Appendix A
Simulation Descriptions for Web Addendum

Simulations for Healthcare Adventures

Non-clinician group scenario: The intent of this scenario is to give as many participants as possible hands-on experience with patient care. Up to seven people can have some direct role; others observe. The scenario description follows:

Participants are assembled in a conference room. Following the introductory elements of the daylong program, they are told that their hospital has just purchased a small local hospital and they are the transition team for their department's functions. They will be touring the operating room (OR) in order to learn about the hospital. A lead facilitator enters the room in the character of an anesthesiologist who is going to lead the tour. The anesthesiologist begins a lecture on the basic elements of anesthesia. Within ten minutes, the anesthesiologist is interrupted by a call. He takes the call and then tells the class that he has been called to the OR and that they should come with him. Outside the [simulated] OR, they each put on a surgical mask and head cover. They enter the OR, which has standard equipment, confederate actors and a mannequin fully prepared for a procedure. The host anesthesiologist greets the anesthesiologist who is caring for the patient and they discuss some issue that forces the assigned anesthesiologist to leave the room. The host anesthesiologist takes over responsibility for the case.

The host anesthesiologist has a brief discussion with the (confederate) surgeon about the procedure, which is a knee replacement. The first anesthesiologist had placed a regional block. The patient is awake. The host anesthesiologist explains that the patient is becoming uncomfortable, is moving a bit, and that the surgeon has requested that a general anesthetic be induced.

The host anesthesiologist then explains to the management team various aspects of the anesthesia care: reviewing the anesthetic record (on paper) and orienting them to the physiologic monitor, vital signs, anesthesia machine settings, and the basic steps that they will take in inducing the general anesthetic. Up to seven team members are assigned an individual role: feel the pulse, listen to the chest via a stethoscope, select drugs from the cart, inject drugs through an IV, observe the physiologic monitor and record the vital signs on the anesthetic record, manually control ventilation via breathing machine bag, and assist in intubation of the patient. Other team members observe from positions in the OR.

During this explanatory period, there is background activity. A nurse enters the room and the surgeon asks where he has been. He explains that he's late for some reason and there is some discussion about the reason. It's clear that the

nurse was not present at the beginning of the procedure when the time-out would have occurred.

The anesthesiologist proceeds to conduct a typical, uneventful anesthetic induction, actually guiding one team member in inserting an endotracheal tube. During the course of the induction, he may ask team members for information related to their assigned task; assigned persons will often ask questions or give information about what they observe, e.g., pressure going up or down. The patient is successfully induced and the surgery proceeds. The exercise to this point is not particularly stressful and the realism is only moderate, i.e., the surgeon asks if they could get the procedure underway, complains about the training holding up the procedure but accepts the explanation about why this group is in the OR.

The host anesthesiologist receives a stat call that requires him to deal with an urgent situation in another OR. Rushing out of the room, the host anesthesiologist tells the team to watch the patient and keep things where they are. Soon after, a confederate nurse discovers information on the record that reveals that the surgeon is apparently operating on the wrong knee. The surgeon publicly blames the anesthesiologist and directs the nurse to confirm the information with his office; that confirmation comes back quickly. The surgeon then directs the nurse to prepare the patient so that they close the knee upon which they are operating and simply move the operation to the other (correct) knee. The nurse raises concern to the surgeon that this may not be the right thing to do. The surgeon responds calmly and gives his rationale for proceeding. The team then typically becomes involved in the discussion about the ethics of this situation. If they don't, the confederate nurse asks them what they think and brings them into the discussion.

The surgeon continues to direct the nurse to prepare to operate on the correct knee. The tourniquet on the left (wrong) knee is deflated. Shortly thereafter, the heart rate increases, blood pressure decreases, and the ECG evolves to ventricular tachycardia. If the team does not recognize the problem, the nurse will notify them. The surgeon initiates directing the team to initiate CPR. The host anesthesiologist is paged and quickly returns. He directs the individual team members to conduct the various actions of a resuscitation including continued chest compressions (switching off between two members) defibrillation, administering epinephrine and amiodorone before the rhythm returns to a sinus tachycardia. The team is told that the situation has resolved and the likely cause (letting down the tourniquet, which had been inflated an extended time). The procedure is cancelled and there is some discussion about what to tell the family. The team leaves the room and proceeds to the debriefing room.

The simulation typically requires 45 minutes but can be abbreviated.

Clinician group scenario: Some clinicians in a management team may assume too much responsibility for patient care in any simulation involving direct patient care. This would likely prevent non-clinicians in the group from direct involvement with the "patient's" care, defeating its purpose. To avoid this issue, we developed a scenario that begins with having all team members observe a clinical situation. The simulation is then the time-limited task they are given to work on as a team to propose solutions to issues they observed. The description follows:

As in the non-clinician scenario, participants are told that their hospital has just purchased a small local hospital and they are the transition team. They then are told they will be touring the emergency room (ER) in order to learn about the hospital. A lead facilitator enters the room in the character of the ER Director, who is going to bring them on the tour.

The ER Director brings the team to the ER and orients them to some of the ER's problems and concerns, noting that they hope that being purchased by the larger system will help provide capital and expertise. The entire scenario is conducted as realistically as possible, as if the visit were real.

There are two active ER bays, one with a standardized patient-actor and the other with a mannequin. The patient-actor has been admitted for pre-labor complications. Her husband (a confederate actor) is sitting by the bedside holding a camera that he has brought in to film the delivery. The ER Director introduces the touring team and has some polite discussion with him. The husband later calls over the ER Director and explains that they have been waiting for quite a while for their obstetrician, who told them to come to the ER because she was experiencing some abdominal pain. The nurse provides information about the patient's status, including that she has had a kidney transplant and that there is a suspicion of cholecystitis and she might require cholecystectomy. The ER Director explains the situation to the husband and gives verbal orders to the nurse for several drugs, one of which is contraindicated given her prior medical history.

In the other bay, an ER physician prepares to insert a central line in a patient with COPD and a suspected bowel obstruction. The patient is completely and appropriately draped for the procedure.

Following the visit to the ER, the team is taken to a different conference room. They are shown a video message from the hospital CEO. The CEO describes to the team a problem that the hospital is having and asks for their expert advice on how to deal with problems in the ER. The patient's husband has taken a video in the ER that reveals some serious problems in patient safety and safety culture. The husband is threatening to give his video to the local media unless actions are taken.

The team is shown the video, which contains several different scenes that occurred after they left the ER and involving the personnel they had just met with

and observed. The resident placing the central line has committed a break in sterile procedure. The nurse informs him but is rebuffed claiming that the nurse is wrong. The nurse then speaks to the charge nurse in the corner of the ER, complaining about what just happened. In the next video clip, the charge nurse complains to the ER Director about what just happened and that this and other residents mistreat the nurses in the unit. The ER Director then speaks with the resident, but does not confront him seriously about the event. In the final clip, the nurse comments to himself about what just happened and then, presumably takes out his frustration by talking belligerently to the husband, telling him to turn off the video camera.

The program facilitator then explains the assignment to the team. They are to develop advice for the CEO about how to deal with the situation he is facing. They are given a specific time limit of 45 minutes to complete the task. The team then is left to organize and prepare a plan.