

How to Write a Simulation Scenario

Whether planning a high-fidelity simulation or a table top exercise, it's important to write a solid scenario to ensure a successful experience.

Writing effective objectives for a scenario

- Perform a needs assessment or gap analysis. See also [Gap Analysis](#).
 - Where are the gaps in the care provided to sepsis patients?
 - Look at the data. What does it show that needs to be addressed?
 - Are there new protocols or equipment to assist in the care and treatment of sepsis patients? New order sets? Checklist?
- Write SMART (specific, measurable, attainable, relevant and timely) goals to guide the planning of any simulation.
 - Be specific about what the learners should walk away with (e.g., understanding their role in the care of a sepsis patient, knowing the protocol for the facility, etc.).
 - Objectives should be measurable. How will the facilitator know when the objective has been met? Develop a learner checklist with specific skills and/or behaviors participants need to demonstrate.
 - Consider the knowledge and experience of the participants when setting the objectives.
 - Participants should be able to succeed, so the objectives need to be attainable.
 - The simulation exercise must be relevant to the participants. Use simulation to reinforce skills and behaviors necessary to quickly recognize and treat sepsis.
 - Each simulation should be respectful of the participants' time and timely to the current situation.

Things to consider for any scenario

- Keep the scenario as realistic as possible. It is easiest to use a case study from a real patient.
- Determine if this will be a planned simulation event (participants come in for a scheduled education session), planned in situ (simulation is integrated into the clinical care area) or mock sepsis simulation (impromptu on the unit) or a table top exercise.
 - Will the simulation use low-fidelity manikins, high-fidelity manikins or standardized patients (actors)?
 - What is needed to make the scenario as realistic as possible?
- What personnel resources are available? Are there enough people to conduct a realistic simulation?
 - High-fidelity simulation: facilitator, simulation tech to program and run the manikin, standardized patient and confederates (helpers) to play various parts of the scenario (family, providers, lab, x-ray, etc.)
 - Low-fidelity simulation: facilitator, standardized patient (if not using manikin) and confederates
 - Table top exercises: facilitator

- How much time is needed?
 - High-fidelity simulation: plan enough time for the pre-brief, simulation and debrief (e.g., 10/20/30 minutes, respectively). The time spent on the debrief should be equal to or more than the time spent on the simulation.
 - Low-fidelity simulation (in situ or mock scenario): should be no longer than 20-30 minutes to respect the participants' time, allowing them to return to their real patients in a timely manner. Allow enough time for the debrief, as this is where learning can be maximized. In situ or mock exercises are helpful for the multidisciplinary team to learn together.
 - Table top exercise: plan time based on situation and objectives.
- Keep the debrief in mind during scenario development. The scenario objectives and learner actions will play a pivotal role in the debrief.
- Have a subject matter expert on sepsis review the scenario to evaluate for realism and consistency with the available resources.

The following steps may be adapted to a high-fidelity, low-fidelity or table top scenario, as appropriate.

Steps to writing your own scenario

1. Keep the SMART goals/objectives of the exercise in mind.
2. Structure the simulation to have a defined starting point (e.g., pt. arrives in ED) and ending point (e.g., EMS handoff to ED RN or ED RN handoff to ICU RN).
 - How will the learner know what is happening prior to stepping into the simulation (e.g., SBAR report)?
 - What steps do the participants need to take to achieve the outcomes/objectives?
 - What is the end-point for the simulation? The end-point can be when the objectives, participant skills and behaviors are achieved or time runs out.
3. Develop a process flow map that runs through the scenario with yes/no decision points – if the learner does this, what is the patient response and if the learner does something else, how does the patient respond?
 - Define the patient's steady state (what does the patient look like when in normal health?).
 - What is the event that will trigger the scenario? What changes will the learner see in the patient (vital signs, pain, assessment)? What will the patient say and how will the patient respond to the change in status? What will the confederates do?
 - This leads to a decision: did the learner figure out what is going on with the patient and begin the correct interventions or did the learner miss cues and begin incorrect interventions?
 - Depending on the decision the learner made, what does the patient look like after the interventions are performed? The scenario should be able to take the patient down whichever path the learner takes.
 - Think through the various scenes with options for making the "right" decision and making the "wrong" decision and map out each decision point.
 - Did the intervention help the patient (new assessment data to learner) or did the interventions harm the patient (new assessment data and additional cues to the learner)?
 - For example, the learner assessed pain and decided to give pain medication. Did the learner give the correct dose, and did it help the patient's pain or did the learner give too much pain medication and the patient became more sedated and harder to rouse?
 - Continue writing the scenario to include changes in assessment and decision points that lead the learner down the path to achieve the objectives that were set. What does the learner need to accomplish to meet the objective?

4. Once process flow map (scenario) is complete, work with simulation technician or center to program the manikin to respond appropriately. The degree of detail necessary for this will depend on the characteristics of the manikin used.
 - The facilitator will need to work with the simulation technician to moulage the manikin to increase the realism for learners.
5. Develop a script and checklist that outlines the objectives, the scenario and equipment/props necessary to set the stage.
 - How will learners be prompted to move down the path that was set?
 - What information will be given to the learner up front (i.e., SBAR report – history, current medications and treatments, etc.)?
 - What information will be given during the scenario to prompt the learner to take the necessary actions to achieve the objectives of the scenario?
 - How will additional information be given to the learner? This should be reviewed during the prebrief or orientation to the simulation room. See also [Setting Up the Simulation Exercise Area](#).
 - How will lab or x-ray results be delivered (i.e., communication from providers, pharmacy or other members of the health care team)?
 - Provide the labs, x-rays, scripts, etc. for the simulation team to “result” or “send” to the learners.
6. Consider the type of manikin available:
 - Does it respond physiologically, or are the desired vital signs/responses entered based on learner actions? This affects how much detail needs to be included in the scenario so the technician running the manikin knows how the patient should respond.
 - Will the learners be “doing” each skill (starting IVs, giving medications, etc.) or “simulate doing” (verbalize and simulate what they are doing)?
7. Create the patient chart to go along with the scenario:
 - The chart can be in the electronic health record (EHR) or on paper. If using the EHR, does this offer anything to the simulation? It may be appropriate if one goal is to familiarize the interdisciplinary team to how the EHR responds to changes in vitals or ordering a new order set, etc.
6. Close the scenario when all goals are met, or time runs out.
7. Facilitator will lead participants through the debrief. Allow at least as much time for the debrief as was taken for the simulation. See also [INACLS Standards of Best Practice: Simulation – Debriefing](#).

See also [INACSL Standards of Best Practice: Simulation](#).

References

- Bambini, D. (2016, January-March). Writing a simulation scenario: A step-by-step guide. *AACN Advanced Critical Care*, 27:1. <https://doi.org/10.4037/aacnacc2016986>
- Howard, S. (2018, September 19). Increasing fidelity and realism in simulation. Lippincott Nursing Education Blog. Retrieved from Lippincott Nursing Education: nursingeducation.lww.com/blog.entry.html/2018/09/19/increasing_fidelity-zEj0.html
- The INACSL Standards Committee (2016, December). INACSL Standards of Best Practice: SimulationSM: Simulation Design. *Clinical Simulation in Nursing*, Volume 12, S5-S12. <https://doi.org/10.1016/j.ecns.2016.09.005>

Sample Sepsis Process Flow

