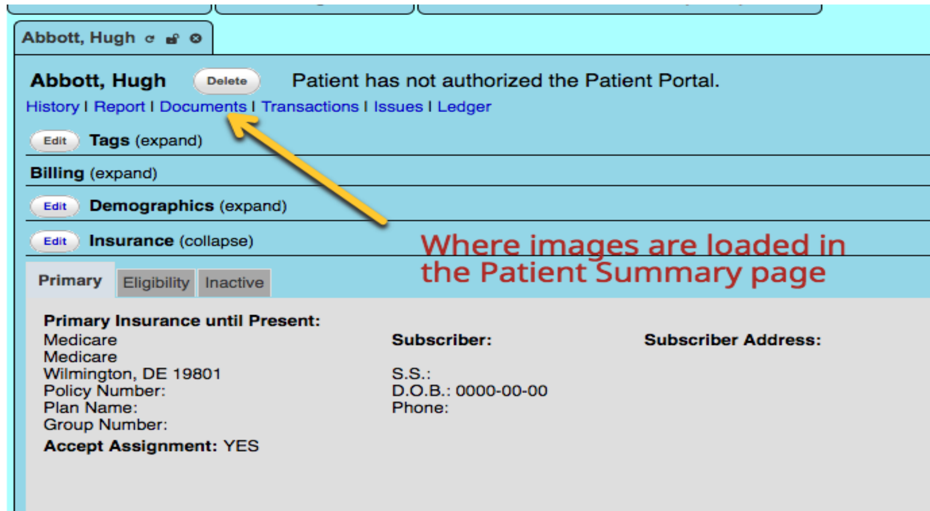
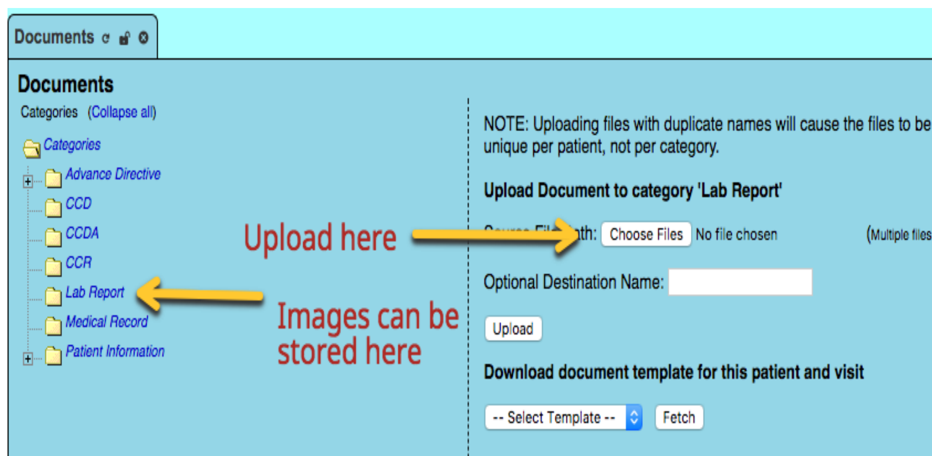
LibreHealth EHR Student Exercises

1. Exercises with Test Patients created by students
    a. Create a new **Encounter** using the Bronchitis form (template)
        i. While your patient's chart is open, go to either New Encounter in the upper right or go to Patient/Client in the upper menu and scroll down to Visits >> Select Create Visit
        ii. In the new window, in the left box, add a reason for the visit such as "bad cough". Visit category would be "established patient" or "office visit". Place of service and billing facility should be the same. Sensitivity is normal. Lastly, click the save button
        iii. Go back to the Clinical menu at the top, scroll down and select Vitals and input the patient's temperature (100), pulse (90), respirations (16) blood pressure (140/85) and oxygen saturation (95). Height and weight should be similar to last visit. Click Save form button
        iv. Next, select the Miscellaneous tab at the top, scroll down to the Bronchitis form and double click. Check the boxes the best you can and when you save the form you should see something like the following

        v. Go back to the Past Encounter box at the top and find today's encounter and you should have an encounter and vital signs to match the visit for acute bronchitis. Note that the diagnosis used is based on ICD-9 and not ICD-10
        vi. Next, go to Google Images and search for normal EKG and normal chest x-ray. Right click each image and select "Save Image As". Download both as images and upload to your patient's Documents which is located right

below the patient's name in the summary list.





vii. Last, you can click the eSign button at the top of the encounter to indicate you are done. We will discuss how to bill for this visit later

b. Create a second **Encounter** for your test patient using a SOAP note

i. Select New Encounter and give reason for visit (chronic low back pain), select office visit for the right clinic and physician. Click save.

ii. In the encounter menu select Clinical and then Vitals and input reasonable vital signs

iii. Next go to the Clinical tab, scroll down and select Review of Systems (which is a template)

i. Select some history from the first section and then the musculoskeletal and neurology sections. The final form, once saved should look something like below

2017-07-14 Encounter

Encounter Summary | Miscellaneous | Administrative | Clinical

< Previous

2017-07-14 Encounter for Hugh Abbott

Expand All Collapse All

Provided Education Resource(s)?
Provided Clinical Summary?
Transition/Transfer of Care?
Medication Reconciliation Performed?

Edit eSign Review Of Systems by Robert Hoyt (Collapse)

Weight Change: NO	**Weakness:** NO
Fatigue: NO	**Anorexia:** NO
Fever: NO	**Chills:** NO
Night Sweats: NO	**Insomnia:** NO
Irritability: NO	**Heat Or Cold:** NO
Intolerance: NO	**Joint Pain:** YES
Musc Swelling: NO	**Musc Warm:** NO
Musc Stiffness: YES	**Musc Aches:** YES
Arthritis: YES	**Neuro Numbness:** NO
Neuro Weakness: NO	**Paralysis:** NO

eSign Log

ii. Create new vital signs and save

iii. We are now going to use a subjective, objective, assessment and plan (SOAP) note. Subjective means what did the patient complain of, objective means what did the clinician find on exam. Assessment is what do you think was wrong and how would you code it with ICD-10 and Plan is what you plan to do for the patient. When you are done the encounter note should like something like the image below on the next page

iv. Lastly, we are going to send a patient summary to the physical therapist and give a copy to the patient

c. For extra credit create an **Encounter** using speech dictation (voice recognition). First create a new encounter as you did before. Under the clinical tab select speech dictation and a new form with a large empty box appears. Most of the voice recognition software in the average Windows or Mac computers is adequate to attempt a note.

d. **Order a medication**: Add a new medication Ibuprofen to prescriptions. On the Patient Summary list select the Prescription option and the edit. In the new window select Add. Check currently active, select the date and provider. For the Drug type in Ibuprofen, quantity = 100, Medicine units 800 the mg, Take 1 tablet per oris (orally) prn. 3 refills. Add to medication list = yes and in the last drop down, select substitution allowed. When you are finished, click save and then you have the option to download PDF, view html or download FAX. (See screen shot)

SOAP Note (Encounter)

Patient: **Hugh Abbott(8040)** Clear
DOB: 1949-12-23 Age: 67

SOAP

Edit eSign Delete **Vitals** by Administrator Administrator (Collapse)

Blood Pressure: 144/90 **Weight:** 212.00 lb (96.16 kg)
Height: 67.00 in (170.18 cm) **Temperature:** 98.00 F (36.67 C)
Pulse: 84 per min **Respiration:** 16 per min
BMI: 33 kg/m^2 **BMI Status:** Obesity I

Vitals

eSign Log

No signatures on file

Edit eSign Delete **SOAP** by Administrator Administrator (Collapse)

SOAP

Subjective: Patient has known chronic low back pain due to lumbar spondylosis. He has never had surgery and has not been diagnosed with spinal stenosis. He denies radiculopathies or numbness or weakness but notices chronic stiffness and aching, particularly in the morning. He has run out of his Ibuprofen and has been inactive at the computer which might explain why his back is worse
Objective: There is questionable scolisosis to the right. No tenderness or obvious spasm. Straight leg raising test is negative. He has pain with forward flexion but not extension. DTRs are 2+ and equal. No Babinski signs
Assessment: Chronic low back pain due to lumbar spondylosis
Plan: Rewrite Ibuprofen 800mg q 6 hours prn for pain (take with snack). Referred again to physical therapy for standard back exercises

eSign Log

No signatures on file

Edit eSign Delete **Review Of Systems** by Administrator Administrator (Collapse)

Review of Systems

Weight Change: NO **Weakness:** NO
Fatigue: NO **Anorexia:** NO
Fever: NO **Chills:** NO
Night Sweats: NO **Insomnia:** NO
Irritability: NO **Heat Or Cold:** NO
Intolerance: NO **Joint Pain:** YES
Musc Swelling: NO **Musc Redness:** NO
Musc Warm: NO **Musc Stiffness:** YES
Muscle: NO **Musc Aches:** YES
Arthritis: YES **Seizures:** NO
Neuro Numbness: NO **Neuro Weakness:** NO
Paralysis: NO **Dementia:** NO

Prescription for Ibuprofen

Prescriptions
List Add

Add/Edit Save Back

Currently Active ☑
Starting Date July 15 2017
Provider Robert Hoyt
Drug Ibuprofen (click here to search)
Quantity 100
Medicine Units 800 mg
Take 1 in tablet Per Oris p.r.n.
Refills 03 # of tablets: 10C
Notes
Add to Medication List ○ No ● Yes substitution allowed

☐ E-Prescription?
☐ Checked Drug Formulary?
☐ Controlled Substance?

e. **Order a new lab test**:

i. Go to Procedures tab at top, scroll down to Configuration and this will show you what tests are currently available to order. The first test NHANES Lab Panel is what most patients in LibreHealth EHR already have, so it is a convenient choice. The other two tests were ordered for the sample patients.

ii. First you must create a new encounter and for the reason for visit type in "Lab Test". Fill in date, established patient, etc.

iii. Access the Administrative tab under Encounter and scroll down and select Procedure Order. Make out the form similar to what is shown in the following screen shot. Well order the NHANES lab panel and opt to save and transmit it to the lab. We'll also give it a ICD-10 code.

Procedure Order for Hugh Abbott on 2017-07-14

Encounter Summary | Miscellaneous | Administrative | Clinical

Procedure Order for Hugh Abbott on 2017-07-14

Ordering Provider:	Robert Hoyt — Name of physician
Sending To:	NHANES Data
Order Date:	2017-07-14
Internal Time Collected:	2017-07-14 15:38
Priority:	Normal
Status:	Pending
Clinical History:	Follow up lab
Procedure	NHANES Lab Panel — Use this panel Diagnosis Codes: ICD10:E78.5 — Search for ICD-10 for hyperlipidemia

Select lab test → Laboratory Test | Add Procedure | Save | Save and Transmit ← Save

iv. Go to Procedure tab at top on main menu, scroll down to pending review and enter factitious results for the patient, today's date for reported and ext time collected. Under status select "Reviewed" and finally hit the Sign Results button at the bottom, which indicates the physician or nurse have looked at the results

v. Last, go to Procedure tab and scroll down to Patient Results and you will see the old and new panel results (see screen shot)

f. Generate a **HL7 message** for sending the lab request to the lab. When you selected "Save and Transmit" it should have downloaded a HL7 message to your computer. View the message using TextEdit for the Mac or Notepad for Windows computers. Note the type of information in the message below. HL7 messages are used to send a variety of electronic messages. For more information on HL7 messaged, visit this site. (See screen shot)

Lab results from December 2016 and July 2017

Procedure Results

Date	Procedure Name	Reported	Ext Time Collected	Specimen	Status	Code	Name	Abn	Value	Units	Range	?
2016-12-31	NHANES Lab Panel	2016-12-31 00:?	2016-12-31 00:?		Reviewed	3016	TSH			uIU/	0.5 -	?
						2160	Creatinine	No	0.84	mg/	0.8 -	?
						3094	BUN	No	15	mg/	8 - 2	?
						3453	Urine Albumi	No	10.6	mg/	0 - 17	?
						2085	HDL	Low	25	mg/	40 -	?
						1345	LDL			mg/	85 -	?
						2571-	Trigylcerides			mg/	50 -	?
						2093	Total Choles	No	134	mg/	0 - 2	?
						6690	WBC	No	5.5	100	4 - 1	?
						718-7	Hemoglobin	No	14.3	g/dL	13 - 1	?
						4544	Hematocrit	No	41.6	%	40 -	?
						777-3	Platelet Cou	No	191	100	150 -	?
						4548	Glycohemog	High	6.6	%	0 - 6.	?
						2345	Fasting Bloo			mg/	65 -	?
						6280	Fasting Bloo			uU/r	0 - 2	?
						GST	Combined G		88.2	kg		?
2017-07-14	NHANES Lab Panel	2017-07-14 00:?	2017-07-14 00:?		Reviewed	3016	TSH		111	oth		?
						2160	Creatinine		1	mg_		?
						3094	BUN		1	mg_		?
						3453	Urine Albumi		1	oth		?
						2085	HDL		1	mg_		?
						1345	LDL		1	mg_		?
						2571-	Trigylcerides		1	mg_		?
						2093	Total Choles		1	mg_		?
						6690	WBC		1	thou		?
						718-7	Hemoglobin		1	g_dl		?
						4544	Hematocrit		1	perc		?

order_17923.hl7

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MSH|^~\&|||||20170714155227||ORM^001|17923|D|2.3
PID|1|8040|8040||Abbott^Hugh||19491223|M|||^^^^||||||31950||||
PV1|1||||||^Hoyt^Robert|||||||||||31950||||||||||||
IN1|1||31919|Medicare|Medicare^^Wilmington^DE^19801||||||||||^^|self|00000000|^^^^|||1|||||||||||||||||||||||||
GT1|1||Abbott^Hugh||^^^^|||19491223|M||self|
ORC|NW|17923|||||||20170714155227|||^Hoyt^Robert||||||||2
OBR|1|17923||1^NHANES Lab Panel|R||20170714153800|||||||||^Hoyt^Robert||I|||||||||0
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g. Set up the **Patient Portal** for your test patient. On the patient summary page, go to demographics section and then the Privacy tab. In the first section “Allow Patient Portal”, change from Unassigned to Yes. (this is a good time to also look

Current Patient

Current Patient Save Cancel

Demographics

Face Sheet | Contacts | **Privacy** | Employer | Social Statistics

Change to Yes

Allow Patient Portal:	Unassigned		
Trusted Email:		**Privacy Notice Received:**	Unassigned
Allow Voice Message:	Unassigned	**Leave Message With:**	
Allow Mail Message:	Unassigned	**Allow SMS:**	Unassigned
Allow Email:	Unassigned	**Allow Immunization Registry Use:**	Unassigned
Allow Immunization Info Sharing:	Unassigned	**Allow Health Information Exchange:**	Unassigned
VFC:	Unassigned	**Date Deceased:**	0000-00-00
Reason Deceased:			

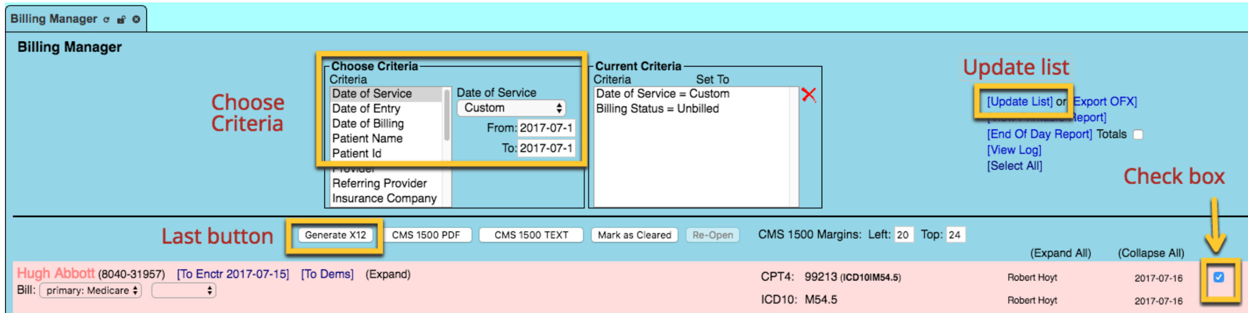
at the other choices and allow your patient access to several other EHR features). Select the Save button. When you return to the main Summary page you will note to the right of the patient’s name it will now say “Create Onsite

Portal Credentials". Select that button and you will see that the system created a User Name and Pass Phrase for the patient. Click Save and this will print out the portal web address, username and password to hand to the patient. The patient can now access the portal to view results. The portal should display CCR and CCD reports, labs, medications, allergies and appointments.

h. **Billing and Coding.** First, select your test patient and select one of the encounters you created in the Past Encounter List. Access the Fee sheet, either above the Encounter, under the Administrative tab or in the top menu, under Fees. Notice the two drop down menus, one for a New Patient and the other for the Established Patient. Select the latter and choose Detailed Visit. This will generate a CPT code of 99213 automatically below. Under the Search option select ICD-10 Diagnosis and in the window to the right search for the diagnosis (e.g. low back pain). We will search for low back pain and look above the word Search and you will see Search Results (1 item). Double click that and select M54.5 for low back pain. Click on the Justify drop down and select M54.5 so the CPT code is now linked to the ICD-10 code. Click Save. Now go to Patient/Client in the top menu and scroll down to select and open Visits and then Visit History and you will see the encounter now is associated with the billing codes.

Next go to Billing Manager, under the Fee Menu at the top. Billing staff can choose several criteria of interest, such as Date of Service, Date of Billing, Patient Name, Billing status and so forth. For this exercise choose Date of Service and a date search will come up. Use dates that will include the encounter you performed and just coded. Click on the blue "Update List" to the right and the bill should show up below in pink. Note, in the insurer is Medicare. You see the CPT and ICD-10 codes and the name of the provider. Checking the box to the right, and then selecting Generate X12 button, will send this claim in a X12 format to the clearing house. (see

screen shot). You will see a pop-up asking to proceed, select yes and a batch claims (text file is produced (screen shot).

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ISA******              **
*030911*1630*^*00501*000000000170716*1417*^*00501*025003878***:~GS*HC***20170716*1417*1*X*~ST*837*0001~BHT*0019*00*0123*20170716*1417*CH~NM1*41*2*LAKE SUMTER
CLINIC*****46~PER*IC**TE~NM1*40*2******46~HL*1**20*1~NM1*85*2*LAKE SUMTER CLINIC*****XX~N3*9501
US-441~N4*LEESBURG*FLORIDA*34788~REF*EI~HL*2*1*22*1~SBR*P********16~NM1*IL*1******MI~NM1*PR*2*MEDICARE*****PI~N3*MEDICARE~N4*WILMINGTON*DE*19801~HL*3*2*23*0~PAT~NM1*QC*1*ABBOTT*HUG
H~N3~N4~DMG*D8*19491223*M~CLM*8040-31957*0.00***11:B:1*Y*A*Y*Y~HI*ABK:M545~LX*1~SV1*HC:99213*0.00*UN*1***1~DTP*472*D8*20170715~SE*28*0001~GE*1*1~IEA*1*025003878~
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i. Create a new **clinical decision rule**

j. **Generate a CCDA** for this visit. On the Summary page of the test patient you created, select the Report tab at the top. Choose CCD from the choices and download option.

k. **Patient and Clinic Reports**

   i. Your clinic has the option to have Teleretinal screening for your diabetic patients. Your business manager suggested that you offer that for all diabetics ages 75-90 because travel to the specialist is more difficult. First you must determine how many patients in that age group you actually have in the clinic. Go to **Reports**, Clients, then Patient List Creation. Change **From** date to something before 2016-12-31 and the **To** date as today's date. Select age range 75-90 and the Option set on demographics. Gender is unassigned. Click **Submit**. You should now have a list of patients and at the top of the list it should say "Total Number of Patients: xxx. How many did you find? Now you want to know how many have diabetes. Now change the Option drop-down to **Problems** and repeat the search. Note that the total found is less than on the first search because not everyone had a diagnosis. Also, many patients have multiple diagnoses. You can sort by either ICD-10 code or Diagnosis Name. (see screen shot) Click on Diagnosis Name and it should sort alphabetically. Scroll down and count those with either Type 2 diabetes with unspecified diabetic retinopathy (E11.319) or those without complications (E11.9). Total these number of diabetic patients and divide by the total number of patients you found in ages 75-90. What percent are diabetic and might benefit from screening in your office?

Report - Patient List Creation

Change to earlier date

From: 2016-11-17 To: 2017-07-17 Option:

Option menu

Patient ID: Age Range: From 75 To 90 Gender: Unassigned

Submit

Total Number of Patients: 586

Total

Sort Up and Down Arrow

Diagnosis Date	Diagnosis	Diagnosis Name	Patient Name	PID	Age	Gender	Provider
2017-04-24 20:42:55	ICD10:M19.90	Unspecified osteoarthritis, unspecified site	Burton, Rene	13	80	Male	
2017-04-24 20:42:55	ICD10:K76.9	Liver disease, unspecified	Burton, Rene	13	80	Male	
2017-04-24 20:42:55	ICD10:C44.99	Other specified malignant neoplasm of skin, unspecified	Burton, Rene	13	80	Male	
2017-04-24 20:42:55	ICD10:M19.90	Unspecified osteoarthritis, unspecified site	Welch, Freddie	17	80	Male	
2017-04-24 20:42:55	ICD10:E07.9	Disorder of thyroid, unspecified	Welch, Freddie	17	80	Male	
2017-04-24 20:42:56	ICD10:C76.8	Malignant neoplasm of other specified ill-defined sites	Mccoy, Charles	21	75	Male	
2017-04-24 20:42:56	ICD10:K76.9	Liver disease, unspecified	Mccoy, Charles	21	75	Male	
2017-04-24 20:42:58	ICD10:M19.90	Unspecified osteoarthritis, unspecified site	Beck, Debbie	54	77	Female	
2017-04-24 20:42:58	ICD10:I50.9	Heart failure, unspecified	Beck, Debbie	54	77	Female	
2017-04-24 20:42:59	ICD10:J45.20	Mild intermittent asthma, uncomplicated	Nunez, Justin	67	75	Male	
2017-04-24 20:42:59	ICD10:M19.90	Unspecified osteoarthritis, unspecified site	Nunez, Justin	67	75	Male	
2017-04-24 20:42:59	ICD10:K76.9	Liver disease, unspecified	Nunez, Justin	67	75	Male	
2017-04-24 20:42:59	ICD10:M10.9	Gout, unspecified	Nunez, Justin	67	75	Male	
2017-04-24 20:43:00	ICD10:I25.9	Chronic ischemic heart disease, unspecified	Wolfe, Aaron	90	80	Male	

ii. Next you want to know how many young diabetics between ages 2 to 20 you have in the clinic. Select Reports in top menu, select Clients and then Clinical. This should bring up the following (screen shot). Search all facilities, Age Range 2-20, gender, race and ethnicity are unassigned. Change the From date to something before December 30, 2016. Click on Problem Dx and under ICD-10 look for diabetes and select E11.9. (see screen shot) Now hit the Submit button. How many returns? To determine whether these are type 2 diabetics, access each patient's summary list and check medications. If they are taking metformin, they are type 2. If they are only taking insulin, they are type 1. Next access their Lab results in the Summary list. Locate glycohemoglobins by Toggle all or look just at 4548-4 (LOINC code). they should be 7 or less (ideally). Are the type 2 diabetic patients better or worse controlled? Lastly, check everyone's BMI. Overweight is > 25, obese is > 30. Who is heavier, type 1 or type 2?

Report - Clinical

Facility: -- All Facilities -- From : 2016-07-17 11:25

Patient ID: To: 2017-07-17 11:25

Age Range: From 2 To 20 Problem DX: ICD10:E11.9

Search ICD-10 for E11.9

Gender: Unassigned Drug:

Race: Unassigned Ethnicity: Unassigned Immunization:

Lab Result: Option: Select Communication: Select

Sort By: Patient Name Age Allergies Medical Problems Drug NDC Number Lab Results Communication

Submit