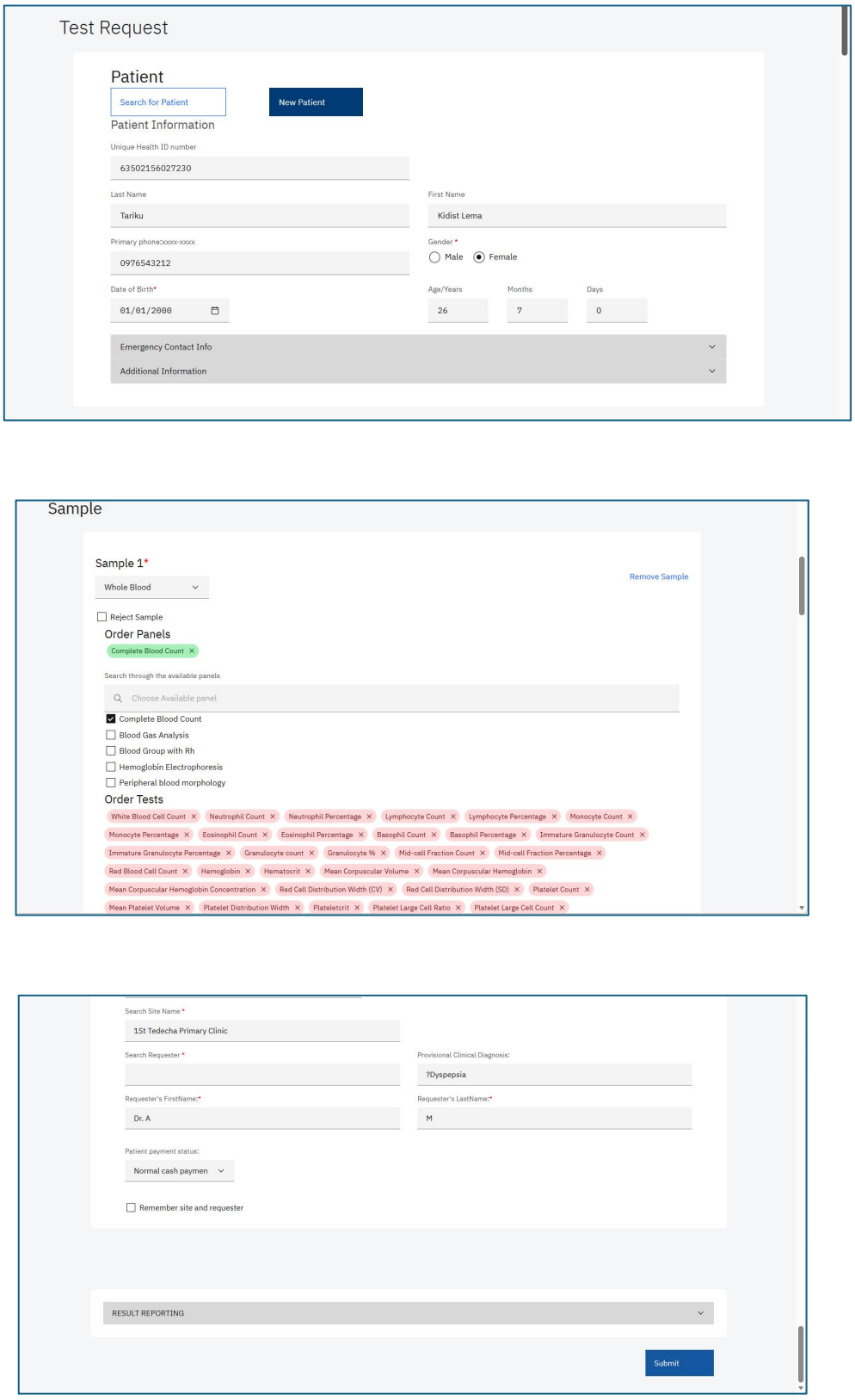
Incoming test orders page

2. Click on an order to view details: Patient Info, Sample Type, Ordering Physician.
3. Click Enter Order (or Generate Accession Number first).



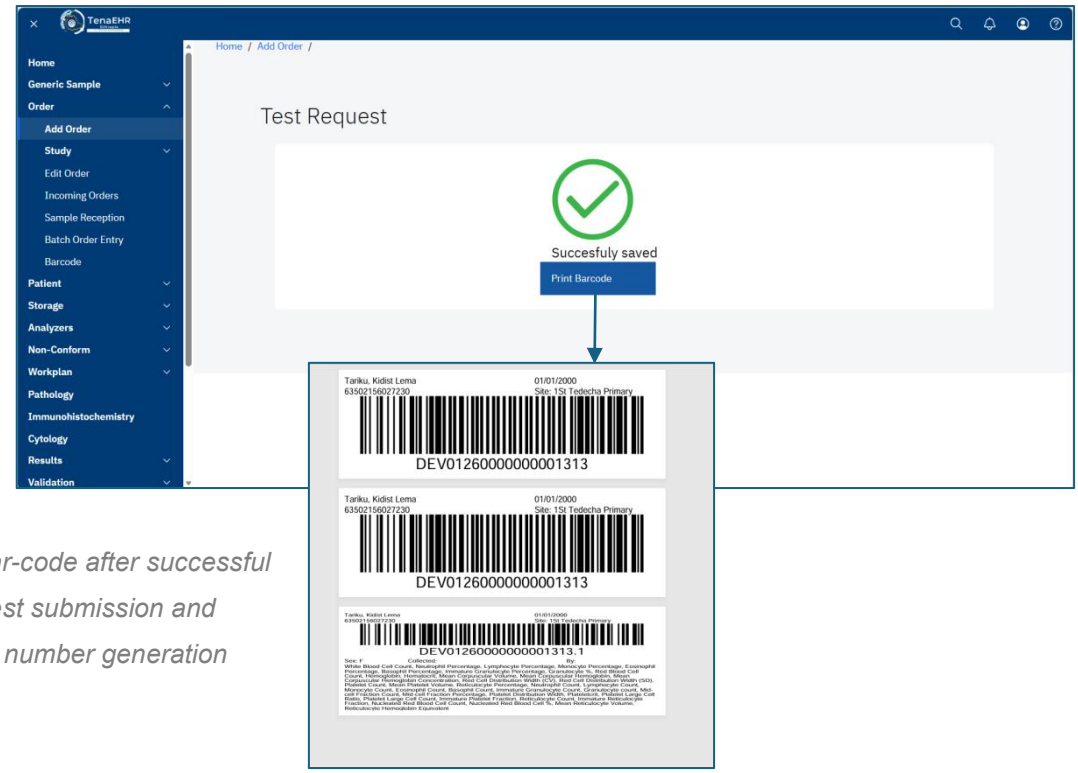
Generating Lab number/ Accession Number

4. Review order details and click Submit.



Reviewing Test request to submit

5. Specimen is collected from the patient at the reception.
6. Print and apply the barcode/accession label to the specimen container.
7. Send the specimen to the analyzer machine.



Printing bar-code after successful Test request submission and Accession number generation

8.3 Result Processing & Validation

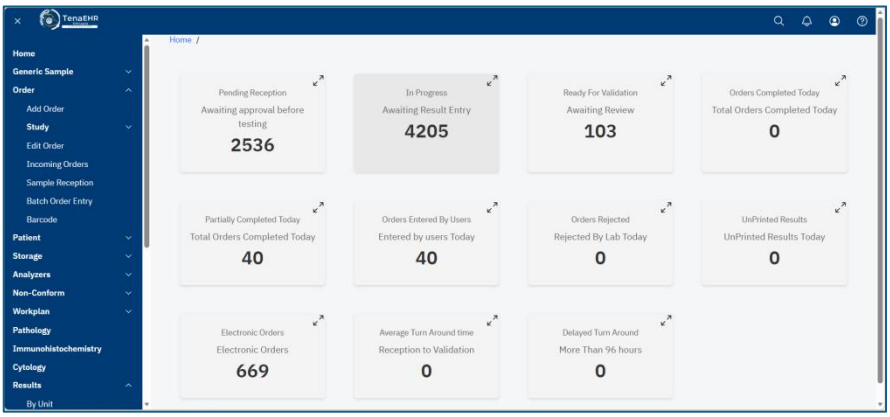
Automated (Analyzer Machine)

1. The analyzer processes the specimen and sends results to OpenLIS via the machine listener.
2. Results are transformed into structured data and queued for validation.
3. The Senior Lab Technician reviews the results.
4. If correct: Click Save Result and Complete — results are sent to the OpenMRS Patient Chart.
5. If incorrect: The sample is re-analyzed or manually corrected.

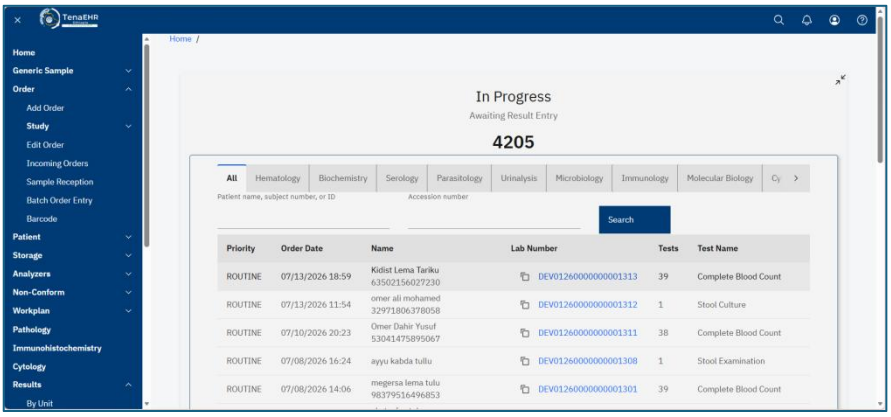
Manual Entry

1. The Lab Technician manually enters results in the result form.
2. Results are submitted to the Senior Lab Technician for approval.
3. Upon approval, results are published to the Patient Chart.

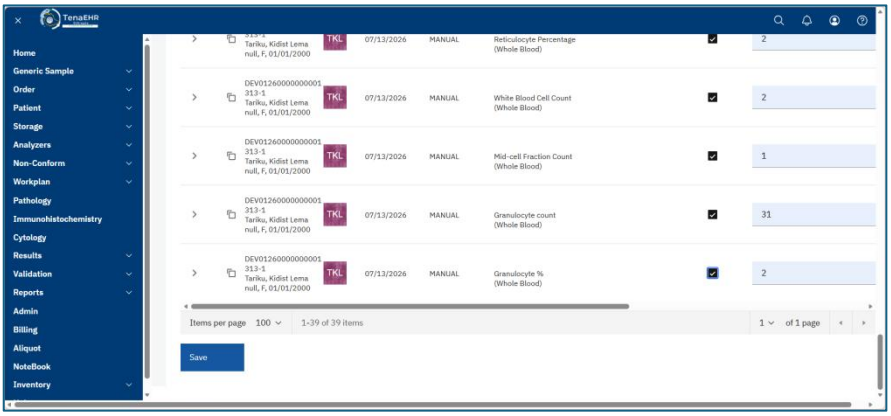
Steps Involved in chronological order are shown in the images below.



Select the in progress awaiting result entry to manually enter results



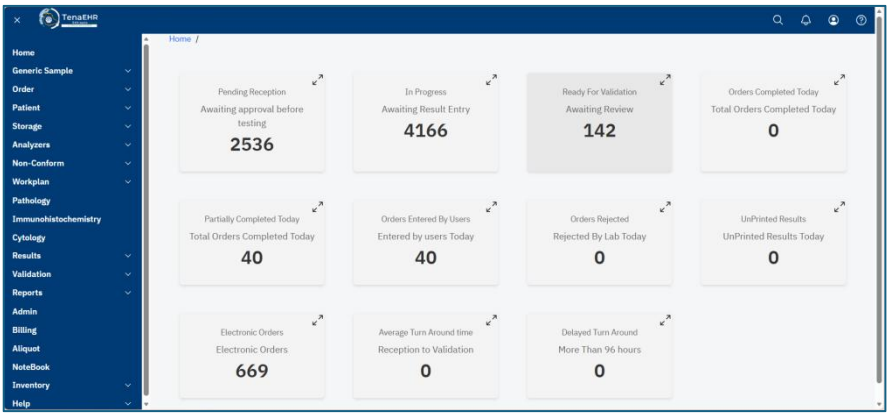
Select the correct test order to fill



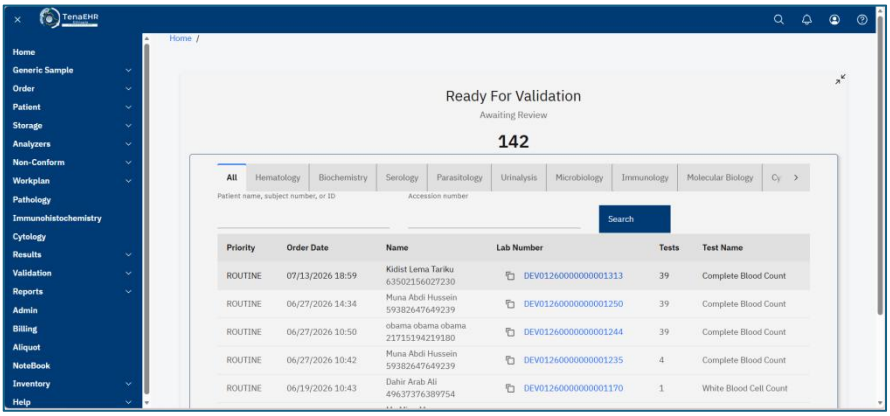
Fill all required results and click on the Save button

The result is now ready to be Validated.

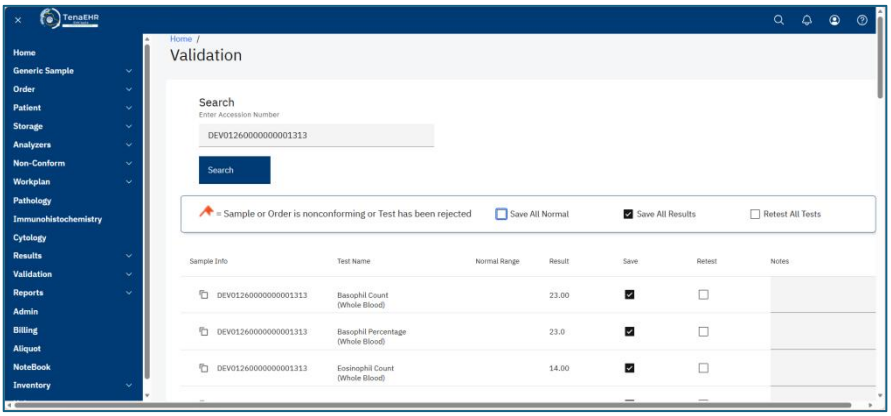
To validate results, use the steps as followed;



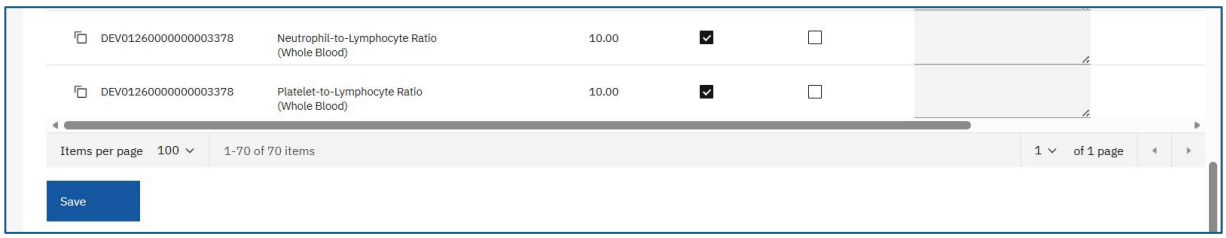
To validate results, click on the Ready for validation awaiting review tab on the homepage



Select the correct test result to Validate



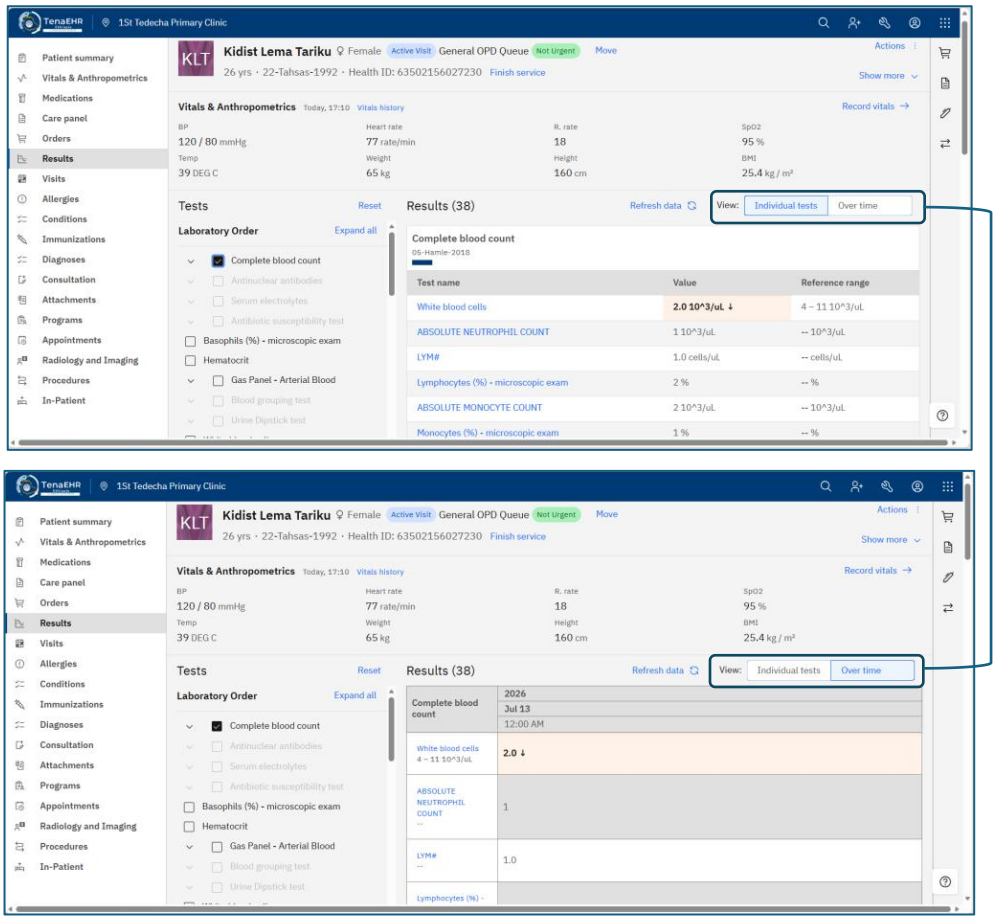
Verify and save all results to validate



Click on the Save button to complete Validation

8.4 Viewing Results in Patient Chart

1. Results appear automatically in the Results menu of the Patient Chart.
2. Click on any result to view the trendline.
3. Use the View type to see the individual tests or overtime changes.



9. Imaging & Radiology

This module covers physician imaging orders, radiology reception, image acquisition (PACS/DICOM), radiologist reporting (including CT/MRI two-tier approval and Ultrasound direct release), and external referral result ingestion.

Purpose

The Imaging & Radiology module enables clinicians to request diagnostic imaging studies and supports the complete radiology workflow, from order placement and patient scheduling to image acquisition, reporting, and result publication. The module integrates with Picture Archiving and Communication Systems (PACS) and supports both internally performed and externally referred imaging studies.

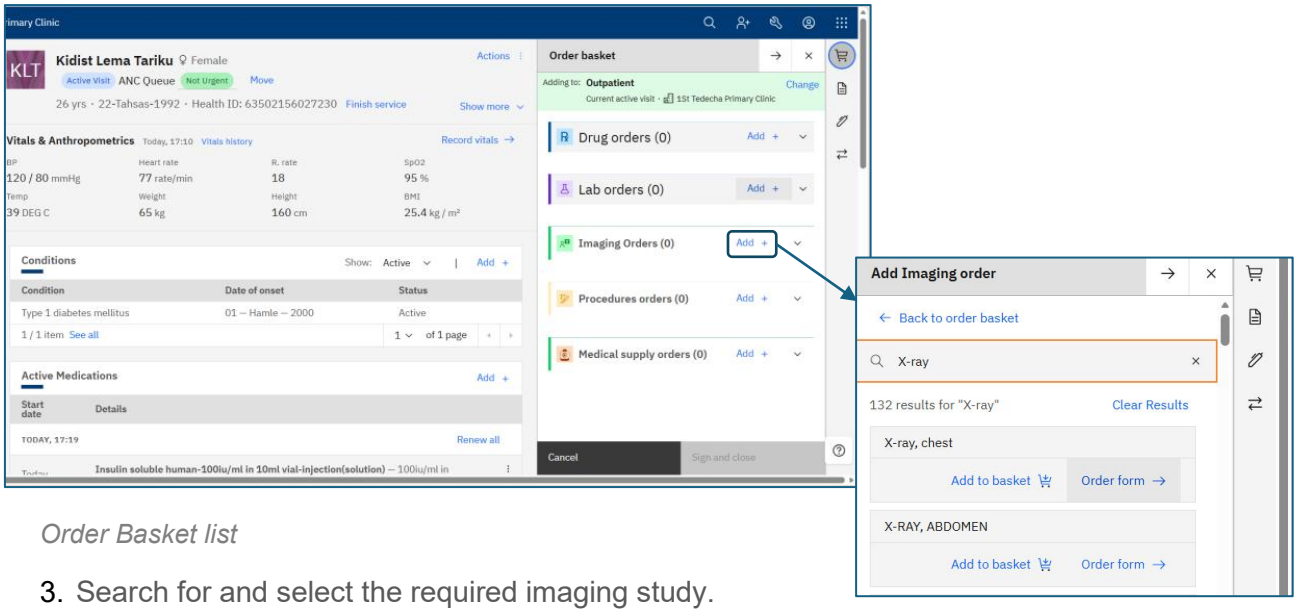
Workflow

Provider Records Diagnosis → Place Imaging Order → Radiology Receives Order → Patient Scheduled or Queued → Image Acquisition → Radiologist Reporting → Results Published to Patient Chart

Note: A diagnosis must be recorded before an imaging order can be submitted.

9.1 Physician – Ordering Imaging

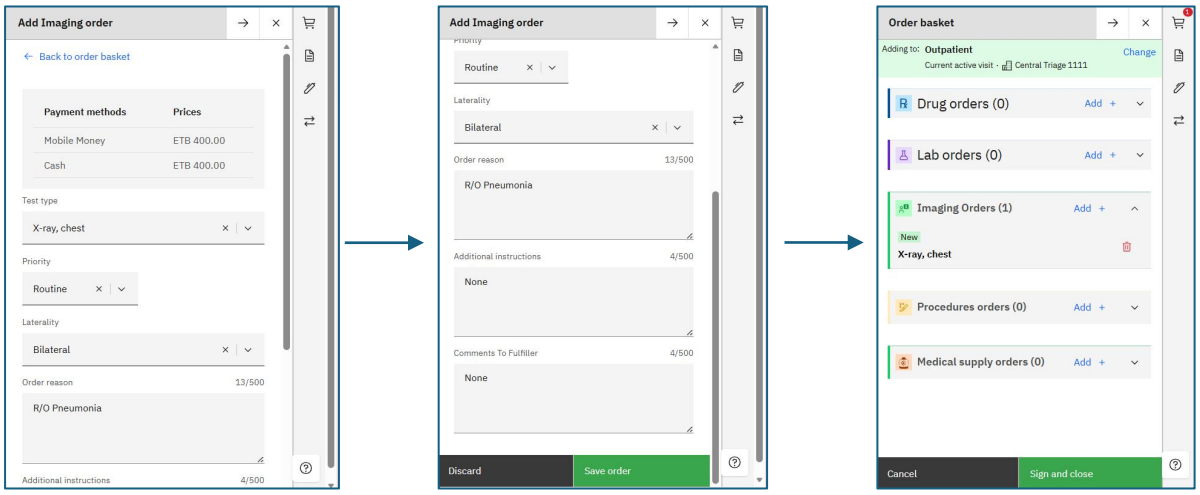
1. From the Patient Chart, open the Order Basket from the right-side menu.
2. Select Imaging Orders.



Order Basket list

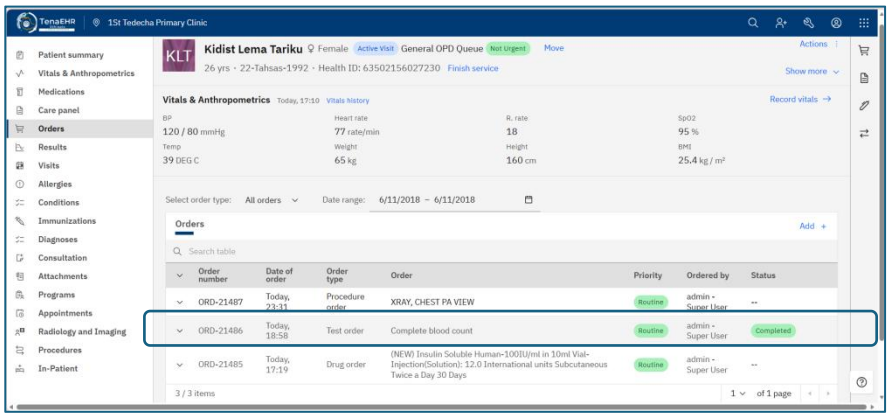
3. Search for and select the required imaging study.

4. Click Add to Basket for multiple studies, or Order Form to complete immediately.
5. Complete the order form:



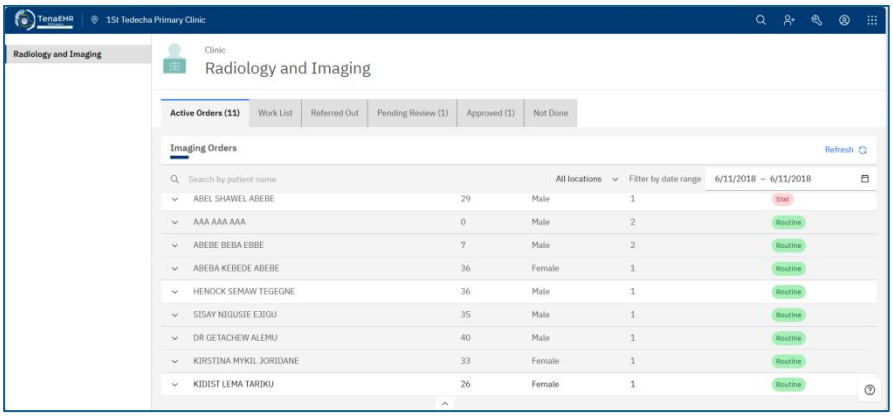
Sample order form filling for Chest X-ray

6. Click Save Order, then Sign & Close.
7. The order appears in the Orders Menu and a billing item is created.

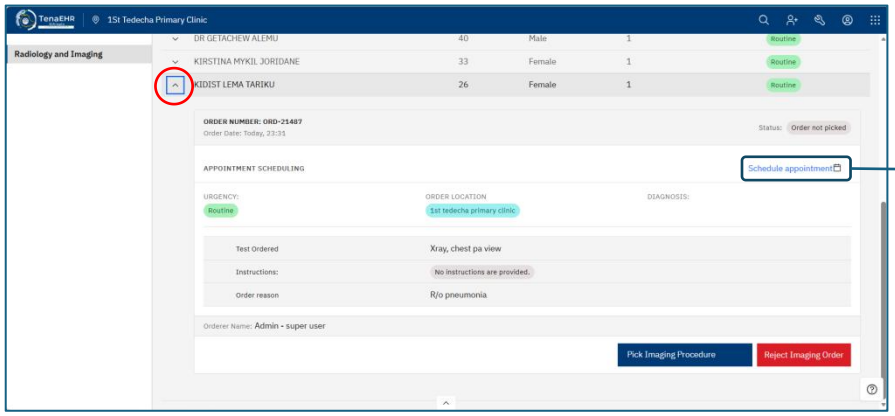


9.2 Radiology Reception – Order Management

1. Navigate to the Radiology & Imaging module.
2. Click on Active Orders to view incoming orders.
3. Emergency orders are flagged with a priority indicator.
4. Order location is displayed: OPD / IPD / Imaging & Radiology / Referral.
5. Either queue the patient for same-day service, or schedule an appointment.
6. Click on Pick Imaging procedure to more the request to Worklist for image acquisition.



Radiology and Imaging Homepage showing Active orders

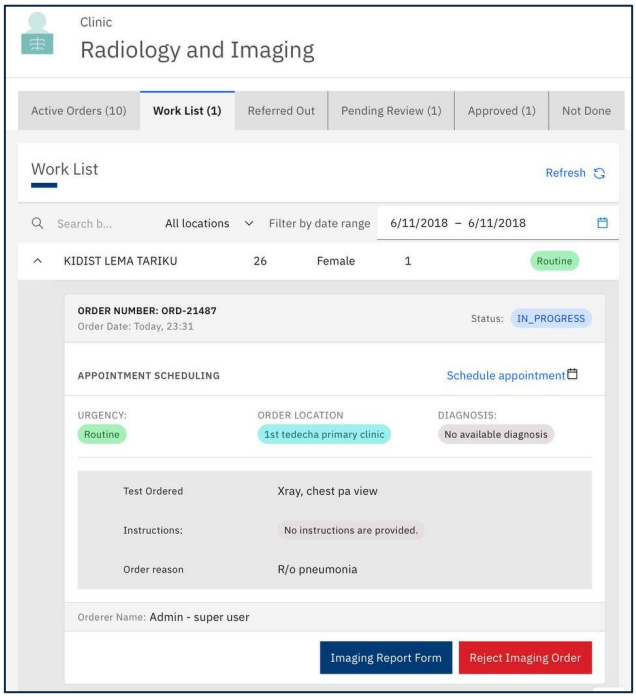


To Schedule Imaging order at a later date

Imaging order specification to either Pick imaging procedure or schedule appointment

9.3 Radiographer – Image Acquisition

1. Open the patient order from the worklist.
2. Review order details and check if contrast is required:
   - If contrast required: Order the contrast procedure first before imaging.
   - If no contrast: Proceed directly to image acquisition.
3. Acquire the image using the imaging equipment.
4. Save the image in DICOM format to PACS.



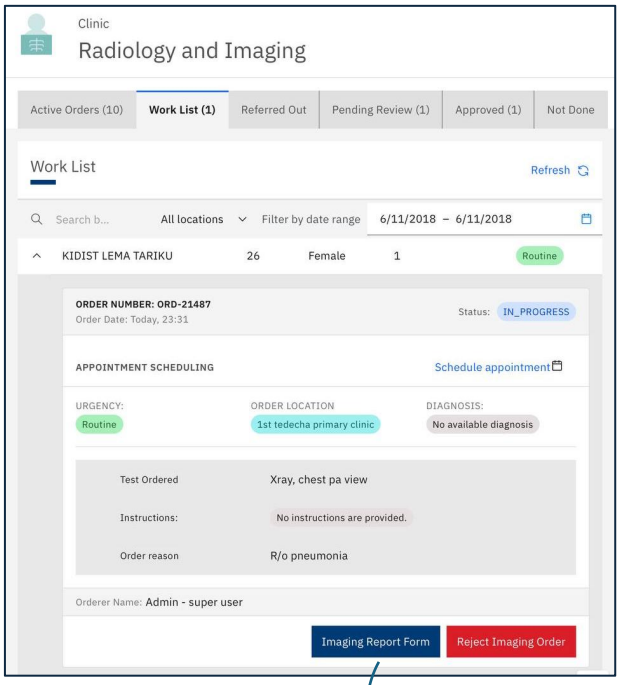
Imaging Worklist page

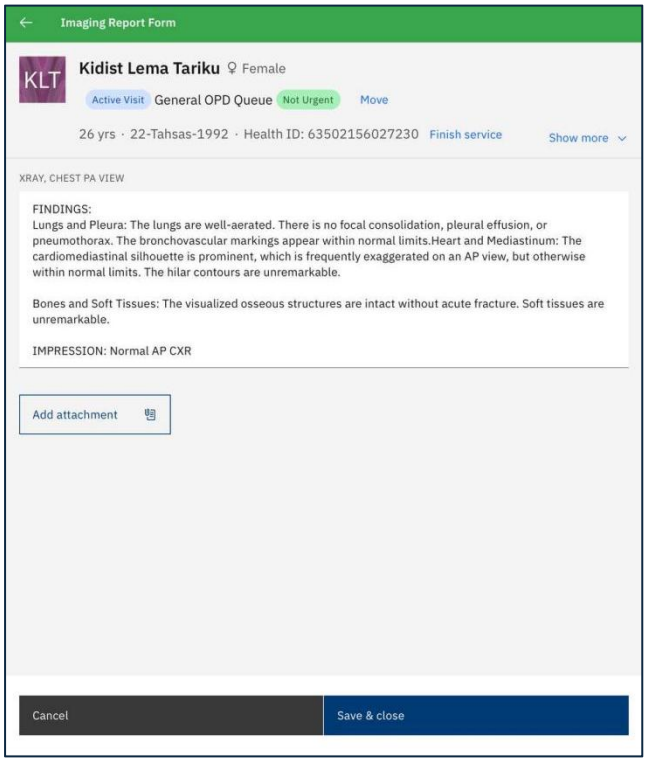
9.4 Radiologist – Reading & Reporting

One Tier Approval Studies (Direct Release)

For studies that don't require approval by senior radiologist

1. Open the DICOM Viewer from the worklist.
2. Read the images and Click on Image reporting Form to enter the report in the structured template.
3. Click Save & Close

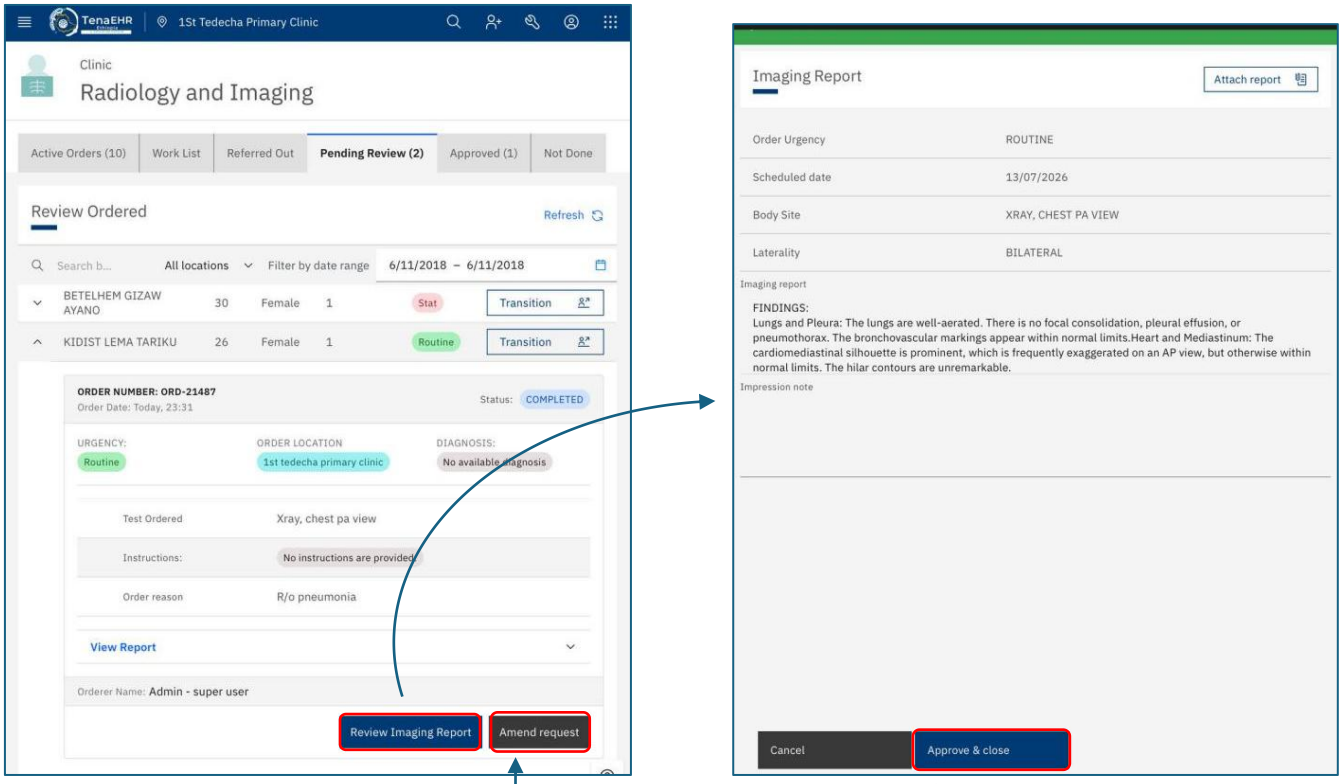




Sample CXR report

Two-Tier Approval Studies

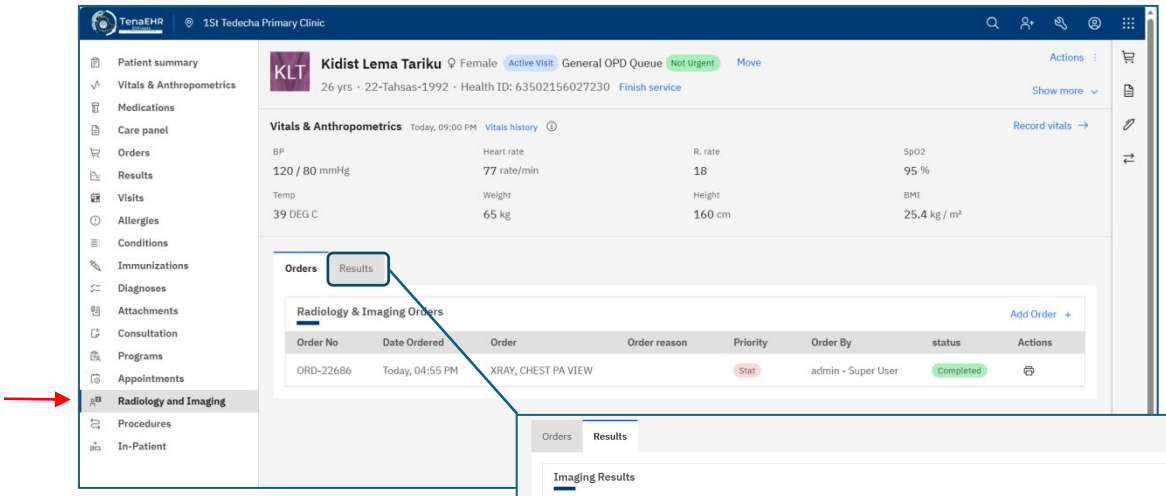
1. Resident Radiologist reads the study and enters a preliminary report.
2. Status updates to PRELIMINARY. (Moves the study to the Pending Review Tab)
3. Senior Radiologist receives an approval request.
4. Senior opens the approval queue and reviews DICOM images alongside the preliminary report.



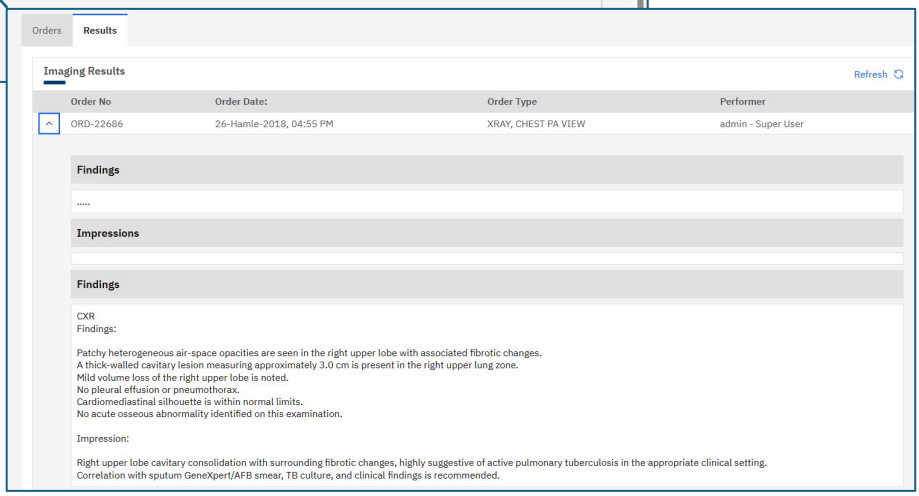
5. Senior Radiologist action options:
   - Reject with Comment
   - Approve as-is
   - Edit and Approve

9.5 Viewing Results in Patient Chart

1. Results appear automatically in the Radiology and imaging menu of the Patient Chart.
2. Click on the result tab to view the report/findings.



Radiology and imaging module in patient chart



Viewing CXR report result in patient chart

10. Drug Orders & Pharmacy (DAGU)

This module covers the complete medication prescribing and dispensing workflow, from physician prescription entry in OpenMRS to medication dispensing in the DAGU Pharmacy System, including the prescription return and review process.

Purpose

The Drug Orders & Pharmacy module enables physicians to prescribe medications electronically through OpenMRS. Medication orders are automatically transmitted to the DAGU Pharmacy System, where pharmacists review, dispense, or return prescriptions for clarification. This integration ensures accurate, secure, and efficient medication management throughout the patient's care.

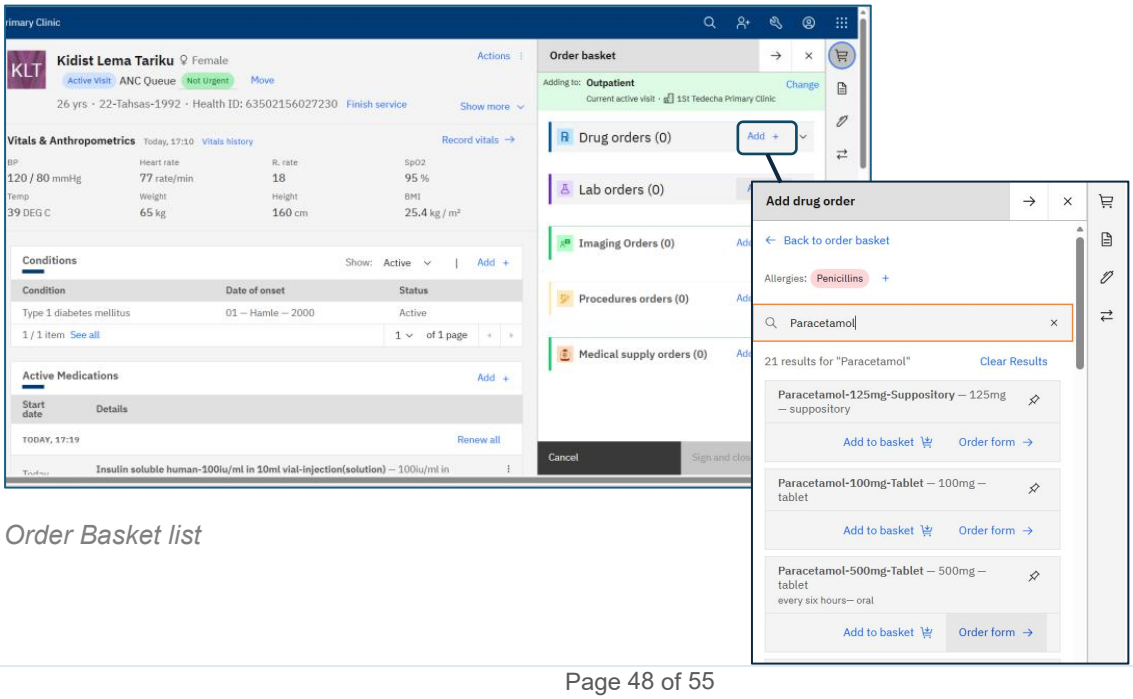
Workflow

Provider Records Diagnosis → Prescribes Medication → Drug Order Sent to DAGU Pharmacy → Pharmacist Reviews Prescription → Medication Dispensed / Prescription Returned → Physician Reviews Returned Prescription (if applicable) → Updated Prescription Resubmitted

Note: Medication dispensing and pharmacy workflows are performed within the DAGU Pharmacy System. Detailed instructions for pharmacists are provided in the DAGU Pharmacy User Manual and are therefore not covered in this manual.

10.1 Physician – Drug Order Entry

1. From the Patient Chart, open the Order Basket from the right-side menu.
2. Click Drug Order.



Order Basket list

3. Search for the required drug from the formulary.
4. Click Add to Basket for multiple drugs, or click Order Form to complete immediately.
5. Complete the Order Form —

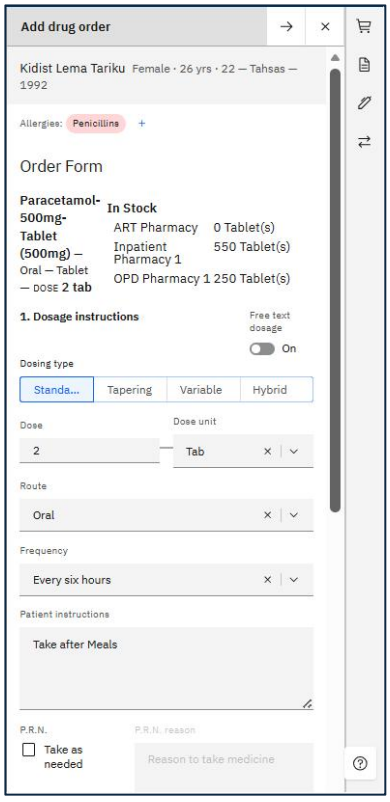
Section 1: Drug Details:

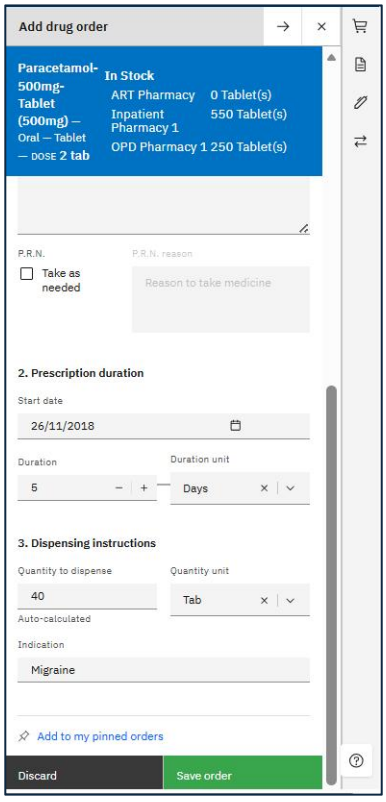
Dose & Units	Specify the dose amount and unit of measurement
Route	Oral / IV / IM / Topical / etc.
Frequency	Once daily / Twice daily / Every 8 hours / etc.
Patient Instructions	Specific instructions on how to take the drug
PRN (As Needed)	Toggle if drug is prescribed as needed; add reason

Section 2: Prescription Details:

Start Date	When the prescription begins
Duration	Number of days for the prescription
Dispensing Instructions	Special dispensing notes for the pharmacist
Refills	Number of allowed prescription refills
Indication	Clinical reason for prescribing

6. Click Save Order, then Sign & Close to transmit the order to DAGU.





Section 1 *Section 2*

⚠ **IMPORTANT** Patient allergies are displayed as warnings at the top of the drug order screen. Review before prescribing.

10.2 Pharmacist – DAGU Dispensing

1. In DAGU, the incoming drug order is received from OpenMRS.
2. Pharmacist reviews and evaluates the prescription (drug interactions, appropriateness).
3. If the prescription is acceptable:
    - Dispense the drug to the patient.
    - If drug is out of stock: Print the prescription for the patient to purchase elsewhere.
4. If the prescription has issues (wrong combination, incomplete):
    - Return the prescription to OpenMRS with a documented reason.

Note: Detailed instructions for using the DAGU Pharmacy System are available in the DAGU Pharmacy User Manual.

11. Procedure Orders & Results

This module covers the ordering, management, completion, and documentation of medical procedures performed within the health facility.

Purpose

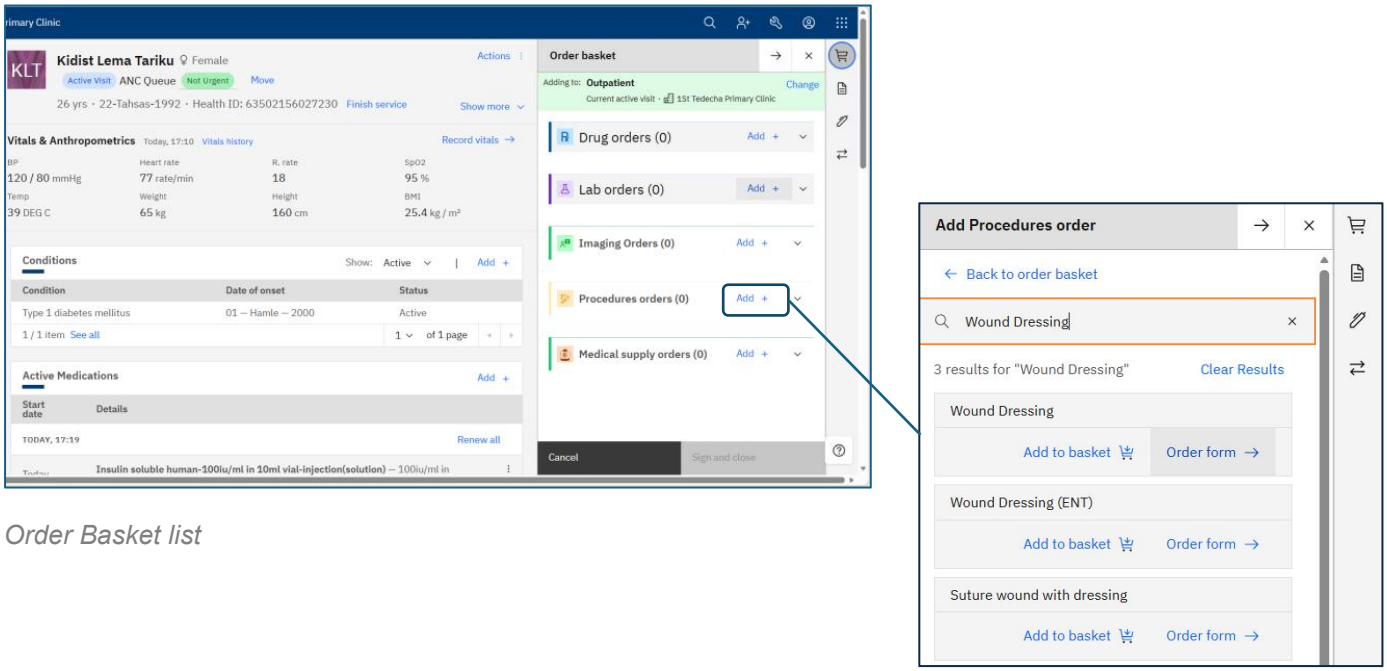
The Procedure Orders module enables physicians to electronically request medical procedures for patients. Procedure teams can receive, manage, perform, and document procedures, while completed procedure reports are automatically made available within the patient's medical record.

Workflow

Provider Records Diagnosis → Place Procedure Order → Procedure Team Receives Order → Procedure Performed → Procedure Result Recorded → Results Available in Patient Chart

11.1 Physician – Ordering a Procedure

1. From the Order Basket (right-side menu), click Procedure Order.
2. Search for and select the required procedure

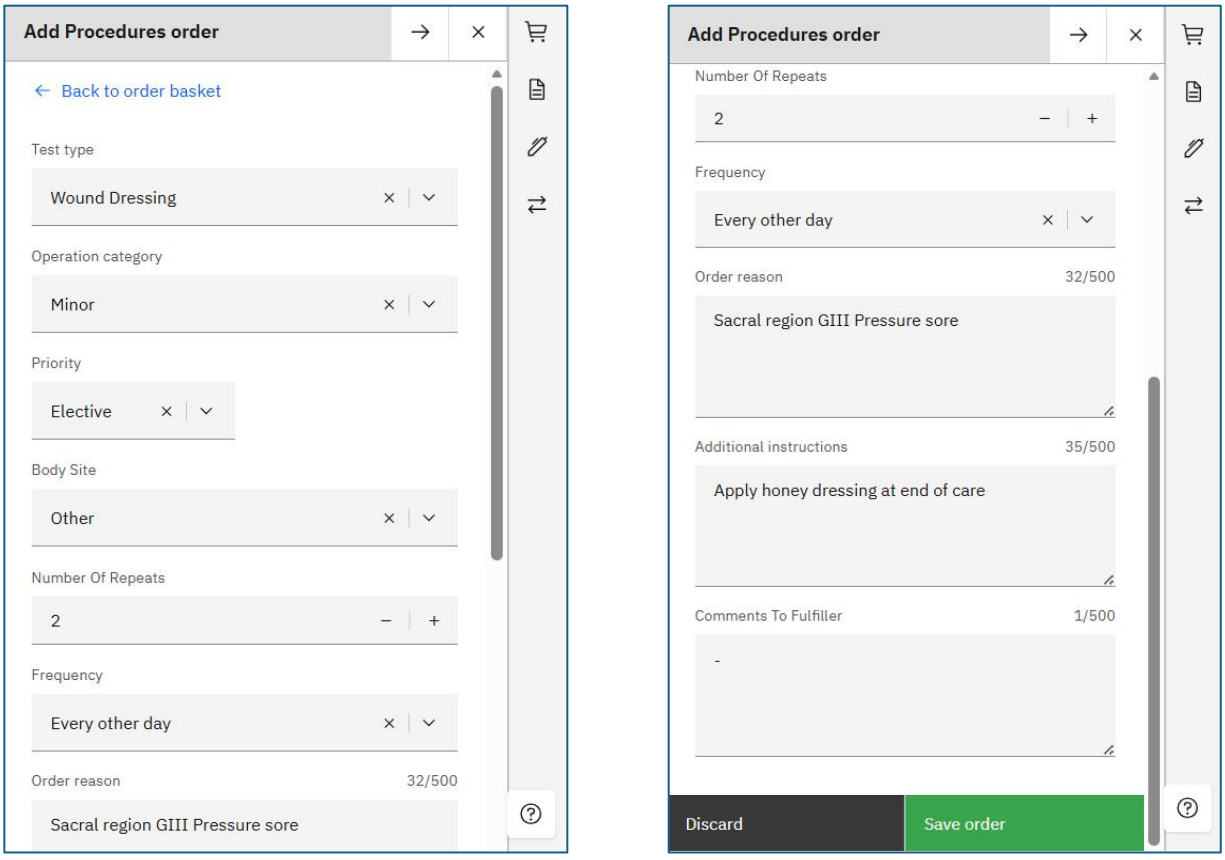


Order Basket list

3. Complete the order form:

Procedure Type	The specific procedure ordered
Operation Category	Minor or Major
Priority	Emergency or Elective
Body Site	Anatomical site for the procedure
Number of Repeats	If the procedure requires follow-up sessions
Frequency	Daily / Weekly / Monthly for repeated procedures
Order Reason	Clinical justification
Additional Instructions	Notes for the procedure team

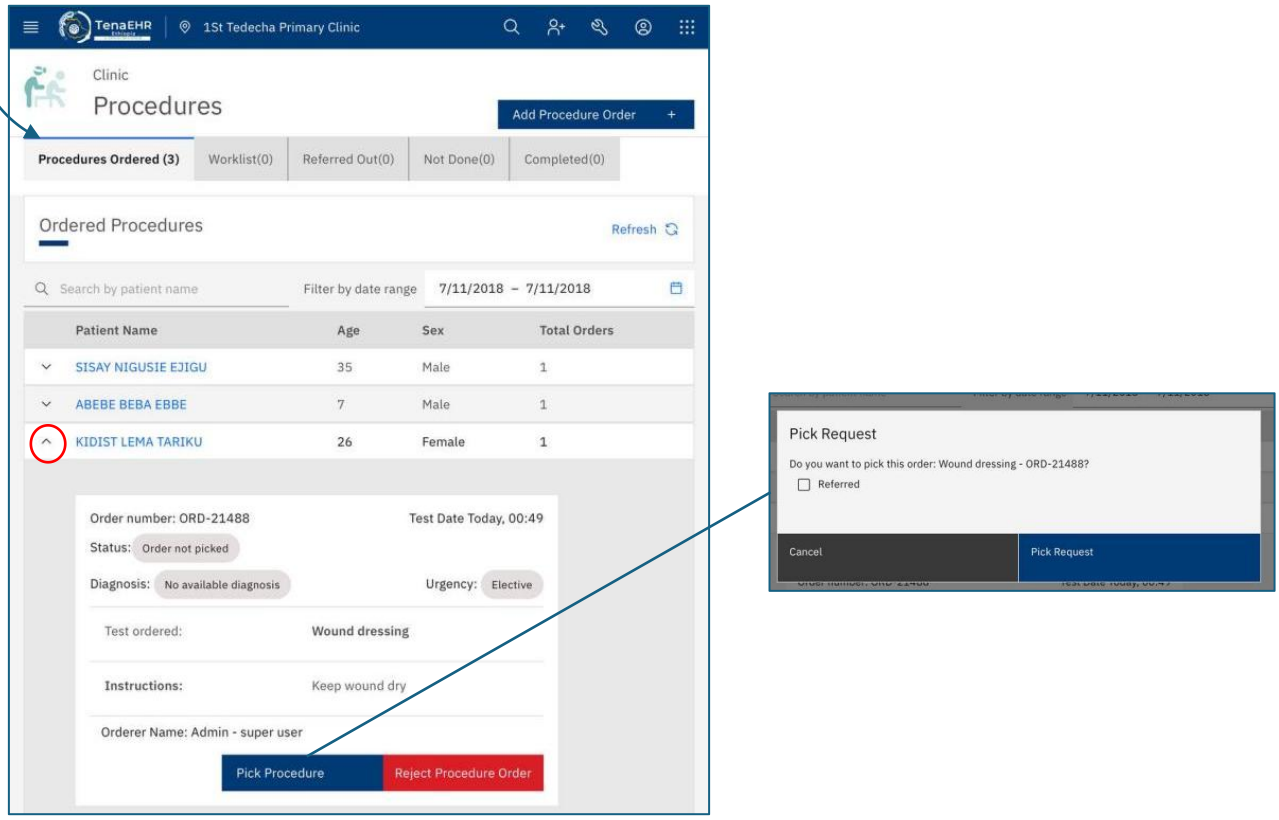
4. Click Save and Sign & Close to submit. A billing item is automatically created.



Sample wound dressing procedure form

11.2 Procedure Team – Order Management

1. Navigate to the Procedures module.
2. View the Procedure Ordered tab — shows: Patient Name, Age, Sex, Total Orders.
3. Expand a patient row to see: Order Number, Status, Diagnosis, Procedure Type, Instructions, Urgency.



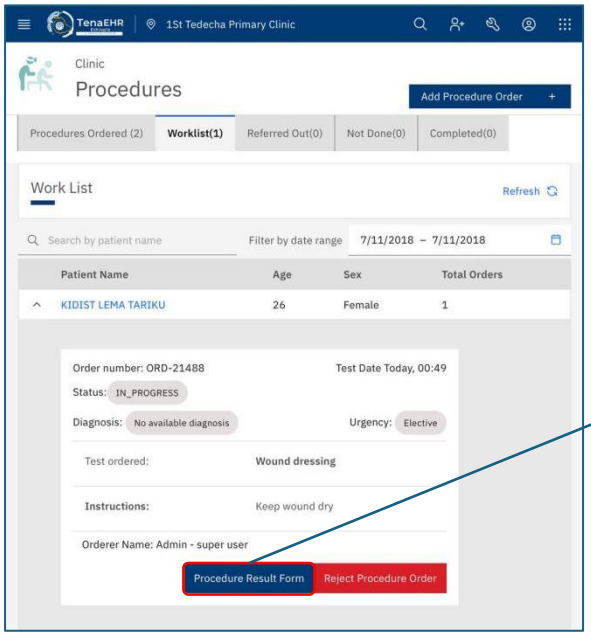
Procedure module homepage

4. Actions:
   - Pick Procedure: Accept and move to Worklist.
   - Refer Out: Flag for referral to external facility.
   - Reject: Decline with documented reason (visible to ordering physician).

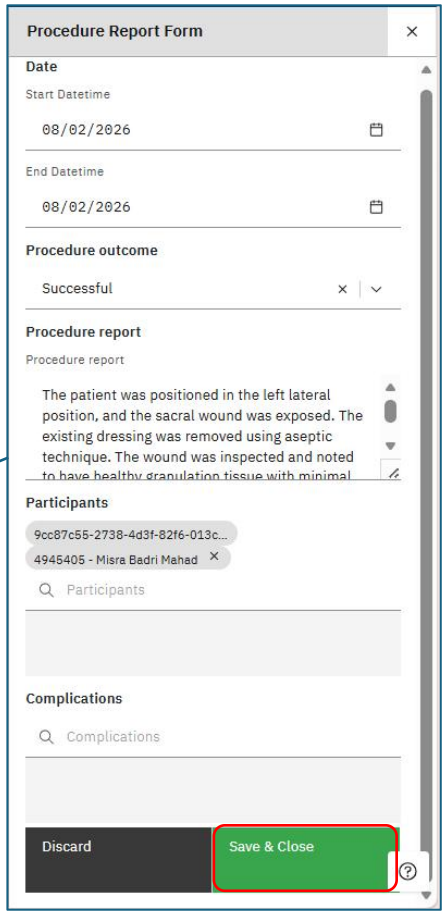
11.3 Completing a Procedure

1. From the Worklist tab, expand the patient row.
2. Click Procedure Result Form.
3. Complete the report:

Start Date / End Date	Duration of the procedure
Outcome	Successful / Partial Success / Not Successful
Procedure Report	Narrative report of the procedure
Participants	Physicians and nurses who performed the procedure
Complications	Any complications that occurred



Procedure worklist page

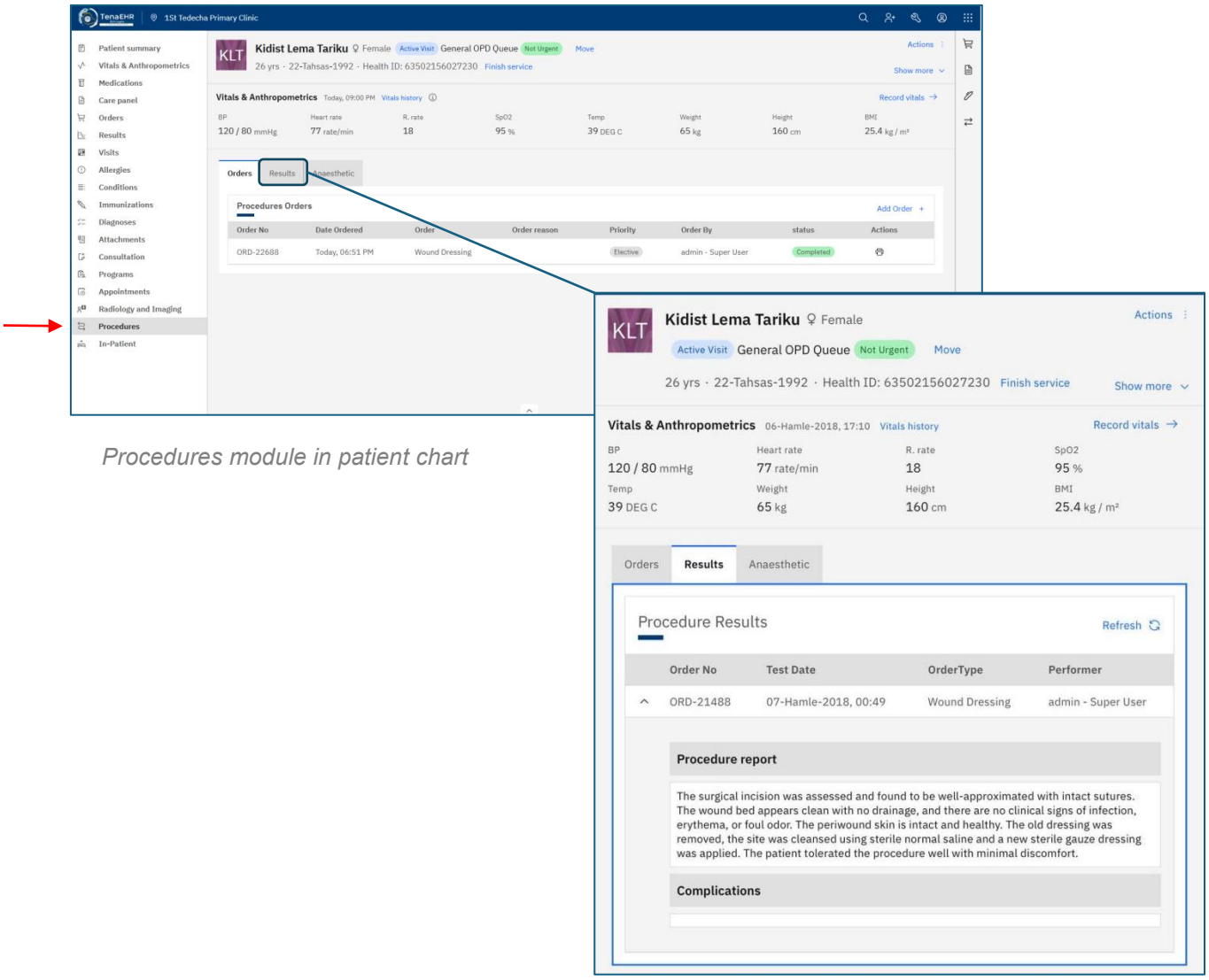


Sample Procedure report form for wound dressing

4. Click Save and Close. The procedure moves to the Completed tab.

8.4 Viewing Results in Patient Chart

1. Procedures ordered and done appear automatically in the Procedures menu of the Patient Chart.
2. Click on the result tab to see the procedure report.



Procedures module in patient chart

Viewing Sample procedure report in the patient chart