



An Exercise in the Provision of Care for an Adult Patient under Investigation (PUI) for Ebola: A Patient Care Drill

Exercise Toolkit

The Simulation Toolkit gives elected and appointed officials, observers, and members of participating organizations information they need to observe or participate in the simulation. Some exercise material is intended for the exclusive use of simulation planners, facilitators, and evaluators, but participants may view other materials that are necessary to their performance.

INTRODUCTION

In October of 2014 Indianapolis found itself, like many communities, preparing for the unknown realities of providing care to a Patient under Investigation (PUI) for Ebola Virus Disease (EVD). A group of clinical experts from local facilities gathered to discuss clinical management, guidelines, challenges, and opportunities. Trainings and exercises with local EMS agencies had already begun within the community. But more in depth hospital exercises had not yet been conducted. The clinicians recommended developing an exercise specific to patient care areas where a PUI would be taken care of.

A team of experts in patient simulation, infection control, patient care, and emergency management was gathered to explore the development of an exercise toolkit to assist local hospitals in implementing their Ebola response systems. What quickly became apparent was that the framework outlined was not only a simulation template for Ebola, but for any Highly Infectious Disease (HID).

What has evolved is a 4-hour patient care simulation designed specifically for the patient care environment where a PUI would be cared for. This timeframe was chosen to allow sufficient time in Personal Protective Equipment (PPE), to test systems, and to allow for a change in patient care teams.

This exercise drill is limited in its scope. The drill does not include communication with the health department, state officials, Centers for Disease Control (CDC), transporting agencies, or regional designated facilities. Communication with these agencies is extremely important and should be practiced, but it is not included as a part of this exercise toolkit. A facility may expand the exercise to include these organizations if desired.

This simulation is designed for hospitals that have established protocols for the provision of care, even limited care, to a PUI. If you have not developed plans, trained staff, or developed a system, then this toolkit is not for you.

All hospitals should be prepared to adequately take steps to identify, isolate, inform, and initiate care of PUI for Ebola for up to 24 hours.¹ This toolkit will help you implement your plan. If you have taken those steps and want to see how your system can continue to improve its care of a PUI, then welcome and enjoy.

Table of Contents

Introduction	1
Simulation Overview.....	4
General Information	6
Exercise Objectives and Core Capabilities	6
<i>Table 1. Exercise Objectives and Associated Core Capabilities</i>	<i>6</i>
Participant Roles and Responsibilities	6
Exercise Assumptions and Artificialities	7
<i>Assumptions.....</i>	<i>7</i>
<i>Artificialities.....</i>	<i>7</i>
Simulation Logistics	8
Safety	8
Site Access.....	8
Security	8
Observer Coordination.....	8
Simulation Identification.....	8
Media/Communication.....	9
Post-Simulations and Evaluation Activities.....	10
Debriefings.....	10
Hot Wash	10
Debriefing	10
Evaluation	10
Exercise Evaluation Guides (EEGs).....	10
After-action Report (AAR).....	10
Corrective Action Plan.....	10
Participant Information and Guidance.....	11
Exercise Rules.....	11
Participant Instructions.....	11
Before the Exercise	11
During the Exercise	11
After the Exercise	12
Exercise Guidelines	12
References	13
Appendix A: Patient 1: Simulation Scenario Template.....	14
<i>Patient 1 Simulation Progression Outline.....</i>	<i>15</i>
Appendix B: Patient 2: Simulation Scenario Template.....	18
<i>Patient 2 Simulation Progression Outline.....</i>	<i>19</i>
<i>Scenario Alterations</i>	<i>22</i>
Appendix C: Exercise Evaluation guide	23
Appendix D: Hot wash/Debriefing.....	24

Instructions:	24
Hot Wash (To be completed after each team exits):.....	24
System Debriefing	25
Appendix E: Patient Role	27
Appendix F: Staging	29
Appendix G: Participant Feedback Form	30
General Information.....	30
Exercise Questionnaire	30

SIMULATION OVERVIEW

Exercise Name	An exercise in the provision of care for an adult patient under Investigation (PUI) for Ebola: a patient care drill.
Exercise Dates	This simulation is designed to run actively for 4 hours followed by a comprehensive post-simulation debrief.
Scope	This simulation is recommended for any acute healthcare facility whether your jurisdiction is following the CDC tiered approach or not.¹ Recommendations are outlined according to CDC designations. Frontline healthcare facilities, especially those distant from identified Ebola assessment hospitals or Ebola treatment centers, should use this toolkit to prepare for providing patient care while awaiting transport. It is recommended that Ebola assessment hospitals use this simulation as a test of identified systems and procedures in the provision of care while awaiting test results. It is recommended that Ebola treatment centers use this toolkit to assist in continued preparedness practices and verification of proper procedures and systems to ensure that safe staff and patient care is provided. This simulation is a full-scale exercise planned for 4 hours on the hospital unit that has been identified to manage Ebola or other Highly Infectious Disease (HID) patients. Simulation participation is limited to hospital staff involved in providing patient care or care oversight to an Ebola or HID patient.
Mission Area(s)	This simulation will test all aspects of a system's ability to safely handle an Ebola or HID patient by identifying gaps in prevention, protection, mitigation, response, and recovery.
Core Capabilities²	Healthcare system preparedness Emergency operations coordination Responder safety and health
Objectives	1. Identify latent patient and staff safety issues including: donning; doffing; sharps control; invasive procedures; and PPE breaches. 2. Verify effective processes for patient care to include: shift hand-off procedures; specimen collection and transport; food and nutrition services; waste management; and safety, security, and access control. 3. Assess communication and psychosocial support mechanisms to include: patient isolation; staff isolation; nurse and patient communication; and

	emotional response to PPE breaches.
Threat or Hazard	This simulation is focused on systems used to deliver patient care to a suspected or confirmed Ebola or other HID patient.
Scenario	Two scenarios are presented so that each facility can determine which would be best to appropriately test their facility's processes and procedures. Patient Scenario 1: A healthcare provider under monitoring becomes symptomatic and is admitted to the hospital for evaluation and assessment. The patient presents with minimal symptoms and is in the “dry” stage of the disease process. Patient transitions to “wet” stages of the disease. Patient Scenario 2: An international traveler under monitoring is admitted to the hospital symptomatic and presents in the wet stages of the disease process. Language is a barrier and care provision is more intense.
Sponsor	This simulation toolkit was coordinated by the MESH Coalition, a non-profit, public-private coalition located in Marion County, Indiana (Indianapolis), which enables healthcare organizations to respond effectively to emergency events and remain viable through recovery.
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GENERAL INFORMATION

Exercise Objectives and Core Capabilities

The following exercise objectives in Table 1 describe the expected outcomes for the simulation. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). The objectives and aligned core capabilities are guided by the ASPR 2012 Healthcare Preparedness Capabilities, based on after action reports and experiences of systems and clinical personnel in caring for suspected and confirmed Ebola patients.

Exercise Objective	Core Capability
System Objectives	
Identify latent patient and staff safety issues including: donning; doffing; sharps control; invasive procedures; and PPE breaches.	Healthcare systems preparedness Emergency Operations Responder safety and health
Verify effective processes for patient care including: shift hand-off procedures; specimen collection and transport; food and nutrition services; waste management; safety, security and access control.	Healthcare systems preparedness Emergency Operations Medical surge
Assess communication and psychosocial support mechanisms including: patient isolation; staff isolation; nurse and patient communication; and emotional response to PPE breaches.	Responder health and safety

Table 1. Exercise Objectives and Associated Core Capabilities

Participant Roles and Responsibilities

The term *participant* encompasses many groups of people, not just those in the exercise. Groups of participants involved in the exercise, and their respective roles and responsibilities, are as follows:

- **Participants.** Participants are personnel who have an active role in discussing or performing their regular roles and responsibilities during the exercise. Participants discuss or initiate actions in response to the simulated emergency.
- **Facilitators.** Facilitators plan and manage exercise and set up and operate the exercise site, and they also act in the roles of organizations or individuals that are not in the exercise. Facilitators direct the pace of the exercise, provide key data to participants, and may prompt or initiate certain player actions to ensure exercise continuity.
- **Evaluators.** Evaluators assess and provide feedback on a designated functional area of the exercise. Evaluators observe and document performance against established capability targets and critical tasks in accordance with the Exercise Evaluation Guides (EEGs).

- **Actors.** Actors simulate specific roles during the exercise, typically the patient or bystanders.
- **Observers.** Observers visit or view selected segments of the exercise. Observers do not actively participate in the exercise, nor do they perform any control or evaluation functions. Observers view the exercise from a designated observation area and must remain within the observation area during the exercise.

Exercise Assumptions and Artificialities

In any exercise, assumptions and artificialities may be necessary to complete objectives in the time allotted and/or account for logistical limitations. Exercise participants should accept that assumptions and artificialities are inherent in any exercise and should not allow these considerations to negatively impact their participation.

Assumptions

Assumptions constitute the implied factual foundation for the exercise and, as such, are assumed to be present before the exercise starts. The following assumptions apply to the exercise:

- The simulation is conducted in a no-fault learning environment wherein capabilities, plans, systems, and processes will be evaluated.
- The exercise scenario is plausible, and events occur as they are presented.
- Exercise simulation contains sufficient detail to allow participants to react to information and situations as they are presented as if the simulated incident were real.
- Hospitals and units participating have a cadre of staff trained in appropriate donning and doffing.
- Hospitals and units participating have policies and procedures in place to provide care to a suspected Ebola patient or an HID patient.
- Notification to appropriate public health authorities such as county health departments, state health departments, and the Centers for Disease Control and Prevention has already taken place. This exercise does not test that process.

Artificialities

During this exercise, the following artificialities apply:

- Simulation communication and coordination are limited to participating organizations and staff.
- Only communication methods listed in the Communications Directory are available for participants to use during the exercise.
- Appropriate public health officials have already been contacted and are communicating with your facility about the care of simulated patients.
- Transportation arrangements to a designated treatment center are being coordinated and are outside the scope of this exercise.

SIMULATION LOGISTICS

Safety

Exercise participant safety takes priority over exercise events. The following general requirements apply to the exercise:

- Safety is everyone's concern. Any real-world safety issues during the exercise should immediately be brought to the attention of an exercise controller. The controller is responsible for participant safety; any safety concerns must be immediately addressed. The Controller and Exercise Director will determine if a real-world emergency warrants a pause or stop in the exercise and when the exercise can be resumed.
- For an emergency that requires assistance, use the phrase **“real-world emergency.”** The following procedures should be used in case of a real emergency during the exercise:
 - Anyone who observes a participant who is seriously ill or injured will immediately notify emergency services and the closest controller and, within reason and training, render aid.
 - The controller aware of a real emergency will initiate the **“real-world emergency”** message and provide the location of the emergency and resources needed, if any.
 - The facility emergency department will evaluate the participant who is ill or injured and/or will notify occupational health as deemed appropriate by unit supervisor according to facility policy.

Site Access

Security

If entry control is required for the exercise venue(s), the sponsor organization is responsible for arranging appropriate security measures. To prevent interruption of the exercise, access to exercise sites is limited to exercise participants. Participants should advise their venue's controller or evaluator of any unauthorized persons.

Observer Coordination

Organizations with observers attending the event should coordinate with the sponsor organization for access to the exercise site. Observers are escorted to designated areas and accompanied by an exercise controller at all times. Sponsor organization representatives and/or the observer controller may be present to explain exercise conduct and answer questions. Exercise participants should be advised of media and/or observer presence.

Simulation Identification

Badges, hats, and/or vests to clearly display simulation roles may be used to identify simulation staff; additionally, uniform clothing may be worn to show agency affiliation.

Media/Communication

Each facility should consider if it will invite media or how it will respond if media representatives inquire about the scenario.

The facility should consider how it will communicate with internal and external stakeholders to notify them of the simulation occurring. Pre-communication will help eliminate anxiety and confusion in a real event.

POST-SIMULATIONS AND EVALUATION ACTIVITIES

Debriefings

Post-exercise debriefings aim to collect sufficient relevant data to support effective evaluation and improvement planning.

Hot Wash

At the conclusion of exercise participation, facilitators will conduct a “Hot Wash” to allow participants to personally debrief and reflect on the experience. There are no right answers and this is not a time for a lecture. All patient care participants may attend; however, observers are not encouraged to attend the meeting. The Hot Wash should be limited in time, and a formal debriefing will be conducted at the full conclusion of the exercise.

Debriefing

All simulation participants are invited to attend a facilitated debriefing immediately following the exercise. During this debriefing, facilitators and evaluators provide an overview of their observed functional areas and discuss strengths and areas for improvement. This is an opportunity to share successes, frustrations, observations focused on the systems that provide care.

Evaluation

Exercise Evaluation Guides (EEGs)

EEGs assist evaluators in collecting relevant exercise observations. EEGs document exercise objectives and aligned core capabilities, capability targets, and critical tasks. Each EEG provides evaluators with information on what they should expect to see demonstrated in their functional area.

After-action Report (AAR)

The AAR summarizes key information related to evaluation. The AAR primarily focuses on the analysis of core capabilities, including capability performance, strengths, and areas for improvement. AARs also include basic exercise information, including the exercise name, type of exercise, dates, location, participating organizations, mission area(s), specific threat or hazard, a brief scenario description, and the name of the exercise sponsor and primary contact. It is recommended that the facility utilizing this toolkit prepare an AAR to capture observations and make improvements.

Corrective Action Plan

Improvement planning is the process by which the observations recorded in the AAR are resolved through development of concrete corrective actions, which are prioritized and tracked as a part of a continuous corrective action plan.

PARTICIPANT INFORMATION AND GUIDANCE

Exercise Rules

The following general rules are in effect during the exercise: Real-world emergency actions take priority over exercise actions.

- Exercise participants will comply with real-world emergency procedures, unless otherwise directed by the control staff.
- All communications (including written, radio, telephone, and e-mail) during the exercise will begin and end with the statement, **“This is an exercise.”**

Participant Instructions

Participants should follow certain guidelines before, during, and after the exercise to ensure a safe and effective exercise.

Before the Exercise

- Review appropriate organizational plans, procedures, and exercise support documents.
- Be at the appropriate site at least 30 minutes before the exercise starts. Wear the appropriate uniform and/or identification item(s).
- Sign in when you arrive.

During the Exercise

- Respond to exercise events and information as if the situation were real, unless otherwise directed by an exercise controller.
- Facilitators will give you only information they are specifically directed to disseminate. You are expected to obtain other necessary information through existing information channels.
- Do not engage in personal conversations with facilitators, evaluators, observers, or personnel. If you are asked an exercise-related question, give a short, concise answer. If you are busy and cannot immediately respond, indicate that, but report back with an answer as soon as possible.
- Parts of the scenario may seem implausible. Recognize that the exercise has objectives to satisfy and may require incorporation of low probability events. Every effort has been made by the exercise’s developers to balance realism with safety and to create an effective learning and evaluation environment.
- All exercise communications will begin and end with the statement, **“This is an exercise.”** This precaution is taken so that anyone who overhears the conversation will not mistake exercise play for a real-world emergency.
- Act and provide care as you would if this was a real situation. If there is an activity you would do, but cannot because of artificialities of the exercise tell your facilitator.

- Maintain documentation as you would in a real situation according to the guidelines of your facility.

After the Exercise

- Participate in the Hot Wash at your venue with the facilitator.
- Complete the Participant Feedback Form. This form allows you to comment candidly on the activities and exercise effectiveness. Provide the completed form to a controller or evaluator.
- Provide any notes or materials generated from the exercise to your controller or evaluator for review and inclusion in the AAR.

Exercise Guidelines

Because the exercise is of limited duration and scope, certain details will be simulated. Additionally, certain aspects of patient care may need to be simulated. However, individual care providers are expected to perform patient care routines unless otherwise directed. Simulation aids will be provided for certain procedures. The physical description history of patient care will be relayed to participants by simulators or facilitators.

REFERENCES

1. Centers for Disease Control and Prevention. (2015, February 20). Interim guidance for U.S. hospital preparedness for Patients Under Investigation (PUIs) or with confirmed Ebola Virus Disease (EVD): A framework for a tiered approach. Retrieved July 29, 2015, from <http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html>
2. Assistant Secretary for Preparedness and Response. (2012). *Healthcare preparedness capabilities; National guidance for healthcare system preparedness*. Retrieved from <http://www.phe.gov/preparedness/planning/hpp/reports/documents/capabilities.pdf>

The following references were considered when developing patient scenarios.

- Lyon, G., Mehta, A., Varkey, J., Brantly, K., Plyler, L., McElroy, A., Ribner, B. (2014). Clinical care of two patients with Ebola Virus Disease. *The New England Journal of Medicine*, (371), 2402-9.
- Bah, E., Lamah, M., Fletcher, T., Jacob, S., Brett-Major, D., Sall, A., Fowler, R. (2014). Clinical presentation of patients with Ebola Virus Disease in Conakry, Guinea. *The New England Journal of Medicine*, 1-8. doi:10.1056/NEJMoa1411249
- Suwanarat, N., & Apisarnthanarak, A. (2015). Risks to healthcare workers with emerging diseases: lessons from MERS-CoV, Ebola, SARS and avian flu. *Current Opinion in Infectious Diseases*, 28, 349-361.

APPENDIX A: PATIENT 1: SIMULATION SCENARIO TEMPLATE

Patient 1	Standardized patient and task training (IV arm)	
Name: Mary Helper	MRN#: 000111222	DOB: 01/01/1988
Gender: Female	Race: Hispanic	Religion: Catholic
Age: 26	Height: 5'8"	Weight: 69.5 kg
Attending Physician: Dr. Health		

Chief Complaint	Abdominal pain, nausea, fatigue
History of Present Illness	
History of Present Illness: Mary returned six days ago from working for a Non-governmental organization (NGO) in Sierra Leone as a part of their Ebola response. She provided hands-on care to patients suspected and confirmed to have Ebola. She had no known PPE breaches in technique while working and was monitored twice daily for any symptoms or fever. About two weeks into her six week deployment she had a one-day episode of diarrhea that resolved and no other symptoms. She returned without complications and has been monitored by the county health department. She presented to your facility emergency department approximately 4 hours ago and was admitted to your unit for c/o abdominal pain that started 2 days ago, nausea that started today, and fatigue that became more pronounced today. Transfer to a CDC-designated Ebola Treatment Facility will not be possible for two days. The County and State Health Departments and CDC have requested the patient stay at your facility until the tests come back negative or the patient can be transferred.	
Past Medical History	
Medical History	Endometriosis
Surgical/Procedural History	Exploratory laparotomy and lysis of adhesions 3 years ago
OB/GYN History	G: 0 P: 0 A: 0
Immunizations	Up to date
Medications	Birth control pills, atovaguone/proguanil, multi-vitamin
Diet	Regular, no restrictions
Social History	
Smoking/ETOH/Drugs	None/occasional/none
Sexual History	Occasional, last 3 days ago
Support Systems	Family and boyfriend whom she lives with

Plan of Care	
Primary Diagnosis	R/O Malaria, R/O Ebola
Labs	Malaria smear, Ebola labs, chemistry panel
Diagnostic Procedures	None
Nursing SBAR	<u>Situation:</u> Patient needs re-assessment and lab work drawn. <u>Background:</u> Due to inability to transport patient to an Ebola Treatment Center, initial work-up and care of patient will occur here. <u>Assessment:</u> No change in patient status since her arrival on the unit a few hours ago. Patient is awake, alert, oriented, and in no distress. <u>Recommendation:</u> Develop action plan and draw blood.

Patient 1 Simulation Progression Outline

Time (minutes)	Patient/Manikin Actions	Expected Interventions	Cues/Prompts/Responses
0 to 15	Awake, alert, oriented, no distress	Put on PPE according to facility protocol and CDC guidance using a trained observer and a checklist.	Cue: Start of the simulation.
15-30	HR: 84 RR: 16 BP: 126/64 SpO2: 99% Temp: 37.1 Rhythm: NSR	Introduction of care team, VS, communication of plan of care, and assessment	Cue: If no introduction, "Who are you?"
30-45	Manikin arm for blood draw and IV start	Draw labs according to facility and CDC policy.	Cue: If labs are not drawn, patient care team outside communicates to care teams inside that labs need to be drawn. Cue: Complete available POC testing in room.
45-60		Bagging and transfer of labs out of room Complete available POC	Cue: Do you have the correct tubes for the special order labs? Cue: Do you have the

		testing in room.	correct Point of Care (POC) cartridges?
60-75	Patient expresses need to go to the bathroom. Patient needs assistance getting up out of bed.	Assist patient to commode or bathroom.	Cue: If patient not assisted, “I feel very weak and not very steady.”
90*			Cue: Safety Officer prompts staff in room that they have 30 minutes till doffing.
75-120	Patient may interact with staff as appropriate.	Documentation and prepare SBAR for next shift.	Cue: Change of shift is approaching.
120		Current staff remove PPE according to facility policy.	Cue: You have reached your time limit and it is time for you to exit.
Transition Period Change staff			
Timing (Min)	Patient/Manikin Actions	Expected Interventions	Cues/Prompts/Responses
120	Awake, alert, oriented, no distress	Put on PPE according to facility protocol and CDC guidance using a trained observer and a checklist.	
	HR: 86 RR: 16 BP: 120/68 SpO2: 99% Temp: 37.0 Rhythm: NSR	Introduction of care team, VS, communication of plan of care, and assessment	Cue: If no introduction, “Who are you?”
150-175	Food arrives and patient begins to eat.	Dietary delivery method and distribution to patient.	Cue: Dietary shows up to deliver food.
180-190	Patient vomits food.	Staff safely assist patient after vomiting.	Cue: “I’m going to be sick.”
	Patient continues to feel nauseated. HR: 84 RR: 16 BP: 126/64 SpO2: 99% Temp: 37.1 Rhythm: NSR	Change linen Re-assess patient and vitals IV hydration Antiemetic	
210*			Cue: Safety Officer prompts staff in room that they have 30 minutes till

			doffing.
220-240	Patient expresses fear about what this means. Nausea improved.	Psycho-social support to patient. Prepared for change of shift.	
240		Staff remove PPE.	Cue: You have reached your time limit and it is time for you to exit.

APPENDIX B: PATIENT 2: SIMULATION SCENARIO TEMPLATE

Patient 2 Description

Patient 2	Standardized patient and task training (IV arm)	
Name: Amadu Conte	MRN#: 000333444	DOB: 07/07/1961
Gender: Male	Race: Guinea	Religion: Islam
Age: 54	Height: 5'10"	Weight: 80 kg
Attending Physician: Dr. Health		

Chief Complaint	Abdominal pain, fatigue, fever, vomiting and diarrhea
History of Present Illness	
Patient arrived in the US two weeks ago and has been followed by the county health department monitoring his symptoms twice a day by Skype. Patient speaks no English, only French. Assessments have been made using the language line or guided questions. Patient has occasionally missed monitoring calls. Five days ago the patient started feeling weak, then developed diarrhea approximately two days ago. Patient has onset today of fever of 101.4 with one episode of vomiting. Patient denies any contact with anyone in Guinea who was sick. Patient was admitted to your unit from the emergency department to await transfer to a CDC-designated Ebola Treatment Facility. The transfer will take place in the next 24 hours.	
Past Medical History	
Medical History	High blood pressure
Surgical/Procedural History	None
OB/GYN History	N/A
Immunizations	Some, unsure of what he has had in the past.
Medications	Unknown medication for blood pressure
Diet	Regular, no pork, no alcohol
Social History	
Smoking/ETOH/Drugs	1 pack per day/none/none
Sexual History	Patient reports 10 children and 2 wives in Guinea, denies any activity here in U.S.
Support Systems	Patient has a brother who lives locally.

Plan of Care	
Primary Diagnosis	R/O Ebola, R/O Malaria

Labs	Malaria smear, Ebola labs, chemistry panel
Diagnostic Procedures	None
Nursing SBAR	<u>Situation:</u> Patient needs re-assessment and lab work drawn. <u>Background:</u> Due to inability to transport patient to an Ebola Treatment Center, initial work-up and care of patient will occur here. Patient speaks French. <u>Assessment:</u> No change in patient status since his arrival on the unit a few hours ago. Patient is awake, weak, and in no distress. No vomiting since his arrival on the unit. <u>Recommendation:</u> Develop action plan and draw blood.

Patient 2 Simulation Progression Outline

Time (minutes)	Patient/Manikin Actions	Expected Interventions	Cues/Prompts/Responses
0 to 15 minutes	Patient awake, dozes intermittently, and weak.	Put on PPE according to facility protocol and CDC guidance using a trained observer and a checklist.	Cue: Start of the simulation.
15-30	HR: 96 RR: 18 BP: 102/58 SpO2: 98% Temp: 38.6 Rhythm: NSR	Introduction of care team, VS, communication of plan of care, assessment, and use of communication assistive device.	Cue: If no introduction, “Who are you?” Cue: If language aids are not used ask: “Did the patient understand your instructions?”
30-45	Manikin arm: Simulation Chest for central line access	IV or Central Line placement. Draw labs according to facility and CDC policy.	Cue: If labs are not drawn, patient care team outside communicates to care teams inside that labs need to be drawn. Cue: Due to “wet” presentation vascular access is required.
45-60		Bagging and transfer of labs out of room	Cue: How are the labs transported from the room to the lab?

60-75	Patient expresses need to go to the bathroom. Patient attempts to get out of bed with assistance, but unable and has diarrhea.	Cleans patient	Cue: If patient not assisted, “I feel very weak and not very steady.”
90*			Cue: Safety Officer prompts staff in room that they have 30 minutes till doffing.
75-120	HR: 102 RR: 18 BP: 101/62 SpO2: 98% Temp: 38.9 C Rhythm: ST	Documentation and SBAR to next shift	Cue: Change of shift is approaching.
120		Staff remove PPE	Cue: You have reached your time limit and it is time for you to exit.

Transition Period

Change Staff

Time (minutes)	Patient/Manikin Actions	Expected Interventions	Cues/Prompts/Responses
120		Put on PPE according to facility protocol and CDC guidance using a trained observer and a checklist.	
120-140	Patient expresses desire to eat.	Dietary delivery	Cue: Patient looks like he is trying to tell you something.
140-160	Patient has additional diarrhea. HR: 112 RR: 22 BP: 100/58 SpO2: 98% Temp: 38.8 C Rhythm: ST	Clean patient, change linen	
160-180		Linen basket changed	Cue: The linen basket is pretty full and looks like it should be changed.
180-240	Patient complains of abdominal pain.	Exposed staff will stop patient care and prepare to exit.	Cue: Safety Officer notes a breach of PPE after linen is changed. Directs staff member to exit.
		Replacement staff mobilized	

210	Patient has additional episode of diarrhea and requests to be cleaned.		Cue: Safety Officer prompts staff in room that they have 30 minutes till doffing.
		Documentation and preparation for SBAR	
240		Staff remove PPE	Cue: Ends simulation

Scenario Alterations

This exercise/simulation is designed to give you flexibility in training and verifying your ability to perform activities. Below are recommended alterations to the outlined scenario that you could take depending on the preparedness level of your facility and the scale of the exercise you wish to create. You are welcome to simplify the exercise or make it more complex to meet your needs.

Scenario Alterations	
Include local and state health department communication requirements.	Provider collapses in the patient care room.
Non-English-speaking family members arrive and wish to see their loved one.	Use glow spray to show potential contamination during patient care and doffing.
The development of a black water breach of highly infectious waste.	Media present to the hospital requesting information and interviews.
Patient requests visit from religious leaders.	

APPENDIX C: EXERCISE EVALUATION GUIDE

Use this tool to quickly check general objects and record notes during the exercise/simulation.

Objective	Met/Not Met
Organization staff will demonstrate appropriate donning & doffing PPE in accordance with CDC and facility recommendations and policies.	
Notes:	
Organization staff will demonstrate safe lab management of blood samples from the patient room to transport personnel to the lab or appropriate shipping location.	
Notes:	
Organization staff will demonstrate appropriate and safe delivery of dietary service.	
Notes:	
Staff will coordinate and demonstrate appropriate change-of-shift hand-off that is safe and in keeping with facility and unit policies.	
Notes:	
Staff will coordinate and demonstrate appropriate trash and linen management according to facility and CDC guidelines.	
Notes:	
Patient care team demonstrates appropriate team and patient communication.	
Notes:	

APPENDIX D: HOT WASH/DEBRIEFING

Instructions:

Immediately after patient care team completes their portion of the simulation conduct a brief hot wash of their experience. Ask open-ended questions and allow discussion of personal responses to the experience. The system debrief will come later, and this is a time for personal debrief and reflection. There are no right answers and this is not a time for a lecture. Record the general responses of exercise participants. Suggested questions are provided below.

Hot Wash (To be completed after each team exits):

Question: How did you feel while caring for this patient?
Responses:
Question: Describe the most difficult or stressful part of the scenario for you?
Responses:
Question: How effective was your preparation (training) in caring for a highly infectious patient?
Responses:
Question: Are there any items/issues you want addressed as a part of the system debrief?
Responses:

System Debriefing

The following table includes a number of questions that the debriefing facilitator may ask as a part of the debriefing process. These are questions following the objectives of the exercise, but follow-up questions are encouraged. It is recommended that this document be combined with the Exercise Evaluation Guide (EEG) and hot wash to give a broad perspective of the exercise and be incorporated in the organization's After Action Report (AAR).

	System Debriefing	
Issue	Positives	Areas for Improvement
What did working as a team accomplish for you in this exercise?		
What safety issues did you recognize that affected your ability to safely care for the patient?		
How was the management of lab specimens handled?		
How was the management of dietary services handled?		
What did the management of waste reveal?		
What did the donning and doffing of PPE reveal?		
How was a breach in PPE managed?		
What did managing patient care in this environment reveal to you and your team?		

What communication strategies were made among the various team members?		
Are there other items that have not been addressed?		

APPENDIX E: PATIENT ROLE

This form is to assist in preparing the actor who will be playing the patient role in the simulation.

CHARACTER DEVELOPMENT TOOL

PATIENT 1: GENERAL DEMOGRAPHICS

Name: _____ Occupation: _____
Age Range: _____ Ethnicity: _____ Special Features: _____
Educational Level: _____ Relationship Status: _____
Socioeconomic Status: _____

BACKGROUND INFORMATION

Family situation and relationships: _____
Family strengths and challenges: _____
Medical knowledge and level of understanding: _____
Prior experience with healthcare system: _____
Communication style: _____
Emotional expressiveness: _____
Non-verbal behavior and physical characteristics: _____

CHARACTER ATTRIBUTES

	Not At All 1	Mild 2	Moderate 3	Concerning 4	Severe 5
Anxiety	☐	☐	☐	☐	☐
Shock	☐	☐	☐	☐	☐
Confusion	☐	☐	☐	☐	☐
Guilt	☐	☐	☐	☐	☐
Sadness	☐	☐	☐	☐	☐
Indecision	☐	☐	☐	☐	☐
Assertiveness	☐	☐	☐	☐	☐
Frustration	☐	☐	☐	☐	☐
Anger	☐	☐	☐	☐	☐

ADDITIONAL COMMENTS FOR THE ACTOR

Pascucci RC, Weinstock P, O'Connor BE, Fancy KM, Meyer EC. (2013) Integrating actors into a simulation program – a primer. *Simulation in Healthcare*, advance online publication, doi: 10.1097/SIH.0b013e3182a3ded7 1.21.14 Recreated Ed&Dev/KStone/8.25.15G/Ed&Dev/Simulation/Forms/Character Development Tool.docx

CHARACTER DEVELOPMENT TOOL

PATIENT 2: GENERAL DEMOGRAPHICS

Name: _____ Occupation: _____

Age Range: _____ Ethnicity: _____ Special Features: _____

Educational Level: _____ Relationship Status: _____

Socioeconomic Status: _____

BACKGROUND INFORMATION

Family situation and relationships: _____

Family strengths and challenges: _____

Medical knowledge and level of understanding: _____

Prior experience with healthcare system: _____

Communication style: _____

Emotional expressiveness: _____

Non-verbal behavior and physical characteristics: _____

CHARACTER ATTRIBUTES

	Not At All 1	Mild 2	Moderate 3	Concerning 4	Severe 5
Anxiety	☐	☐	☐	☐	☐
Shock	☐	☐	☐	☐	☐
Confusion	☐	☐	☐	☐	☐
Guilt	☐	☐	☐	☐	☐
Sadness	☐	☐	☐	☐	☐
Indecision	☐	☐	☐	☐	☐
Assertiveness	☐	☐	☐	☐	☐
Frustration	☐	☐	☐	☐	☐
Anger	☐	☐	☐	☐	☐

ADDITIONAL COMMENTS FOR THE ACTOR

APPENDIX F: STAGING

Patient 1: Simulation Scenario	
Staging	
IV arm or task trainer	Simulated medications
Simulated vomit	Linen bag $\frac{3}{4}$ full
Documentation system	Unit set up as you would for patient arrival
Room set up per hospital guidelines for patient arrival	

Patient 2: Simulation Scenario	
Staging	
IV arm or task trainer or Central line task trainer	Simulated medications
Simulated vomit	Linen bag $\frac{3}{4}$ full
Simulated diarrhea	Simulated IV fluid
Documentation System	Unit set up as you would for patient arrival
Room set up per hospital guidelines for patient arrival	Bedside commode

APPENDIX G: PARTICIPANT FEEDBACK FORM

Thank you for participating in this exercise. Your observations, comments, and input are greatly appreciated and provide invaluable insight. Any comments provided will be treated in a sensitive manner and all personal information will remain confidential. Please keep comments concise, specific, and constructive.

General Information

Please enter your responses in the form field or check box after the appropriate selection.

Name (Optional): _____

Agency/Organization Affiliation: _____

Position Title/Role during exercise: _____

Exercise Questionnaire

Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided, with 1 indicating strong disagreement and 5 indicating strong agreement.

Assessment Factor	Strongly Disagree			Strongly Agree	
Pre-exercise briefings were informative and provided the necessary information for my role in the exercise.	1	2	3	4	5
The exercise scenario was plausible.	1	2	3	4	5
Exercise participants included the right people in terms of level and mix of disciplines.	1	2	3	4	5
Participants were actively involved in the exercise.	1	2	3	4	5
Exercise participation was appropriate for someone in my field with my level of experience/training.	1	2	3	4	5
The exercise increased my understanding about and familiarity with the Ebola/HID policies and resources of my organization.	1	2	3	4	5
The exercise provided the opportunity to test significant operations in support of hospital guidelines for Ebola response.	1	2	3	4	5
After this exercise, I am better prepared to deal with a PUI for Ebola or other HID.	1	2	3	4	5

1. Which exercise materials were most useful? Please identify any additional materials or resources that would be useful.
2. Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.