

SimEMR® V2 Quick Start Guide

Welcome

Welcome to SimEMR® V2. This guide will walk through a simple process to explain the methods of operation in SimEMR®. This document focuses not only on the processes that instructors should follow to complete their tasks, but some examples of tasks to complete. The capabilities of SimEMR® go beyond what is covered in this guide. We encourage you to experiment and ask questions! Our support staff is always available to cover topics not addressed in this guide.

Overview of Simulation Systems

The mission of SimEMR® is to provide the necessary tools to run an effective, patient-focused simulation that utilizes an EMR to provide contextual information to learners. SimEMR® was designed as both a learning platform to introduce students to a user-friendly EMR, as well as a support tool for more advanced simulations using an EMR. The fundamental definitions used in this guide are explained below.

Fundamental Definitions

Agency

An institution that learns together. Typically, an agency represents your school, university, or learning environment. Data is never shared between agencies.

Course

A group of learners who will work toward the same learning goals, and the instructor(s) that will oversee that learning process.

Course Group

A subdivision within a course that logically breaks down the list of learners further. Groups are optional, but may be used to break a course into small groups of students which complete their objectives independently from the course as a whole.

Instructor

The default faculty role in SimEMR®. Instructors have the ability to create and assign patient profiles, manage the courses they have been assigned to, and review work completed by learners in those courses.

Lab Coordinator

A faculty role in SimEMR® corresponding to an elevated instructor. Lab coordinators have the same expected operation as instructors, with a few expansions. Lab coordinators are responsible for the creation of courses and for assigning instructors to those courses. Lab coordinators have access to all data (courses, patient profiles, learner work) in their parent agency. Due to this configuration, anything in this guide that references instructors can also reference lab coordinators.

Learner

A role in SimEMR® corresponding to a person learning from the SimEMR® system. The learner's view of SimEMR® consists almost entirely of patient care and the data used to complete a care scenario effectively. Their view is of a simplified EMR, without the management and simulation tools that instructors have access to.

Patient

A patient in SimEMR® represents a patient in a care environment. Learners complete care scenarios with a focus on patients. When an instructor assigns a patient profile to learners, the result is that those learners will have a patient based on that patient profile in their care.

Patient Profile

A patient profile is the fundamental building block of a learning experience in SimEMR®. A patient profile represents the patient scenario that a learner will have access to when it has been assigned. Patient profiles are composed of any number of forms representing events as part of the patient's history or as part of an unfolding case. Patient profiles can only be accessed by lab coordinators and instructors. Patient profiles act as a template for patients.

SimTime™

SimTime™ is the innovative system that SimEMR® uses to define patient profiles for easy adoption and re-use. SimTime™ allows patient profiles to be defined in a time-context independent of the real-world date and time. SimTime™ defines time for patient forms as a delta expressed in minutes.

We understand that this is a complex topic, so it will be covered in more depth and with more context later in this guide.

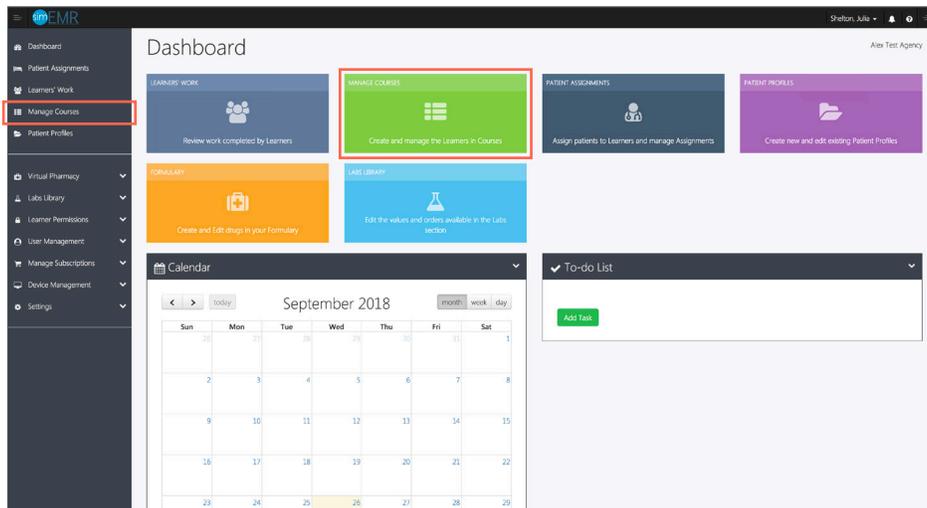
Diving Right In

With the above definitions for context, this guide will walk through a simple learning scenario, from inception to review. This guide will define the basic workflow of SimEMR®, but its capabilities expand well beyond this scenario. The process in the following section uses a brand new agency called KbPort™ Simplicity™ University. This process sets KbPort™ Simplicity™ University up with a course, creates a patient profile, assigns that patient profile to that course, completes work as a learner in that course, and review the learner's work after it is completed.

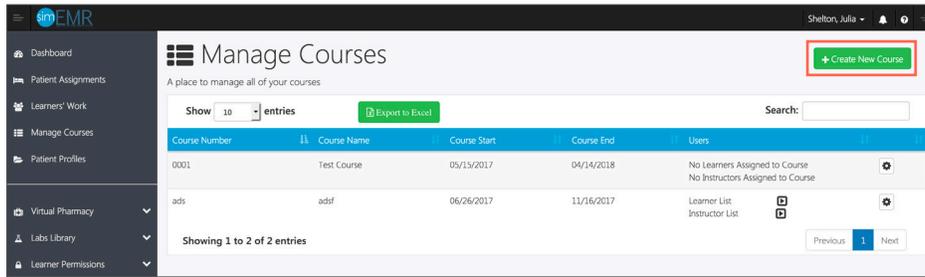
Course Creation

The first part of setting up a learning experience is setting up the learning environment. Lab coordinators should create courses corresponding to their learning institution's courses, then assign the appropriate instructors to manage those courses in the future.

1. At the login screen, log in as a lab coordinator. Select **[LOGIN]**.
2. Select **[MANAGE COURSES]** either by navigating to the left side menu or to the dashboard link.



3. Select **[CREATE NEW COURSE]**.



4. Enter relevant course information. Select **[CREATE]**.

Course

Create a new Course

Course Number

Course Name

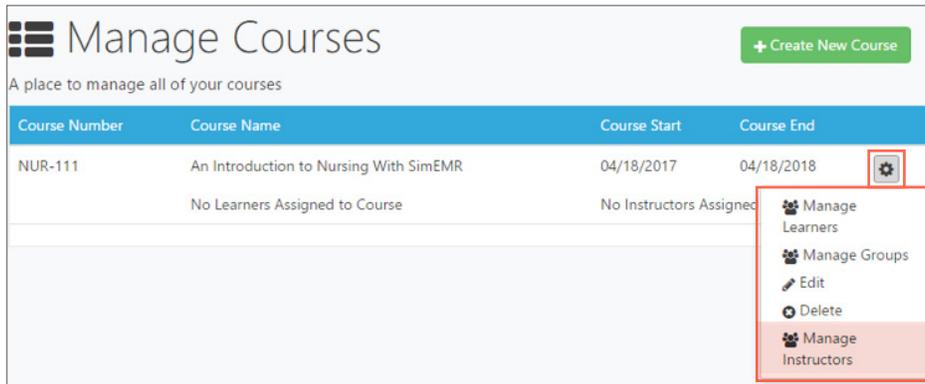
Start Date

End Date

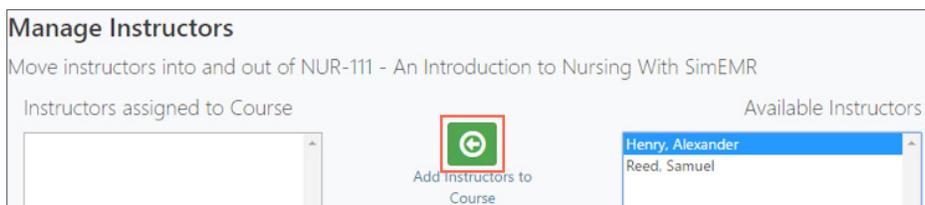
Create

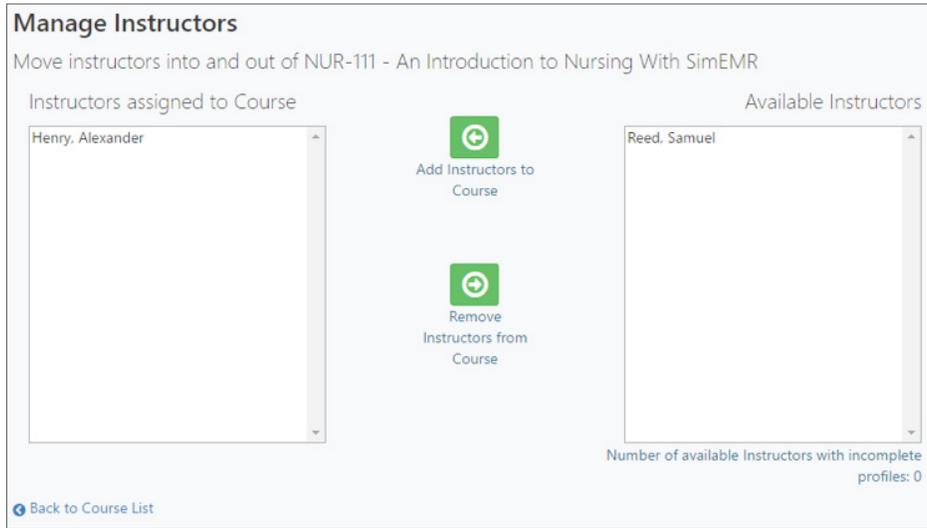
[Back to Course List](#)

5. The course is now created! To add instructors and learners, navigate to course settings and select **[MANAGE INSTRUCTORS]**.



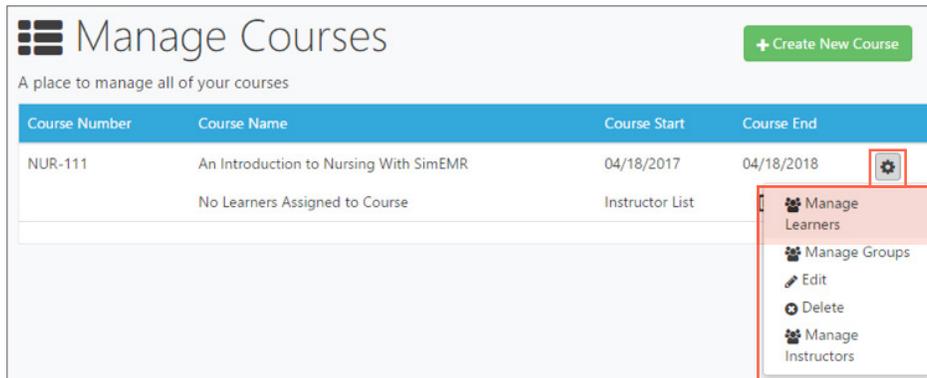
6. Select as many instructors from the available instructors list as needed, and then choose **[ADD INSTRUCTORS TO COURSE]**.



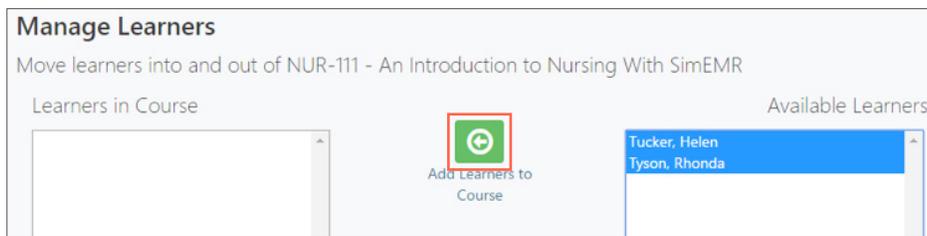


Here, an instructor named Alexander Henry was added to a course. The process of adding learners to a course is largely similar.

- The course is now created! To add instructors and learners, navigate to course settings and select **[MANAGE LEARNERS]**.



- Select as many instructors from the available instructors list as needed, and then choose **[ADD LEARNERS TO COURSE]**.

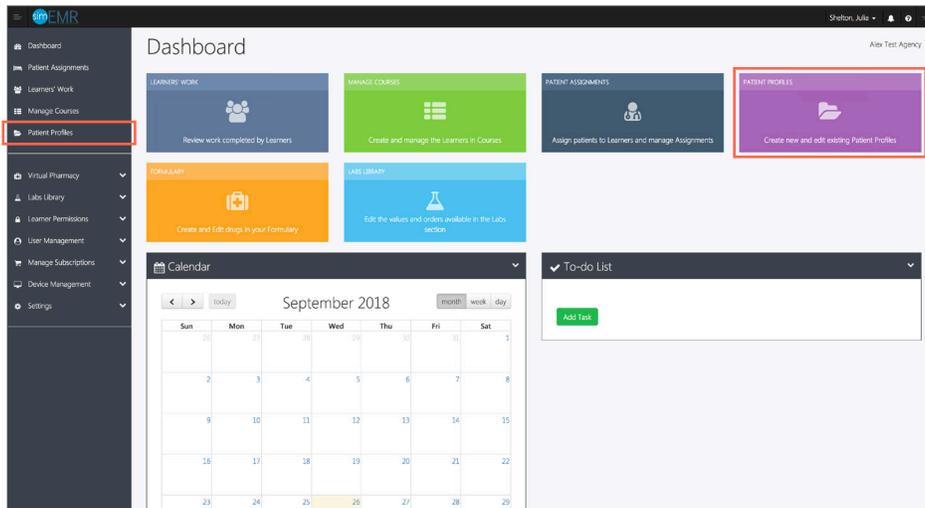


This completes course management. The next step will be creating a patient profile.

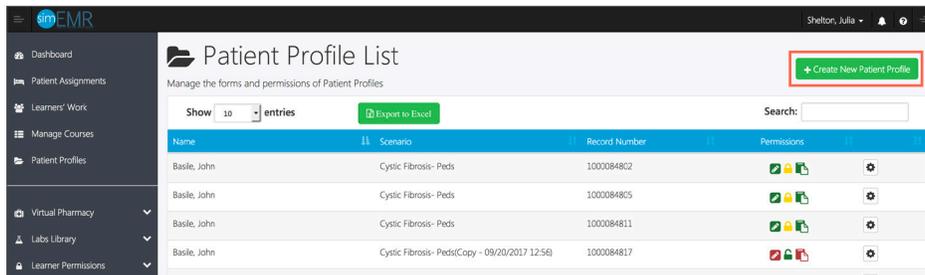
Patient Profile Creation

Now that a course has been created with an instructor and two learners, the next step is to provide work to be completed. In SimEMR® all work for learners is based on a patient, providing a realistic medical context for their activities. In order to provide a patient for the learners to work on, we must first set up a patient profile. SimEMR® comes with a stock set of patient profiles that you can copy and tweak to your liking, but also allows you to develop your own cases from scratch. This process will be covered in this step.

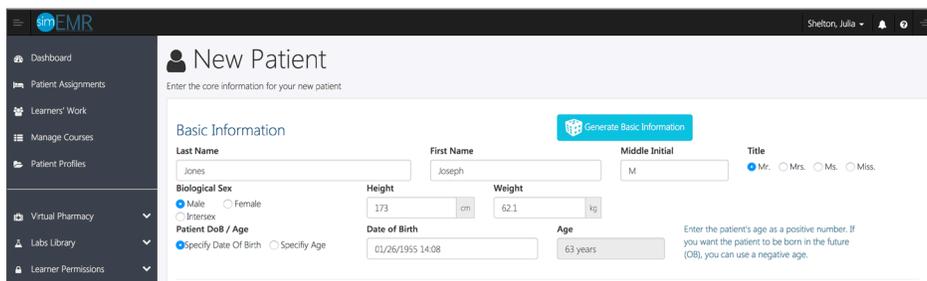
1. Select **[PATIENT PROFILES]** either by navigating to the left side menu or to the dashboard link.



2. Select **[CREATE NEW PATIENT PROFILE]**.



3. Fill in personal and medical info for the new patient profile. Select **[CREATE]**.

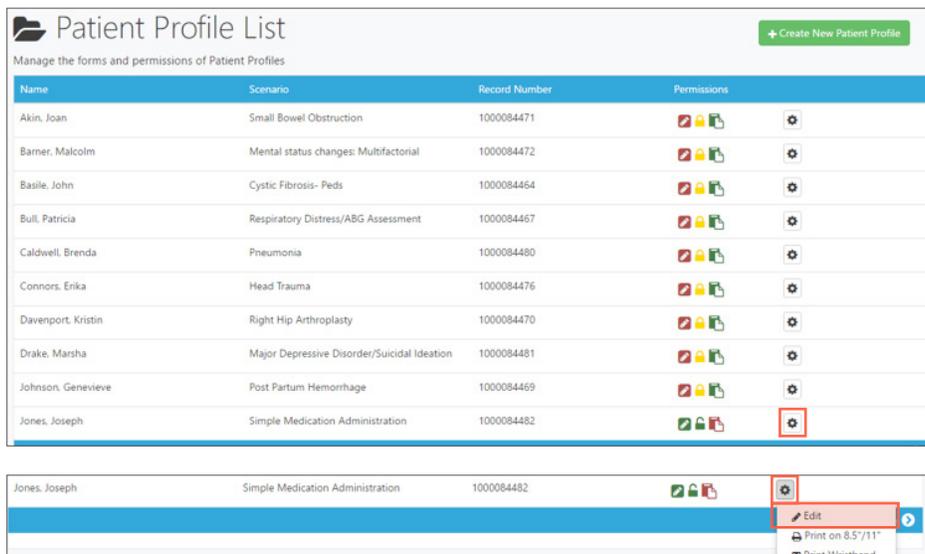


Here, a patient named Joseph Jones was created as an example. Once a profile is created, new forms can be added to create a medication administration scenario.

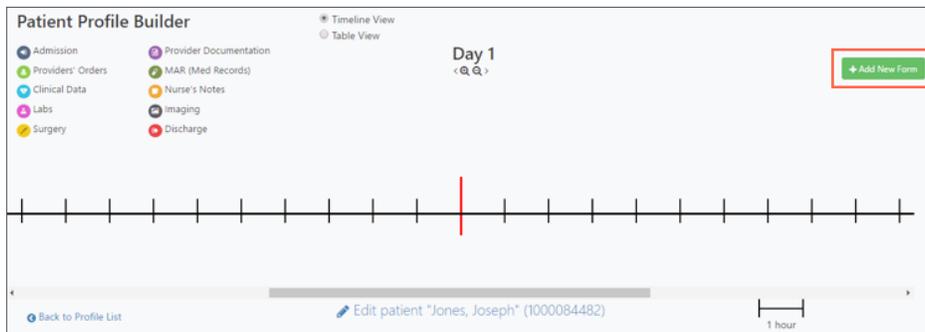
This profile will walk a learner through a high-fidelity process. All data to justify administration of medication can be entered quickly in the profile, and the learner will see everything they need to verify and perform the administration.

Joseph Jones will come in to the ER complaining of muscle cramps and an arrhythmia. Blood work will be taken, and a low dose potassium tablet order will be created. The learner's goal will be to administer the ordered potassium.

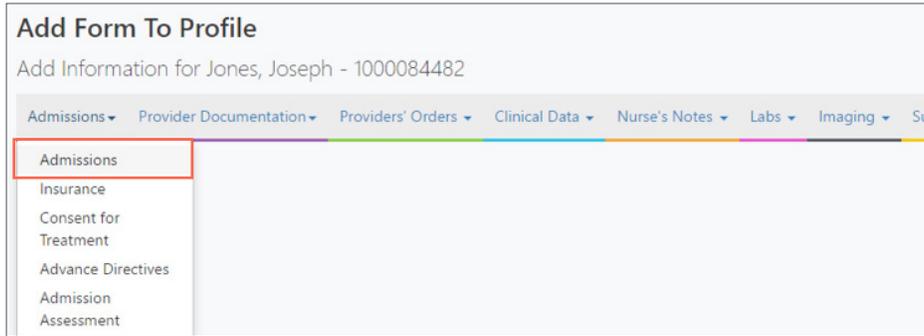
4. Select edit from the settings in Joseph Jones's row.



5. The next page that appears is the Patient Profile Builder page. Here, you can add new forms and edit existing forms for patient profiles. Select **[ADD NEW FORM]**.



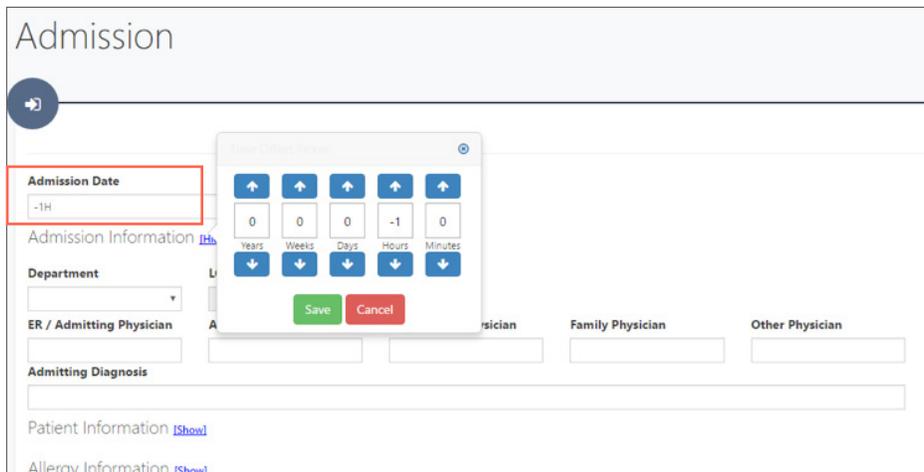
6. Select **[ADMISSIONS]**.



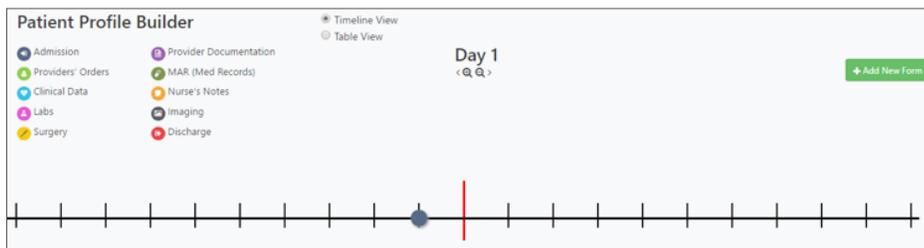
 The Admission Date box on this form that says **SIMULATION START** is part of the innovative SimTime™ system included in SimEMR®. **SIMULATION START** is the initial time for the scenario. Typically this will be when the learner first logs in to view their Patient. SimTime™ defines dates and times in a delta format that allows for the dates in a simulation to always be relevant to the current calendar date.

Ex: -1H, means one hour before the **SIMULATION START**.

7. Enter -1H for in the Admission Date box. Fill out all other information and select **[SAVE]** at the bottom of the page.



The Patient Profile Builder now looks like this:





The blue dot on the timeline represents the newly added Admission. A key in the top left corner corresponds to the bubbles on the timeline. Selecting a bubble will pull up the relevant form, to be viewed or edited. If several events occur at the same time, they will be represented by a black box with the number of forms grouped together. Selecting a box will present a list of forms to select.

With this timeline, it becomes simple to visualize the progression of a patient through a care scenario.

Now that the patient has been admitted, lab work would be drawn to confirm the suspicion of low potassium from the patient presentation in the ER.

- Choose **[ADD NEW FORM]** again and select **[LABS]**.

- Under the order dropdown menu. Select **[CHEMISTRY]**

Much like the Admission form, SimTime™ capability is front and center on this form. Mr. Jones will need a chemistry panel to check his potassium. The date drawn should be shortly after admission for this scenario, so it will be set at -50m (50 minutes before SIMULATION START and 10 minutes after admission). In this simulation, our hospital tests lab values quickly, so the date available will be -45m (5 minutes after the date drawn).

- Select **[CREATE]** to create a chemistry panel for Mr. Jones.

11. Set a potassium value, and save changes. **Always be sure to save work!**

| Lab Name | Value | Reference Range |
|-----------------------------|----------------------------------|-----------------------|
| HgA1C: | <input type="text"/> | 4.7 % - 8.5 % |
| Troponin T: | <input type="text"/> | 0 ng/mL - 0.1 ng/mL |
| GGTP: | <input type="text"/> | 9 U/L - 48 U/L |
| Lactic Dehydrogenase (LDH): | <input type="text"/> | 122 U/L - 222 U/L |
| Sodium: | <input type="text"/> | 135 mEq/L - 145 mEq/L |
| Potassium: | <input type="text" value="3.2"/> | 3.5 mEq/L - 5 mEq/L |

Note that the timeline now shows a black box with a "2" representing both the admission and labs.

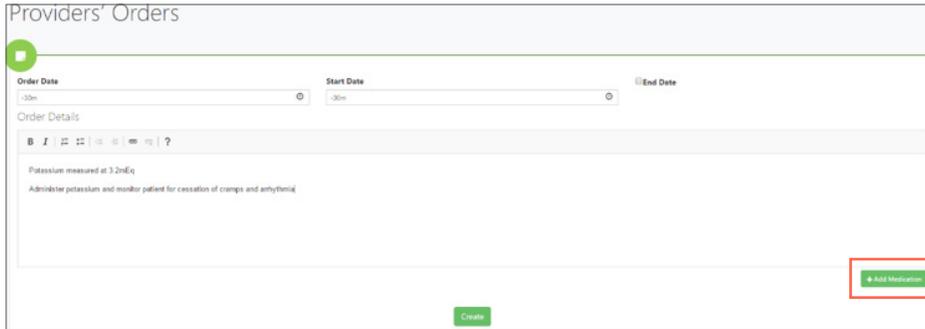
The next step in the Scenario is to order potassium for Mr. Jones.

12. Choose **[ADD NEW FORM]** again and select **[PROVIDER'S ORDER]**.

The Provider's Orders form has 3 SimTime™ options. An order date (the date the order was created), a start date (when the order should start) and an end date (when the order should be discontinued).

In our scenario, it will take the provider 15 minutes from the time the lab work comes back until the order is created. The start date will be the same as the order date, because it should start "right now".

13. Select **[ADD MEDICATION]** to attach a medication to the order.



As many medications as desired can be added to an order. After Add Medication is clicked, select a saved medication order, or enter a new order by clicking **[ADD NEW ORDER]** (See Formulary Management section for more information).

This potassium tablet has already been ordered in the past, so expanding the filters area and selecting potassium chloride should only show the orders already entered for that drug.

14. Select the appropriate potassium order by clicking it.

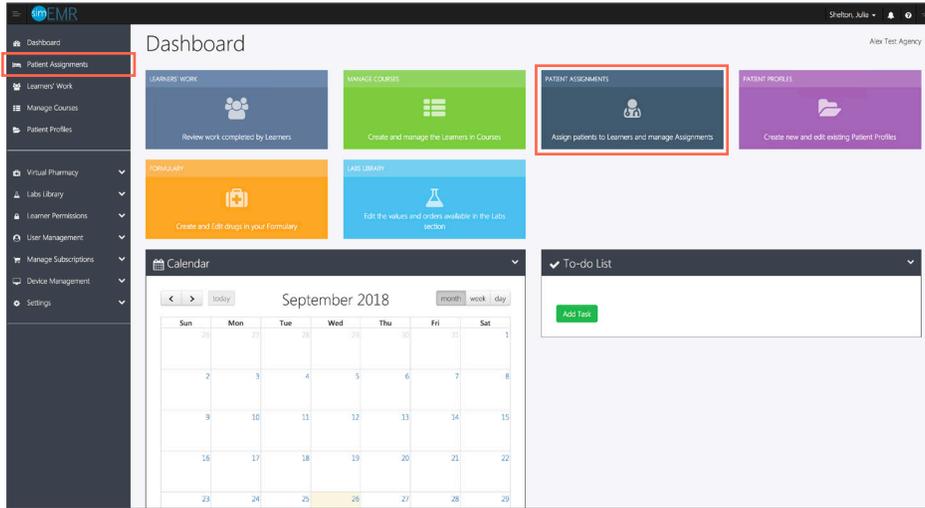


That's it! 20mEq Potassium is ordered for Mr. Jones. Everything needed for the described scenario is now in the patient profile. The next step is assigning that patient profile to a course.

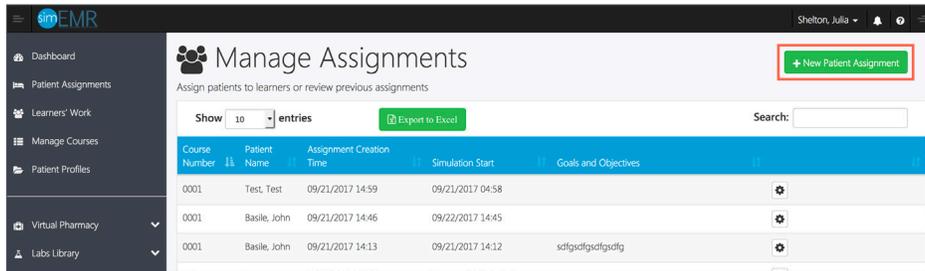
Assign Patients

Now that a patient profile has been created, it can be assigned to a course. Once it has been assigned, learners in that course may complete an activity on the patient's chart which can later be reviewed by the Instructors assigned to the course. The following steps cover the assignment process and its configurable options. The process follows a wizard format to walk through all of the configurable options, with explanations of what each option entails.

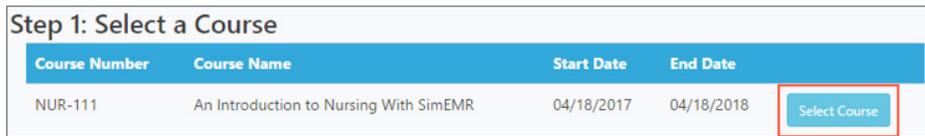
1. Select **[PATIENT ASSIGNMENTS]** either by navigating to the left side menu or to the dashboard link.



2. Choose **[NEW PATIENT ASSIGNMENT]** in the top right corner.



3. Navigate to the course created earlier in this guide. Click **[SELECT COURSE]**.



4. Find Joseph Jones, and click in the box to enable a check. Click **[CONTINUE TO NEXT STEP]** at the bottom of the page.

Depending on the simulation scenario, a single or multiple patient profiles may be assigned.

Step 2: Select Patients

| Name | Record Number | Scenario | Select |
|--------------------|---------------|---|-------------------------------------|
| Akin, Joan | 1000084471 | Small Bowel Obstruction | <input type="checkbox"/> |
| Barner, Malcolm | 1000084472 | Mental status changes: Multifactorial | <input type="checkbox"/> |
| Basile, John | 1000084464 | Cystic Fibrosis- Peds | <input type="checkbox"/> |
| Bull, Patricia | 1000084467 | Respiratory Distress/ABG Assessment | <input type="checkbox"/> |
| Caldwell, Brenda | 1000084480 | Pneumonia | <input type="checkbox"/> |
| Connors, Erika | 1000084476 | Head Trauma | <input type="checkbox"/> |
| Davenport, Kristin | 1000084470 | Right Hip Arthroplasty | <input type="checkbox"/> |
| Drake, Marsha | 1000084481 | Major Depressive Disorder/Suicidal Ideation | <input type="checkbox"/> |
| Johnson, Genevieve | 1000084469 | Post Partum Hemorrhage | <input type="checkbox"/> |
| Jones, Joseph | 1000084482 | Simple Medication Administration | <input checked="" type="checkbox"/> |

5. Choose **[CONTINUE TO NEXT STEP]**.

Step 3: Simulation Timing

Start Time:

- Learner Login Time**
Start the simulation when the Learner first views the patient.
- Instructor Selected Time**
Start the simulation at a time you will specify.

Additional Options:

- Specify a Stop Time**

Continue to next step

Start Time

The start time option defines when, in real time, the SIMULATION START should occur.

Learner Login Time

The SIMULATION START will occur when the learner logs in and selects the patient for the first time. By default, learner login time is selected. Ex: Assume a learner logs in at 13:00 on 04/19/2017. For the patient profile defined above, the admission date is set at -1H. When the learner looks at the Admission form associated with this patient, the date that the learner will see would be 12:00 on 04/19/2017. This applies to every form associated with the patient profile. All of the dates and times of forms will be based on this SIMULATION START time.

Instructor Selected Time

Used for scenarios in which you know what time the learners should begin their work. Ex: The instructor wants the simulation to start at the beginning of a class period.

Specify a Stop Time

Allows the instructor to prevent a simulation from progressing past a certain point. Ex: if a patient profile has events set in the future, but the instructor doesn't want those events to be shown yet, setting a stop time will prevent the simulation from progressing to the point that those events are reached. **For this example, we do not need a stop time, so it will remain unchecked.**

6. Choose **[CONTINUE TO NEXT STEP]**.

Step 4: Goals and Options

Instructions:
Instructions can be seen by Learners when they select this patient.

Administer Potassium

Goals and Objectives:
Goals and Objectives cannot be seen by Learners.

Show the purpose and workflow of SimEMR

Assignment Scope:

Individual
Each student has their own copy of this patient profile. Work completed by one student cannot be seen or modified by any others.

Group
All students included in this assignment share one copy of the patient profile. Work completed by one student can be seen and modified by all others.

Continue to next step

Goals and Options

Allows instructors to communicate directly to students via the instructions, mark a record of the purpose of the assignment via goals and objectives, and define the assignment scope.

Individual Assignments

Allows each learner to work on their own independent patient. **For this example, the default of individual is appropriate.**

Group Assignments

Allow all learners in a course (or group course) a copy of the patient, enabling the learners to collaborate on the patient's chart.

7. Choose **[CONFIRM ASSIGNMENT]**.

Step 5: Confirm Assignment

Course Name:
An Introduction to Nursing With SimEMR

Patient List:
Jones, Joseph - 1000084482

Simulation Start Date:
Learner initiated start

Instructions:
Administer Potassium

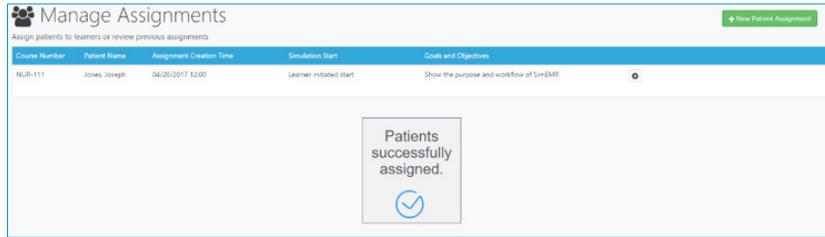
Goals and Objectives:
Show the purpose and workflow of SimEMR

Assignment Scope:
Individual Care

Confirm Assignment

 Here you will see a brief summary of the assignment, and have the opportunity to go back and correct any errors. Confirm assignment allows learners to begin.

Note that after confirming the assignment, it is added to the main patient assignments section for further management.

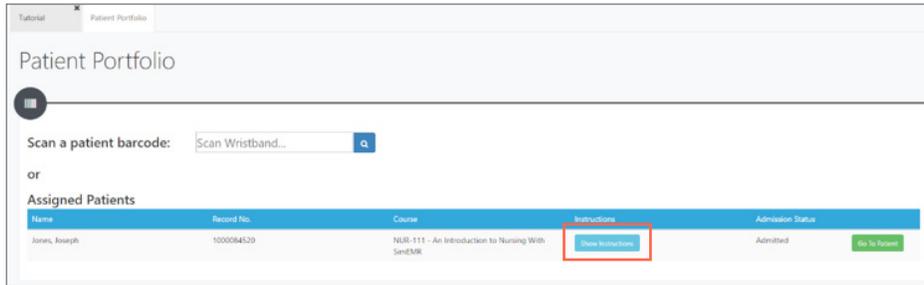


Nothing else has to be done to get started with this patient, so the next portion of this guide will briefly review how the Learner completes work, before covering the review process an instructor would complete.

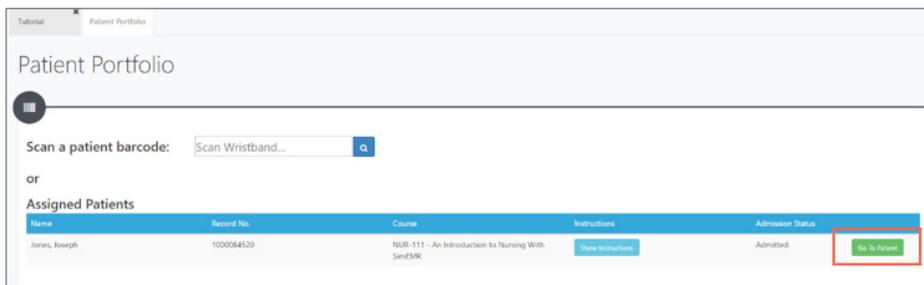
Learner Activity

The first thing a learner in the created course will see after logging in is the assigned patient.

1. Choose **[SHOW INSTRUCTIONS]** to review instructions for the assignment.

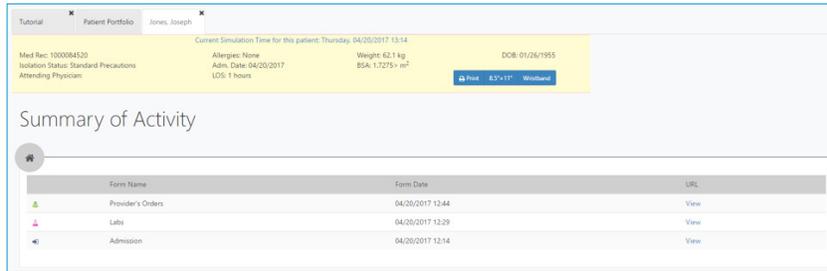


2. Choose **[GO TO PATIENT]** after reviewing instructions.



After choosing **[GO TO PATIENT]** a summary of activity is pulled up for that patient, including all activity entered on the patient profile. Times displayed on this summary (and on the forms themselves) are calculated based on the SimTime™ entered when the profile was created.

The following screenshot shows the activity for the patient after logging in at 13:14 on 04/20/2017.



The admission form displays as 04/20/2017 12:14, exactly 1 hour before login!

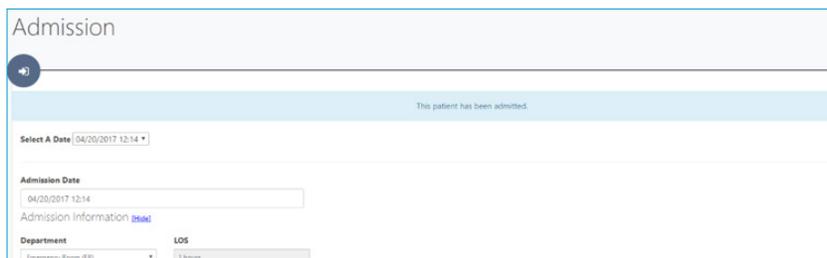
Now the versatility of SimTime™ should be apparent. As much detail as desired, potentially comprising years of medical history for a patient profile, can be constructed once and re-used. Year after year new learners' current time will always be the deciding factor of what date and time displays for medical events.

Note the ability to define SimTime™ events in the future. If an expansion of this simple scenario was desired to turn it into an unfolding case, it could easily be accomplished by setting SimTime™ events with a positive delta.

This scenario only used negative deltas, which are used to construct a patient profile's history. Positive deltas, create a possibility to define a patient's future!

If this scenario were expanded to include a future event (ex: a vital sign recording 15 minutes after the SIMULATION START) that event would be hidden until that amount of time had elapsed. Those entered vital signs would not appear in the patient's chart until 15 minutes after the student logged in and viewed the patient. This enables the creation of deep and diverse unfolding case studies through the use of SimEMR®, with down-to-the-minute accuracy and no restriction on how far into the future it can go.

The learner can review all of the patient information entered as part of the patient profile.



- To complete the relevant work, the MAR must be opened from either the sidebar menu or dashboard. Select **[ADMINISTER]** or scan the drug's barcode to pull up the administration record for that order.

4. Select **[SAVE]** to return to the MAR, with a new administration visible.

MAR — Medication Administration Record

20 mEq Demo Dose® Potassim chlorid (KC) Tablet DAILY PO Scheduled

Date
04/20/2017 14:37

Given
 Partial Given
 Refused
 Withheld
 Wasted

Notes
Administration for Guide

Location Given

Initials

Dosage Given

Potassium measured at 3.2mEq
Administer potassium and monitor patient for cessation of cramps and arrhythmias

| Medication | Notes | Future Administrations | Past Administrations |
|---|-------|--|--|
| 20 mEq Demo Dose® Potassim chlorid (KC) Tablet DAILY PO Scheduled | | 04/20/17 @ 12:44 04/21/17 @ 12:44 04/22/17 @ 12:44 04/23/17 @ 12:44 04/24/17 @ 12:44 | GIVEN - 04/20/17 @ 14:37 20 mEq <input type="button" value="Administer"/> |

Review Learners' Work

Now that the learner has completed the objective, an instructor can log back in to review that work. After logging in, navigating to the learner work section will allow for the review of the above administration.

1. Select **[LEARNERS' WORK]** either by navigating to the left side menu or to the dashboard link to review the administration previously described.

The screenshot shows the SimEMR dashboard interface. On the left sidebar, the 'Learners' Work' menu item is highlighted with a red box. The main dashboard area contains several tiles: 'LEARNERS' WORK' (Review work completed by Learners), 'MANAGE COURSES' (Create and manage the Learners in Courses), 'PATIENT ASSIGNMENTS' (Assign patients to Learners and manage Assignments), and 'PATIENT PROFILES' (Create new and edit existing Patient Profiles). Below these are 'FORMULARY' and 'LABS LIBRARY' tiles. At the bottom, there is a 'Calendar' for September 2018 and a 'To-do List' with an 'Add Task' button.

2. Select **[REVIEW BY LEARNER]** for the course created.



The entry for the course gives two options next to the patient: review by patient and review by learner. The information presented by both buttons will retrieve work completed by learners in that course, with a slightly different context.

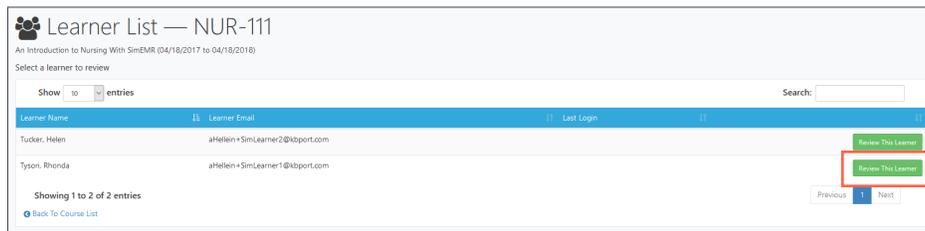
Review by Patient

Allows rapid movement through the same patient for all of the learners in a course. This option is useful if all learners should have completed their work by a specific due date, and the goal is to quickly review that work for an entire course.

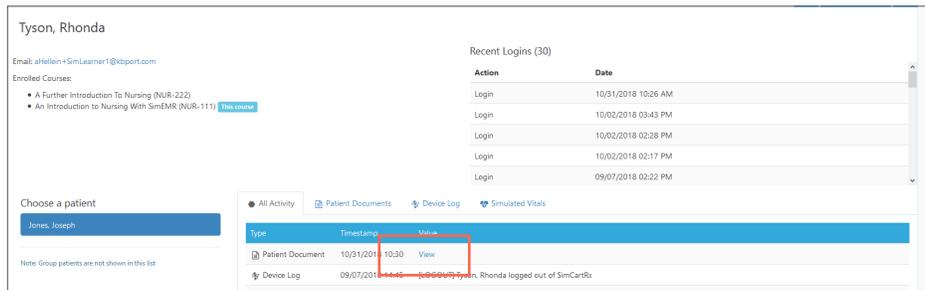
Review by Learner

Allows for the review of all work by a learner for all of their assigned patients. This option is useful if the goal is to gain a comprehensive overview of a learner's progression over the duration of a course. **For this example, review by learner is appropriate.**

3. Select **[REVIEW THIS LEARNER]** to show patient information.

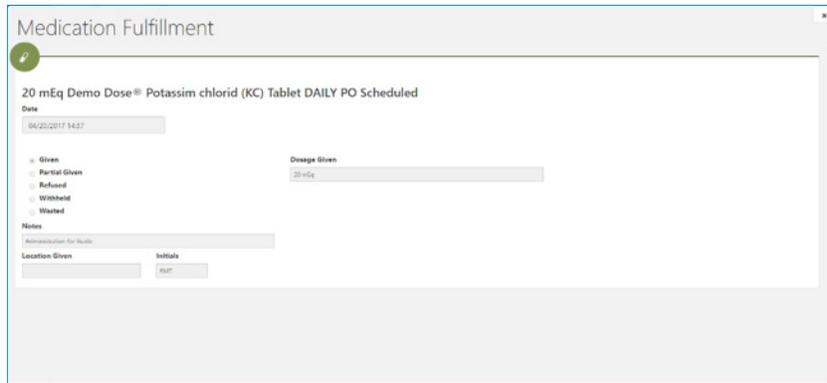


4. Click **[VIEW]** to review the work the learner completed.



Any activity on this patient as well as any activity on KbPort™ suite of simulation devices will show on this log. The view link will display exactly the work that the learner completed.

All of the learner's relevant work can be reviewed by this mechanism. Next, you can provide feedback to the learner directly from SimEMR®, but clicking the email button next to the learner's name. The email will be opened in your default email client.



Closing Remarks

This completes the full cycle of education described in this guide. From start to finish, this process was designed to be streamlined and lightweight, but with the flexibility to support in-depth scenarios with little more cognitive load than shallower scenarios. SimTime™ allows for the re-use of patient profiles semester after semester and for the expansion of SimEMR® into the realm of unfolding cases.

Our support staff and education consultants are more than happy to help fill in the details of specific features, support the development of complex patient profiles, and assist in any technical questions you may have.

SimEMR® interfaces with MedsManager™ for increased functionality. Please refer to the MedsManager™ Quick Start Guide for more information.

For our returning customers from the old version of SimEMR®, we hope that you enjoy the new streamlined experience and usability improvements. Only through your feedback and collaboration was the SimEMR® team able to make a better experience.

Thank you,

KbPort™ SimEMR® Team

