

Intro Level SimEMR® Use Cases

4.1 ADVANCED PROVIDER PROGRAMS

Introduction

This lesson will introduce learners in advanced provider roles (MD/PA/NP) to the inter workings of an electronic medical record system while reviewing and managing a patient case. Learners will review basic order entry, data review, and clinical assessment documentation. The forms and documents within SimEMR®, a system designed exclusively for charting in a clinical simulation context, are a representation of charting elements included in real-world EMR systems.

Learning Objectives

- Navigate components of SimEMR®
- Engage with common medical terminology in an EMR
- Perform basic documentation in an EMR
- Practice basic Provider Order entry
- Incorporate diagnostic testing and review to support clinical decision making

Resources Needed

- SimEMR® login
- Internet access
- Web capable device

Content

- Introduction to common healthcare provider documentation using SimEMR®
- Patient case review

Teaching Strategies

- Tutorial review
- Review of information
- Hands on practice
- Documentation of clinical data

Time

- *15-20 minutes:* Administration: Patient Profile creation
- *20 minutes:* Learner practice
- *10-15 minutes:* Review & evaluate learner work

Patient Case & Scenario Overview

ADVANCED PROVIDER PROGRAMS

Patient Profile Name: Anthony Palermo **DOB:** 06/01/1959

Scenario: Mr. Palermo is a 61-year-old male who presents with possible gastroenteritis. He reports a 3-day history of nausea, vomiting (occurring occasionally) and watery diarrhea (occurring at least 4-5 times daily). He and his wife attended a local outdoor gathering recently and he thought he had gotten food poisoning. Symptoms have not relented; upon arising today, he became lightheaded, and his wife insisted he be seen. He states he did continue his anti-hypertensive as able. He presents to the Emergency department for evaluation.

Profile Overview: The following patient case includes an overview of the scenario, an overview of learner objectives, and administrative steps required to get started. As you review these materials, bear in mind some similar terms. Patient Profile refers to the electronic patient in SimEMR®. Patient case refers to your overall scenario that uses that patient profile.

Profile Objectives: Acclimate the Advanced provider learner to common documentation practices within an Electronic Medical Record, SimEMR®.

Applications for learners, will include, but are not limited to:

- a. Introduction to an EMR: Identifying the importance of using one as well as safety factors
- b. Navigate the components of SimEMR®
- c. Engage with common medical terminology in an EMR

Patient Profile - Anthony Palermo

Getting Started

1. Review the Patient Kit Addendum on pages 14 – 16.
2. Create the Patient Profile in SimEMR®.

Refer to the How To: Create a Patient Profile guide for more detailed directions. Overview instructions to create a patient profile are as follows:

- a. At the SimEMR® login screen enter your username and password. Select **[LOGIN]**.
- b. On the dashboard, select either the **[PATIENT PROFILES]** button, or **[PATIENT PROFILES]** in the left side menu.
- c. Click **[+ CREATE NEW PATIENT PROFILES]** in the top right.
- d. Enter Anthony Palermo information. Select **[CREATE]**.
- e. Navigate to your newly created patient, and select the **[⚙️]** on the patients row. Select **[👤 PERMISSIONS]** from the dropdown menu.

Learner Assignment: Patient Profile - Anthony Palermo

This lesson will introduce the advanced practice learner to locating, and in future lessons the addition of clinical data in a medical record. Common terminology and experiences will be provided. The forms and documents within SimEMR®, a system designed exclusively for charting in a clinical simulation context, are a representation of charting elements included in real-world EMR systems.

This lesson will focus on locating supportive information in SimEMR® to help clinicians assess and provide patient care more effectively and safely.

Learning Objectives

- Identify the importance of using an EMR
- Safety factors required of an EMR
- Navigate the components of SimEMR®
- Engage with common medical terminology in an EMR
- Perform basic documentation in SimEMR®

Resources Needed

- SimEMR® login
- Internet access
- Web capable device

GENERAL INFORMATION

EMR BENEFITS

Clinical documentation and record retention are critical facets of health care. The ability to easily locate information is often hampered by inability to locate past data, missing pages in the chart or legibility issues when confronted with a paper medical record.

One of the key benefits of using an electronic health record is the ability to find information centrally located in one document, rather than through multiple paper records in various locations. The development of Computerized Physician Order Entry (CPOE) has enhanced expediency and accuracy of care, but still has some limitations based on the providers capability of utilizing the system to its best benefit.

While real EMR documentation programs are variable in format and presentation, the ability

for learners to practice the process of data search and documentation inclusion into an electronic record will provide basic repetitive practice which can be used in any format.

EMR REQUIREMENTS

Patient safety and security of data are two key variables required in any EMR format.

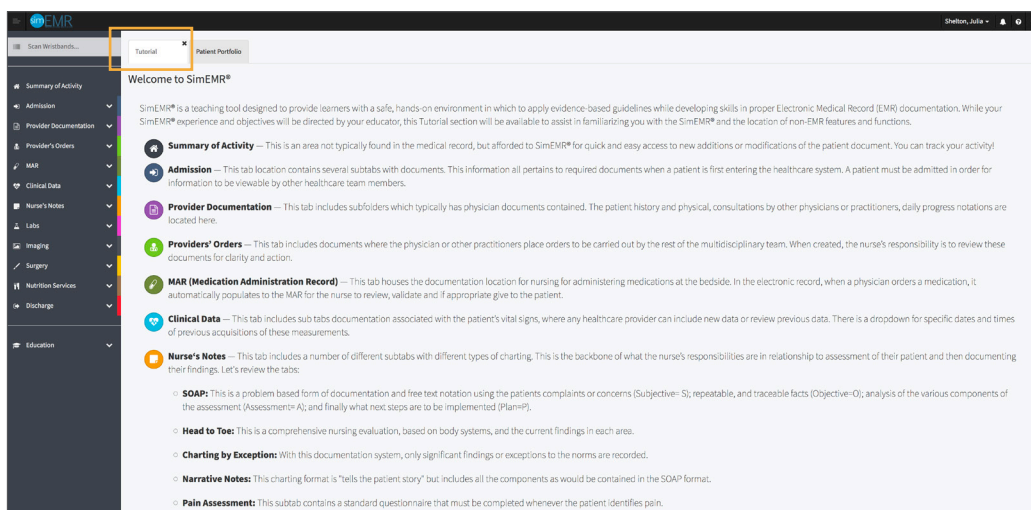
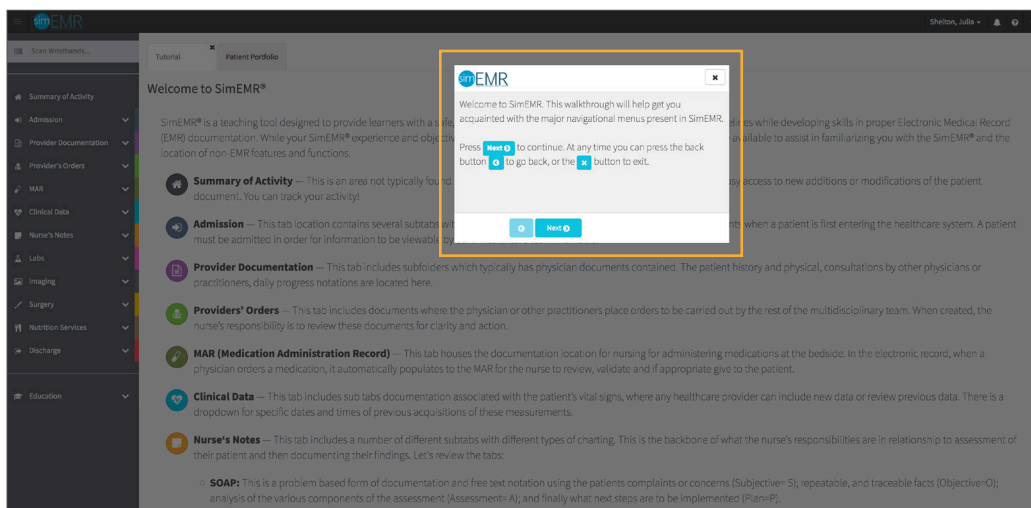
The ability to maintain patient confidentiality is critical. The U.S. Congress enacted the Health Insurance Portability and Accountability Act (HIPAA) in 1996 in order to protect private healthcare and medical information for patients.

Some required safety factors included in any EMR include access restrictions to the program, individual logins, and timeouts for inactivity in attempts to limit inappropriate access to a person's personal information.

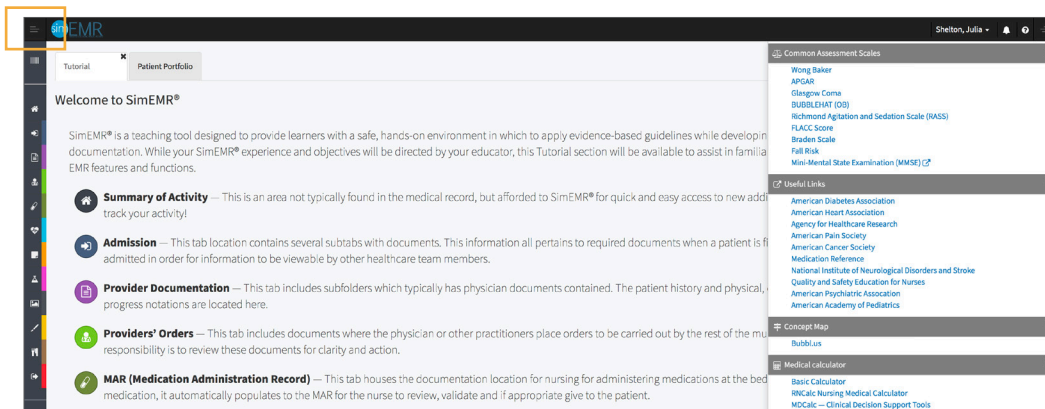
Learner Actions: Introduction to an Electronic Medical Record

Following your instructor's guidance, you will proceed to gain access to SimEMR® to investigate medical record information. Prior to moving forward your instructor will have provided you instructions on how to create your account as a new user in SimEMR®. You must have an individual account to access the product (this is a security feature).

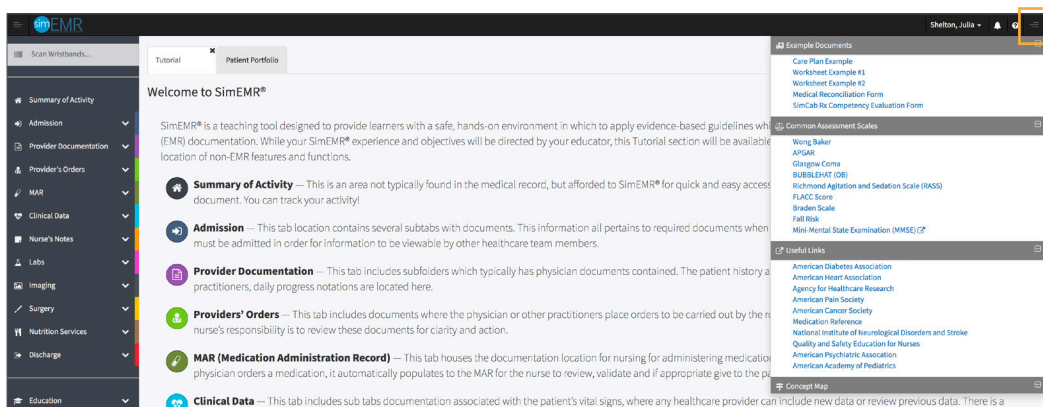
1. Open SimEMR® in a web browser.
2. At the login screen, enter your username and password. Select **[LOGIN]**.
3. If needed, review the tutorial options presented in the *Tutorial* tab.
4. Review and familiarize yourself with the tutorial options in the pop up as well as the *Tutorial* page.



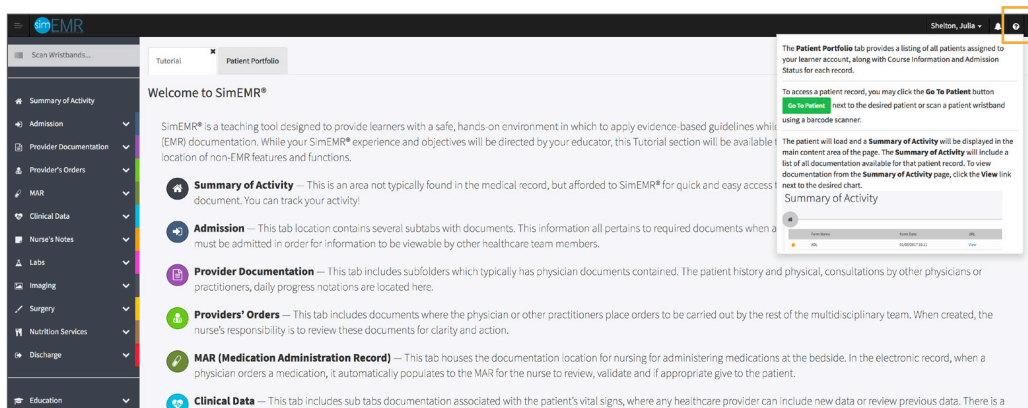
- Locate the black banner at the top of the page. To the far left is a toggle for the menu to expand and collapse it. Click each page to familiarize yourself with the content and different medical documents they contain.



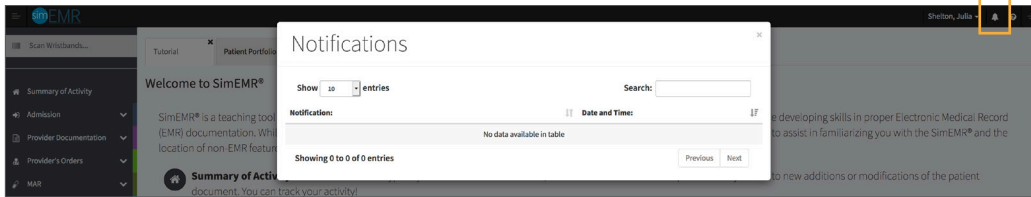
- Locate the black banner at the top of the page. To the far right is a toggle sidebar with *Example Documents*, *Common Assessment Scales*, *Useful Links*, a *Concept Map*, and a *Medical Calculator*.



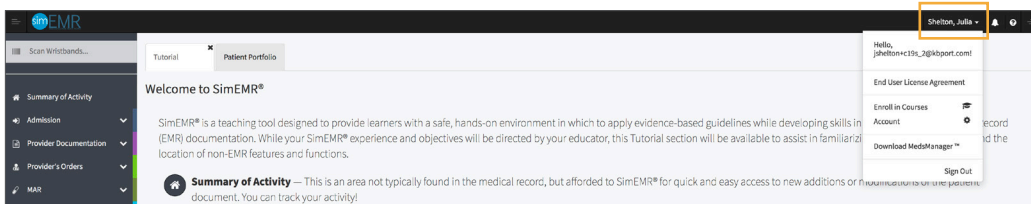
- Moving to the left in the top black banner you will see a question mark symbol dropdown that includes commonly asked questions for reference.



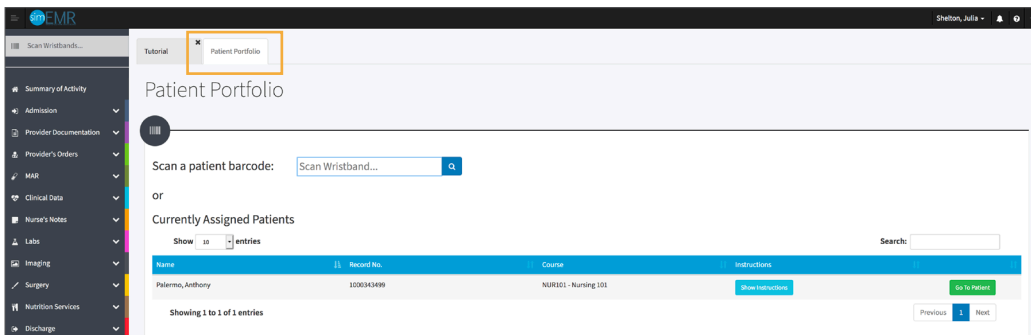
- The next item is a bell icon that prompts a *Notifications* pop up. Any messages from a healthcare provider or your instructor will be found there.



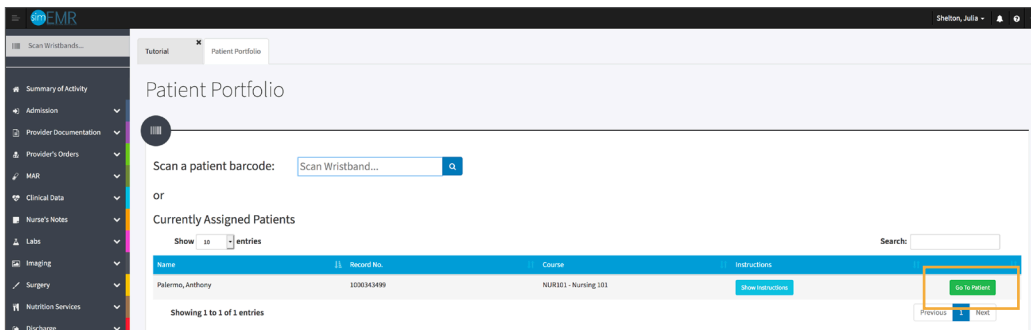
- The last item in the top bar is a dropdown with your account information. This is where you can enroll in a course or change your password.



- The last is the *Patient Portfolio* tab. This will house any patient profile records assigned to you. Current assignments will be presented at the top of the page, any past completed assignments will be located at the bottom of the page for reference and review at any time. We will begin with Anthony Palermo after review.



- Locate Anthony Palermo and select **[GO TO PATIENT]**.



12. You will be redirected to the *Summary of Activity* page, which includes any recent changes or additions to the patient profile history. To review a new piece of data, click the **[VIEW]** hyperlink at the far right on any document listed.

13. Validate Anthony Palermo is the chart you are working in.

Note that Mr. Palermo was recently admitted to the Medical Surgical Unit and may not have a full healthcare record as of yet.

14. Click **[ADMISSION]** from the left menu and then select **[ADMISSION]**. Note the other forms presented under this section.

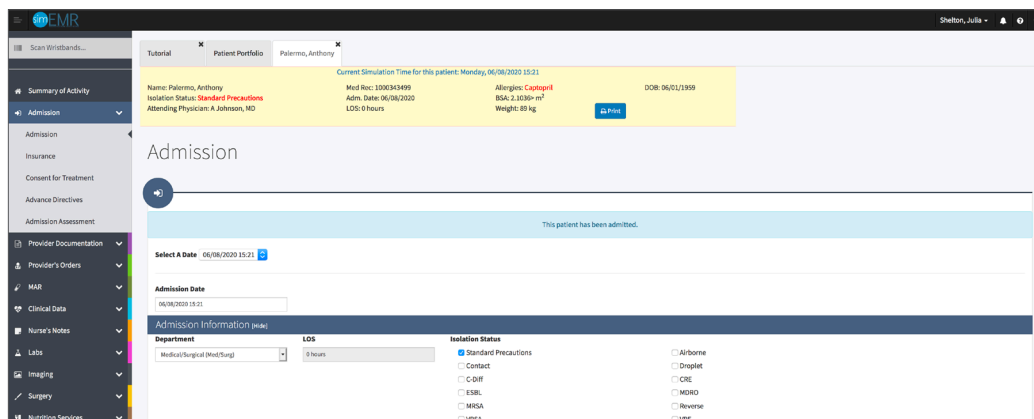
Admission form: Contains Demographic information specific to the patient. It also includes specific information such as why the patient is seeking health care, if there are any specific infection control concerns that clinicians need to be aware of, *Allergy Information*, *In Case of Emergency*, and others. Selecting the **[SHOW]** options next to each item will open or close the information available (image below).

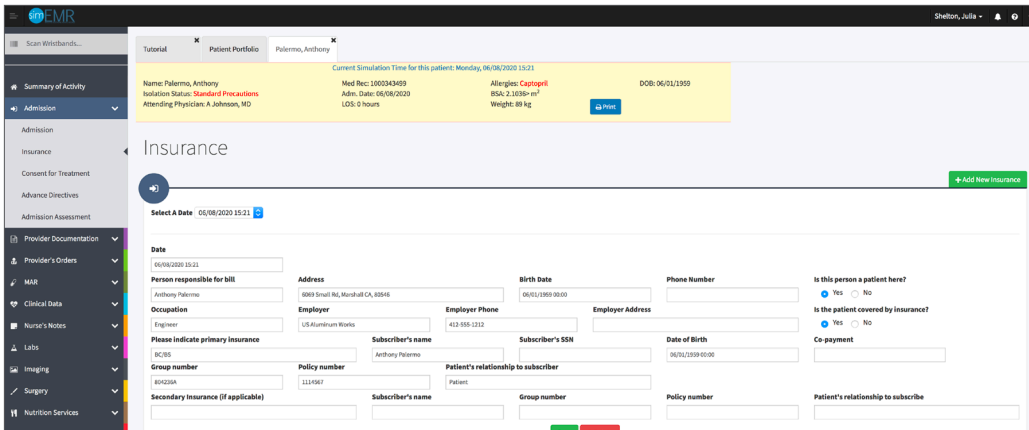
Insurance form: Required information related to payment of any services for care that will be needed (image on following page).

Consent to Treat form: Anyone admitted to any type of healthcare facility is required by law to complete a consent document, which permits the clinicians to carry out any care needed. If the patient is unable to sign the document, a substitute can do so or this can be deferred to within 24 hours in the case of a critical issue.

Advance Directives form: This document discusses the patient's desires if previously identified on care continuation or removal should he or she be unable to verbalize their wishes. Items such as *Living Will* questions are pertinent in this section, as well as providing the patient or family member with educational tools should more information be needed.

Admission Assessment form: This is a compilation of questions related to the patient's current and past health status, typically completed by the patient in the MD office setting or a nurse in the hospital setting as part of being admitted. It is a thorough investigation into patient complaints, medications, allergies, past medical and surgical history, social and cultural concerns.

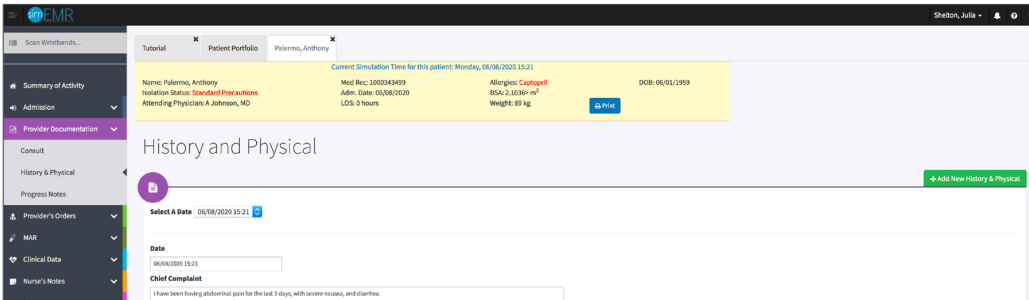




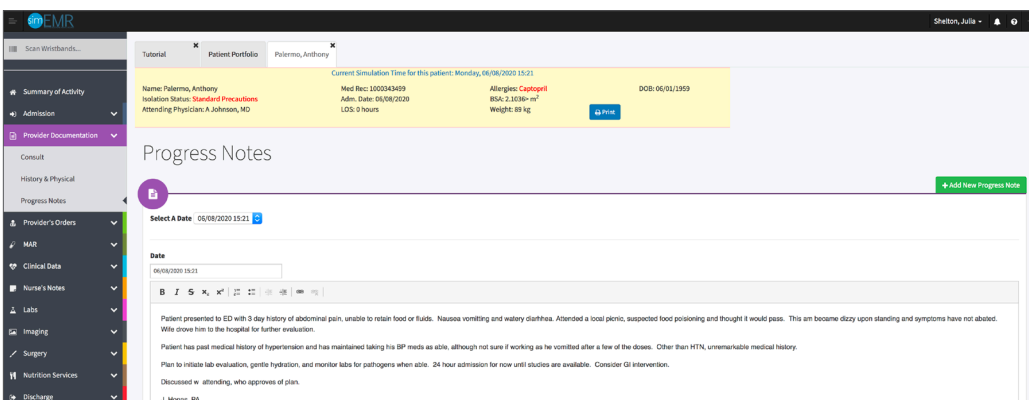
15. Click **[PROVIDER DOCUMENTATION]** from the left menu and then select each form within that menu. These forms have been completed by a Physician or Physician-extender such as a Nurse Practitioner (NP) or Physician Assistant (PA).

Consult form: Completed by a healthcare specialist that may not be directly involved in the patient care, but was asked to evaluate and offer treatment suggestions.

History and Physical form: A full health history created by the MD, NP or PA, which involves questioning the patient's current and past status as well as a physical exam.

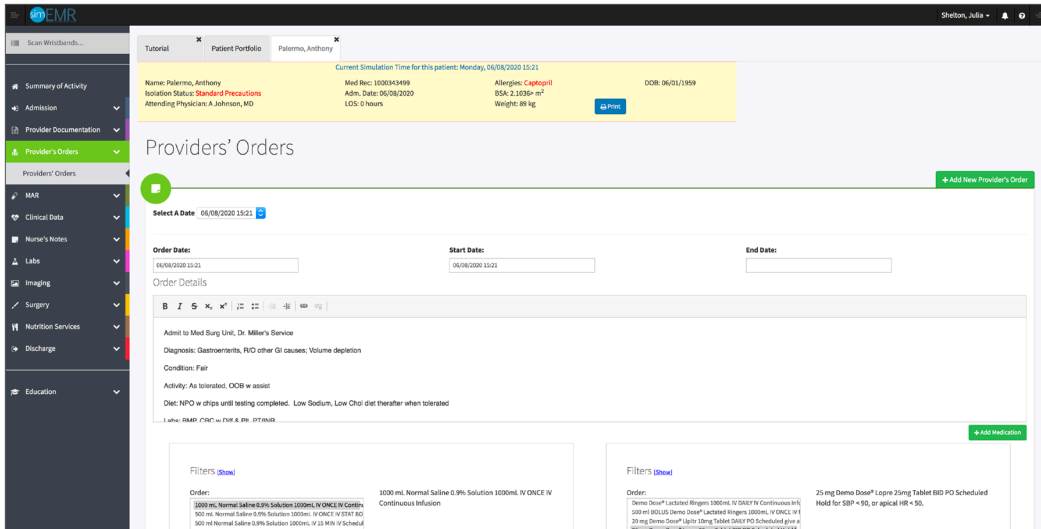


Progress Notes form: General communication document that is short in format, or can be used for daily updates as the patient care situation expands over days for ongoing communication of care and patient status.



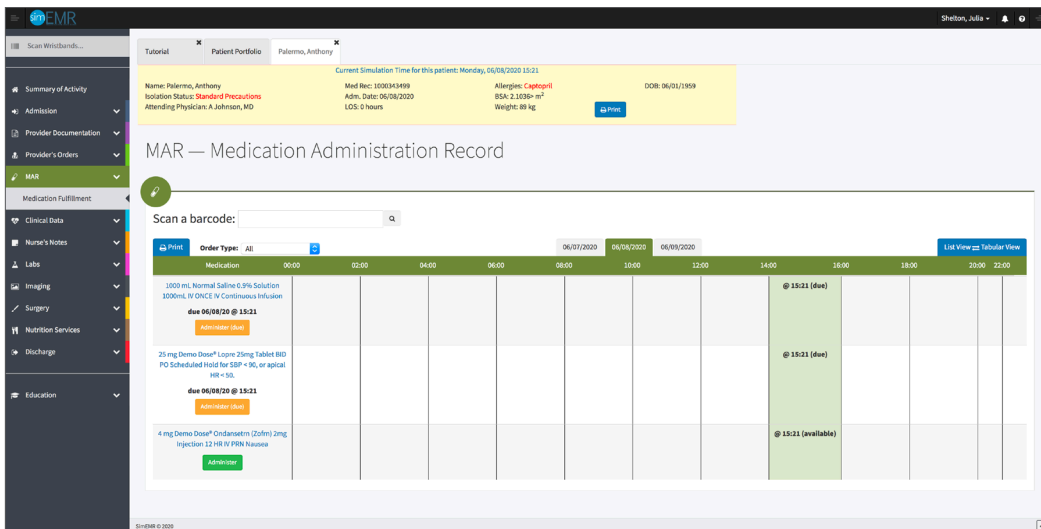
16. Click **[PROVIDER'S ORDERS]** from the left menu and then select **[PROVIDERS' ORDERS]**.

Providers' Orders form: Specific care orders to be executed by other healthcare team members collaborating in the care of Mr. Palermo. It includes why the patient was admitted, how often to perform a certain test, tests that are needed and medication orders. Nurses responsible for care of the patient review this information frequently during their shifts. Information can be added and validated as accurate before certain activities can proceed, in interest of patient safety.



17. Click **[MAR]** from the left menu and then select **[MEDICATION FULFILLMENT]**.

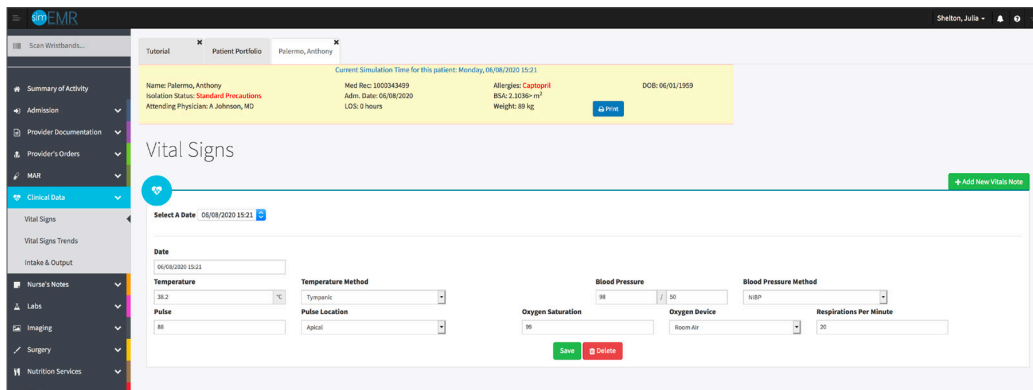
MAR - Medication Administration Record form: When a MD/PA/NP add a medication order to the chart, it is added to the MAR for the nurse to provide a drug or treatment to a patient. Medication orders must be reviewed by a pharmacist and nurse for accuracy prior to the patient receiving a medication. This is a patient safety initiative.



18. Click **[CLINICAL DATA]** from the left menu and then select **[VITAL SIGNS]**.

Vital Signs form: Documentation of any measurements of the patient's physical statistics, such as *Pulse, Blood Pressure, Respirations Per Minute, Temperature, and Oximetry* (a noninvasive measurement of the patient's oxygen level in the blood stream). Any healthcare provider involved care of this patient can add new data at any time.

Vital Signs Trends: Note this is a quick reference to statistics of all measurements of the patient over time, so that providers can evaluate if the patient is doing well or not, if there was a physical change related to a therapy provided, and ease of data review.



The screenshot shows the EMR interface for patient Palermo, Anthony. The left sidebar contains a menu with options like 'Summary of Activity', 'Admission', 'Provider Documentation', 'Provider's Orders', 'MAR', 'Clinical Data', 'Vital Signs', 'Vital Signs Trends', 'Intake & Output', 'Nurse's Notes', 'Labs', 'Imaging', 'Surgery', and 'Nutrition Services'. The 'Vital Signs' option is selected. The main content area displays patient information: Name: Palermo, Anthony; Med Rec: 100343499; Allergies: CapSpt; DOB: 06/02/1959; Isolation Status: Standard Precautions; Admin. Date: 06/08/2020; LOS: 0 hours; BSA: 2.1036 m²; Weight: 89 kg. Below this is the 'Vital Signs' form with a 'Select A Date' dropdown set to 06/08/2020 15:21. The form includes fields for Date, Temperature (38.2), Temperature Method (Tympanic), Pulse (88), Pulse Location (Apical), Blood Pressure (98/60), Blood Pressure Method (NIBP), Oxygen Saturation (98), Oxygen Device (Room Air), and Respirations Per Minute (20). There are 'Save' and 'Delete' buttons at the bottom.

19. Click **[NURSE'S NOTES]** from the left menu and click through the menu options to familiarize yourself. There are a number of different documentation styles used in nursing.

Organizations identify which formats are required of their nurses, which may be different regarding the care situation. The six forms available are a sample of many types of nursing documentation available in the clinical setting.

Included in this area are the IPASSBATON and ISBAR forms for transitions in communication among healthcare providers. Any clinician is able to utilize this form.

20. Click **[LABS]** from the left menu and then select **[LABS]**. Results are available for the care team review.

Labs form: This is where all laboratory data obtained from the patient via blood or other body fluid sampling is located. There can be several pages of lab forms based on the testing required by the MD/NP/PA. These tests help guide the care team to changes in therapy that may be needed and if the patient is responding accordingly to treatments.

Reference ranges for normal values are provided for. It is important for common lab references to be memorized, so when a test result is not "normal" it can be quickly acted upon.

Lab Trends: Note this is an area in which a clinician can compare lab data over time.

Current Simulation Time for this patient: Monday, 06/08/2020 15:21

Name: Palermo, Anthony | Med Rec: 100343499 | Allergies: Captopril | DOB: 06/02/1959
 Isolation Status: Standard Precautions | Adm. Date: 06/08/2020 | BSA: 2.1036-m²
 Attending Physician: A Johnson, MD | LOS: 0 hours | Weight: 89 kg

Labs

Select A Date: 06/08/2020 15:21

Date Available: 06/08/2020 15:21 | Date Drawn: 06/08/2020 15:21

Chemistry	Value	Reference Range
HgA1C		4.2% - 5.7%
Troponin T		0 ng/mL - 0.1 ng/mL
GGTP		9 U/L - 48 U/L
Lactic Dehydrogenase (LDH)		122 U/L - 222 U/L
Sodium	147	135 mEq/L - 142 mEq/L
Potassium	3.3	3.5 mEq/L - 5 mEq/L
Chloride	88	95 mEq/L - 105 mEq/L
CO2	22	22 mEq/L - 30 mEq/L
BUN	14	8 mg/dL - 21 mg/dL
Creatinine	1.2	0.6 mg/dL - 1.3 mg/dL
Glucose	88	70 mg/dL - 105 mg/dL
Magnesium	1.3	1.5 mg/dL - 2.4 mg/dL
Phosphorus	3.2	3 mg/dL - 4.5 mg/dL

Current Simulation Time for this patient: Monday, 06/08/2020 15:21

Name: Palermo, Anthony | Med Rec: 100343499 | Allergies: Captopril | DOB: 06/02/1959
 Isolation Status: Standard Precautions | Adm. Date: 06/08/2020 | BSA: 2.1036-m²
 Attending Physician: A Johnson, MD | LOS: 0 hours | Weight: 89 kg

Laboratory Data Trends

Start Date: 06/08/2020 15:21 | End Date: 06/08/2020 15:21

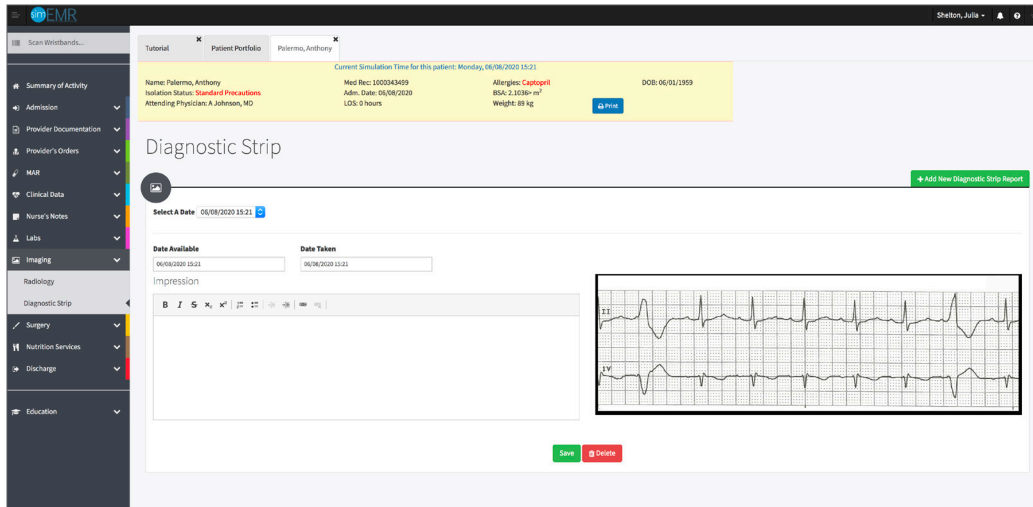
Chemistry	Date	06/08/2020 15:21	06/08/2020 15:21	06/08/2020 15:21
HCO3	mEq/L	-	-	-
Capillary Blood Glucose	mg/dL	-	-	-
Alkaline Phosphatase	U/L	-	-	-
Bilirubin Total	mg/dL	-	-	-
Albumin	g/dL	-	-	-
Magnesium	1.3mg/dL	-	-	-
Sodium	147mEq/L	-	-	-
GGTP	U/L	-	-	-
Total Cholesterol	mg/dL	-	-	-
Lipase	U/L	-	-	-
Calcium	9mg/dL	-	-	-

21. Click **[IMAGING]** from the left menu and then select **[DIAGNOSTIC STRIP]**. The Imaging section includes report files to help with the care and diagnosis.

Diagnostic Strip report: Includes Electrocardiograms (ECG's) heart rhythm monitor strips, fetal monitor strips in the case of a pregnant mom, and other types of monitoring tests.

Mr. Palermo has a history of hypertension, so an ECG was performed and is available on the for review. The *Impression* field is where a certified professional provides the results of what is seen in the image (in this case a cardiologist will review Mr. Palermoss ECG and provide results). In future lessons, your instructor may require you to review and diagnose an image.

Radiology report: Note this is where tests like X-rays, ultrasounds, and MRI's will be located.



22. Review the other form sections (these do not pertain to Mr. Palermo today).

Surgery forms: Any procedures or operational reports are located here, in addition to the consent for surgery and anesthesia forms.

Nutrition Services form: Information regarding the patient's nutrition status. Nutritionists, or Dietary Care practitioners document on this form, but it is helpful for all care providers to review to understand physical limitations that may be assisted by a nutrition expert.

Discharge form: Includes any medications, special wound care, follow-up testing or return visits. This form is completed by nurses as part of the patient's discharge instructions when being released from the hospital.

23. Close the patient chart by clicking the X on the *Anthony Palermo* tab.

24. Logout by locating the dropdown with your name at the top right of the page, select *Sign Out*.

Patient Kit Addendum

ANTHONY PALERMO

Name: Anthony Palermo **DOB:** 6/01/1959 **Gender:** M_x F__ **Age:** 61
Race: Caucasian **Weight:** 89 kg/195.8 lbs **Height:** 179 cm/5'10"
Religion: Methodist **CODE STATUS:** Full **Advance Directive:** Y_x N__
Major Support: Josie, wife **Phone:** 654-999-0000 **Isolation Status:** Std Precautions

Allergies & Reactions: CAPTOPRIL: Shortness of breath and tongue swelling.

Immunizations: Childhood only

Attending Physician/Team: Andrew Johnson, MD

Primary Diagnosis: Gastroenteritis, hypovolemia

History of Present Illness: Patient states 3-day history of abdominal pain accompanied by nausea, occasional vomiting, and watery diarrhea. States no dietary changes recently, but did attend an outdoor gathering where food was served. He thought it was food poisoning and would pass, but symptoms have not relented.

PMH: Hypertension, Osteoarthritis

Surgeries/Procedures: NONE

Social History: Married to wife Josie Palermo for 39 years, 2 children not living in the home. Denies tobacco and drug use. Rare social alcohol use, "2 beers monthly." Couple live in a single story home in local area.

Data: Blood pressure: 98/50, Heart Rate: 100, Respirations: 20, Temp: 38.8° C

Review of Systems:

CNS: PERRLA, follows commands. Denies visual or auditory changes recently. No fall history. Ambulation not tested but patient walked into triage on his own. Hand grasps and pedal pushes = in strength. Admits to some occasional hip & knee pain due to arthritis. **Pt became lightheaded this am when arising**, prompting wife to bring him in for evaluation. No history of lightheadedness prior to this event.

Cardiovascular: Regular rate and rhythm, extrasystoles noted. Peripheral pulses = throughout and weak. No edema noted. Denies chest pain prior to event or current. Skin intact without abrasions. Capillary refill delayed at 3+

Pulmonary: Lungs clear to auscultation, no oxygen in use presently. Denies cough or shortness of breath during event.

Gastrointestinal: Abdomen rounded, slightly tender to palpation in lower quads. Hyperactive bowel sounds noted in all quads. States initial event started with nausea, and progressed to frequent watery stools 4-5 x day. Tolerating small fluids initially and has been taking his antihypertensive when able. Attended picnic and anticipated food poisoning was cause of this, but that was 4 days ago.

Hepato/Renal: States voids without difficulty

Endocrine: No history of diabetes or thyroid issues

Hematologic: Non-contributory

Musculoskeletal: Hand grasps = and full strength, dorsi-plantar flexation is equal and full.

Integumentary: Skin is warm and dry, intact without bruising or abrasions noted

Developmental: N/A, well developed male, behavior is appropriate to situation

Psychological: Noncontributory at present

Current Medications:

Patient verbalized medications

Medication (Generic/Trade)	Dose Available	Dose Ordered	Route	Frequency	Parameters/ Instructions	Provider Ordering
Metoprolol (LOPRESSOR)	25 mg	same	PO	2x Daily		Johnson
Aspirin (baby)	81 mg	same	PO	Daily		Johnson

Laboratory Values, Radiology, or Diagnostic Testing:

Arterial Blood Gas	Chemistry	Chemistry	Hematology	Microbiology	Toxicology
pH:	Na:	AST:	WBC:	Blood C/S:	Dig:
paO2:	K:	ALT:	Hgb:	Urine C/S	ETOH:
pcO2:	Cl:	Amylase:	Hct:	Sput C/S	Opioids:
HCO3:	Co2:	Lipase:	Platelets:	VRE:	Coc:
BE/D:	BUN:	Tot Prot:	ESR:	MRSA:	Amph/Meth:
Lactate:	Cr:	Albumin:	Other:	C-Diff:	PCP;
PA Sat:	Ca:	LDL:		GNR:	THC:
Coagulation	Mg:	HDL:	Other Tests	MDRO:	Lidocaine:
PT:	Phos:	Trig:	CBS:	VDRL:	MetHgb:
PTT:	Gluc:	CPK total:		GBS:	
INR:	HgA1C:	CPK MB:			
d-Dimer	Lactate:	Troponin:			

CXR:

CT/MRI:

US:

EEG:

ECG: Pending Order

Other:

SimEMR® Forms

Below contains an explanation of how the patient is entered into SimEMR®, as well as the reasoning behind each of the patient forms created as a part of that process.

LAB TIP



Simulation Start is the time the student first begins the encounter. This notation is part of SimEMR's innovative SimTime™ system. *Simulation Start* will be replaced in the patient's chart by whatever time the encounter begins, and all other dates are described relative to that time. For example, if an encounter begins 04/15/2017 at 13:00, an event with a time of 1 day before simulation start would display a date of 04/14/2017.

At Simulation Start

Purpose: All activities are designed to allow the learner to evaluate initial findings

Insurance

Description: All insurance information is documented including the patient name, address, employer and employer phone

Diagnostic Strip

Description: A Diagnostic Strip report is available

History & Physical

Description: All *Past Medical History*, *Review of Systems* and *Social History* fields are complete

Consent for Treatment

Description: Shows the patient and witness have signed the form

Admission

Description: Info selected include *Standard Precautions* check box under *Isolation Status*, the admitting physicians and diagnosis, as well as *Patient Information*

Progress Notes

Description: The patient's status is documented

Provider's Orders

Description: Order for 25 mg Demo Dose® Lopre 25mg Tablet BID PO Scheduled Hold for SBP < 90, or apical HR < 50., 1000 mL Normal Saline 0.9% Solution 1000mL IV ONCE IV Continuous Infusion, and 4 mg Demo Dose® Ondansetron (Zofran) 2mg Injection 12 HR IV PRN Nausea

Labs

Description: Chemistry, Hematology, and Coagulation labs were all documented

Vital Signs

Description: Vital inputs for include *Temperature* (38.2° C), *Temperature Method* (Tympanic), *Blood Pressure* (98/50), *Blood Pressure Method* (NIBP), *Pulse* (88), *Pulse Location* (Apical), *Oxygen Saturation* (99), *Oxygen Device* (Room Air), *Respirations per Minute* (20)