

Lab 9: openEMR: Clinical workflow and functions of Clinician tasks

9.1 Learning Objectives:

- to learn typical Clinicians staff tasks and functions a typical EHR system must provide to support them.
- to practice EHR functions to support Clinicians staff roles in a health organisation.

9.2 Practice Clinician role

After **nurse provider** create **patient encounter**, and enter **vital signs**. **Clinician** now start patient observation:

9.2.1 Clinician observation might be **made and documented** in different ways such as:

- Review of systems/system checks

The screenshot displays the openEMR interface for a patient named Ahmad Mahmoud. The top navigation bar includes options like Calendar, Flow Board, Messages, Patient/Client, Fees, Inventory, Procedures, Reports, Miscellaneous, Popups, and About. The patient information section shows the patient's name, ID (333244423), DOB (1995-01-01), and Age (22). A dropdown menu is open, showing 'Open Encounter: 2017-08-31 (2)' and 'View Past Encounter (1)'. A red circle highlights the '(2017-08-31 Office Visit Review)' option, with a '1' next to it. Below the dropdown, a tabbed interface shows 'Encounter Summary', 'Administrative', and 'Clinical' tabs, with 'Clinical' selected and circled in red, accompanied by a '2'. A list of clinical actions is visible, including 'Care Plan', 'Clinical Instructions', 'Eye Exam', 'Functional and Cognitive Status', 'Observation', 'Review Of Systems', 'Review of Systems Checks', 'SOAP', 'Speech Dictation', and 'Vitals'. The 'Review of Systems Checks' option is highlighted in blue and circled in red, with a '3' next to it. The main content area shows the patient encounter details, including the facility (Kober Clinic) and the reason (tummy pain two weeks ago). An eSign Log section at the bottom indicates 'No signatures on file'.

Review Of Systems

Constitutional		
Weight Change: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Weakness: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Fatigue: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Anorexia: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Fever: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Chills: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Night Sweats: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Insomnia: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Irritability: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Heat or Cold: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Intolerance: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	

Eyes		
Change in Vision: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Family History of Glaucoma: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Eye Pain: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Irritation: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Redness: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Excessive Tearing: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Double Vision: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Blind Spots: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Photophobia: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO

Ears, Nose, Mouth, Throat		
Hearing Loss: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Discharge: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Pain: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Vertigo: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Tinnitus: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Frequent Colds: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Sore Throat: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Sinus Problems: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Post Nasal Drip: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Nosebleed: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Snoring: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Apnea: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO

Breast		
Breast Mass: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Discharge: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Biopsy: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO
Abnormal Mammogram: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO		

Respiratory		
Cough: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Sputum: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO	Shortness of Breath: <input checked="" type="radio"/> N/A <input type="radio"/> YES <input type="radio"/> NO

- Use of Subjective-Objective-Action-Plan (SOAP) Note

Patient: Ahmad Mahmoud (333244423)
DOB: 1995-01-01 Age: 22

+ Open Encounter: 2017-08-31 (2)
View Past Encounter (1)
2017-08-31 Office Visit (Review) 1

Calendar Message and Reminder Center Patient Finder Mahmoud, Ahmad 2017-08-31 Encounter

Encounter Summary Administrative Clinical 2

or Ahmad Mahmoud
Expand All Collapse All

- Care Plan
- Clinical Instructions
- Eye Exam
- Functional and Cognitive Status
- Observation
- Review Of Systems
- Review of Systems Checks
- SOAP 3
- Speech Dictation
- Vitals

Edit eSign Patient Encounter by sukaina sarhan (Collapse)

Facility: Kober Clinic
Reason: Ahmad had a tummy pain two weeks ago.

eSign Log
No signatures on file

Calendar ☰ ✕ Message and Reminder Center ☰ ✕ Patient Finder ☰ ✕ Mahmoud, Ahmed ☰ ✕ SOAP ☰ ✕

SOAP

Subjective

Objective

Assessment

Plan

Save Form (Don't Save)

- Physical examination of patient
 - **Physical exam form** and other forms are usually do not appear in the **clinical tab** by default. Here, the **admin** has to install them before.

Calendar Flow Board Messages Patient/Client Fees Inventory Procedures Reports Miscellaneous Popups About

Patient: Ahmad Mahmoud (333244423)
DOB: 1995-01-01 Age: 22

Open Encounter: 2017-08-31 (2)
View Past Encounter (1)
2017-08-31 Office Visit (Review) 1

Calendar Message and Reminder Center Patient Finder Mahmoud, Ahmad 2017-08-31 Encounter

Encounter Summary Miscellaneous Administrative Clinical

Ankle Evaluation Form

Physical Exam 3

For Ahmad Mahmoud
Expand All Collapse All

Edit eSign Patient Encounter by sukaina sarhan (Collapse)

Facility: Kober Clinic
Reason: Ahmad had a tummy pain two weeks ago.

eSign Log
No signatures on file

Encounter Summary Miscellaneous Administrative Clinical

WNL/ABN1 System Specific	Diagnosis Comments
<input type="checkbox"/> GEN Appearance	
<input type="checkbox"/> EYE Conjunctiva, pupils	
<input type="checkbox"/> ENT TMs/EAMs/EE, ext nose	
<input type="checkbox"/> Nasal mucosa pink, septum midline	
<input type="checkbox"/> Oral mucosa pink, throat clear	
<input type="checkbox"/> Neck supple	
<input type="checkbox"/> Thyroid normal	
<input type="checkbox"/> CV RRR without MOR	
<input type="checkbox"/> No thrills or heaves	
<input type="checkbox"/> Carotid pulsations nl, pedal pulses nl	
<input type="checkbox"/> No peripheral edema	
<input type="checkbox"/> CHEST No skin dimpling or breast nodules	
<input type="checkbox"/> RESP Chest CTAB	
<input type="checkbox"/> Respirator effort unlabored	
<input type="checkbox"/> GI No masses, tenderness	
<input type="checkbox"/> No organomegaly	
<input type="checkbox"/> No hernia	
<input type="checkbox"/> Anus nl, no rectal tenderness/mass	
<input type="checkbox"/> No genital tenderness/mass	

Ankle Evaluation Form

- **Ankle evaluation form** and other forms are usually do not appear in the **clinical tab** by default. Here, the **admin** has to install them before.

[Encounter Summary](#)
[Miscellaneous](#)
[Administrative](#)
[Clinical](#)

[Ankle Evaluation Form](#)
[Physical Exam](#)

2
3

For Ahmad Mahmoud
Expand All Collapse All

Patient Encounter by sukaina sarhan (Collapse)

Facility: Kober Clinic
Reason: Ahmad had a tummy pain two weeks ago.

eSign Log
No signatures on file

Ankle Evaluation Form

Save [Don't Save]

Date of Injury: Work related?

Foot: Left Right

Severity of Pain: 1 2 3

Significant Swelling:

Onset of Swelling: within minutes within hours

How did Injury Occur?:

Ottawa Ankle Rules

Bone Tenderness: Medial Malleolus Lateral Malleolus Base of fifth (5th) Metarsal At the Navicular

Able to Bear Weight four (4) steps: Yes No

X-RAY Interpretation:

Additional X-RAY Notes:

- Repeat the aforementioned steps for using other forms

Note: If you don't find the needed form in the **clinical tab**, the **admin** must install it before.

After patient observation is done, clinician has to **provide and document** a set of **clinical instructions** (Medications prescription, ordering lab test, Ordering radiology image, Referrals)

Clinical instruction might be handled by:

- Local facilities** → Local medical lab, local pharmacy (also, called hospital ancillary departments).
- External providers** → community laboratory, community pharmacy, and community radiology center

Note: OpenEMR allow providers to request clinical instructions form local and external providers via **procedure order form**

9.2.3 Patient Instructions - Procedure Order

Clinician has to request lab test order (**HbA1C**) to the current patient (Bader) as follows:

- Select **Patient/client** → **Patients** → **Encounter**
- Select **administrative tab** → **procedure order**
- New window will be opened
- Enter the form data

Calendar Message and Reminder Center Patient Finder Mahmoud, Ahmad Procedure Order for Ahmad N Mahmoud on 2017-08-31

Encounter Summary Miscellaneous Administrative Clinical

Procedure Order for Ahmad N Mahmoud on 2017-08-31

Ordering Provider:	khaled Salayma
Sending To:	Kober Clinic
Order Date:	2017-09-03
Internal Time Collected:	2017-09-03 12:10
Priority:	Normal
Status:	Pending
History order:	Yes
Clinical History:	
Procedure	HbA1C
Diagnosis Codes:	ICD9:362.01

Add Procedure Save **Save and Transmit** Cancel Laboratory Test

9.2.4 Handling Procedure Order

Now, **Lab technician** can handle lab order as follows

- Login to **OpenEMR**
- Select **Procedure → Pending orders**
- **Add the result of lab test and sign result**

Order		Report			Results and Recommendations							
Date	Procedure Name	Reported	Ext Time Collected	Specimen	Status	Code	Name	Abn	Value	Units	Range	?
2017-08-16	HbA1C	2017-08-15 17:46 ?	2017-08-16 17:46 ?		Reviewed	025E	HbA1C	High	42	hmc	> 42	?

Sign Results

9.2.5 Drug Prescription

During patient instruction, doctor prescribes drugs for patient. To prescribe a drug, the **doctor** has to do

❖ Open patient summary page → Edit Prescription

The screenshot displays a patient summary page for Ahmad Mahmoud (DOB: 1995-01-01, Age: 22). The interface includes a top navigation bar with a search icon and a patient ID. A dropdown menu is open, showing options like 'New/Search', 'Summary', 'Visits', 'Records', 'Visit Forms', and 'Import'. The 'Summary' option is selected. The main content area shows various medical sections: 'Notes (expand)', 'Patient Reminders (expand)', 'Disclosures (expand)', 'Amendments (expand)', 'Labs (expand)', and 'Vitals (collapse)'. The 'Vitals' section indicates 'No vitals have been documented.' On the right side, there are sections for 'Measurements', 'Assessments', 'Appointments', 'Recurrent Appointments', 'Medical Problems', 'Allergies', 'Medications', and 'Immunizations'. The 'Prescription' section is highlighted with a red circle and labeled '3'.

❖ New page will open, and display all prescribed drugs

❖ Select **Add** new drug or **edit** existing one

Prescriptions

List Add

Add/Edit

Save Save and Dispense Back

1 units, \$

Currently Active

Starting Date September 03 2017

Provider khaled Salayma

Drug zegerid (click here to search)

in-house -- or select from inventory --

Quantity 1

Medicine Units

Take 3 in

Refills 02 # of tablets: 1

Notes

Add to Medication List No Yes substitution allowed

E-Prescription?
 Checked Drug Formulary?
 Controlled Substance?

❖ After saving the drug the below window will show up

Prescriptions

List Add

List

Download (PDF)		View Printable Version (HTML)		Download (Fax)		Check All Clear All	
Drug	Code	Created Changed	Dosage	Qty.	Unit	Provider	
<input checked="" type="checkbox"/> Edit Zegerid		2017-09-03 2017-09-03	3	1		khaled Salayma	