A Review of a Multi Day Highly Infectious Disease Patient Exercise

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Geisinger

- No disclosures
- Views do not represent those of my numerous non-Geisinger employers

Objectives

Identify different types of exercises

Learn how these exercises can be applied to High Consequence and other Infectious Diseases

Why Do We Exercise?

- My doctor told me I need to
- Regulatory requirements
- Resilience
- To evaluate existing or newly developed plans

Regulatory

CMS Emergency Preparedness Rule

- Training and Testing

National Special Pathogens System – Level 2 Requirements

- Conducts at least 2 exercises per year testing the facility plans

New Joint Commission Requirements

- Next slide

TJC Infection Prevention and Control 7/1/2024 Requirements

IC.07.01.01

The hospital implements processes to support preparedness for high-consequence infectious diseases or special pathogens.

Element(s) of Performance for IC.07.01.01

1. **The hospital develops and implements protocols for high-consequence infectious diseases or special pathogens. The protocols are readily available for use at the point of care and address the following:**
   - Identify: Procedures for screening at the points of entry to the hospital for respiratory symptoms, fever, rash, and travel history to identify or initiate evaluation for high-consequence infectious diseases or special pathogens
   Note: Points of entry may include the emergency department, urgent care, and ambulatory clinics.
   - Isolate: Procedures for transmission-based precautions
   - Inform: Procedures for informing public health authorities and key hospital staff
   - Required personal protective equipment and proper donning and doffing techniques
   - Infection control procedures to support continued and safe provision of care while the patient is in isolation and to reduce exposure among staff, patients, and visitors using the hierarchy of controls
   Note: See the Glossary for a definition of hierarchy of controls.
   - Procedures for waste management and cleaning and disinfecting patient care spaces, surfaces, and equipment
   (See also EC.02.05.01, EP 15)

   ☐ Ⓓ

Key: Ⓓ indicates that documentation is required; R indicates an identified risk area;

Link:

https://www.jointcommission.org/standards/prepublication-standards/new-and-revised-requirements-for-the-infection-prevention-and-control-chapter/#:~:text=Effective%20July%201%2C%202024%2C%20The,chapter%20for%20both%20accreditation%20programs

TJC Infection Prevention and Control 7/1/2024 Requirements

2.	**The hospital develops and implements education and training and assesses competencies for the staff who will implement protocols for high-consequence infectious diseases or special pathogens.** **(See also EC.03.01.01, EP 1)**	Ⓓ

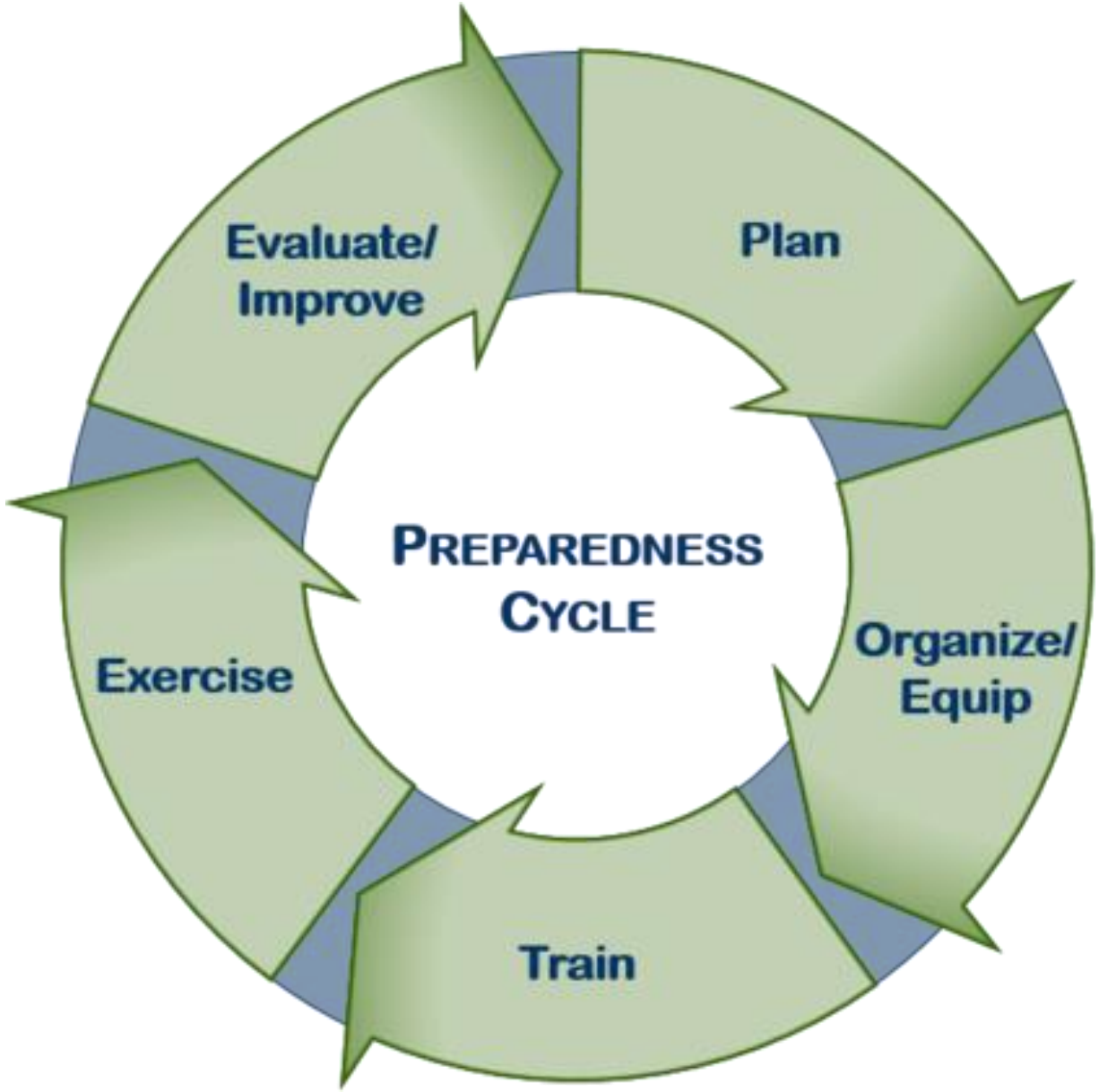
Link:

https://www.jointcommission.org/standards/prepublication-standards/new-and-revised-requirements-for-the-infection-prevention-and-control-chapter/#:~:text=Effective%20July%201%2C%202024%2C%20The,chapter%20for%20both%20accreditation%20programs

Emergency Management

https://www.fairfaxcounty.gov/emergencymanagement/cerg

Preparedness



https://preptoolkit.fema.gov/web/identify-assess-risk

Types of Exercises

Discussion Based – Develop or familiarize individuals with policy/procedure

Tabletop

Game

Seminar

Workshop

Operations Based – Exercise the policy/procedure/plan

Drill

Functional Exercise

Full Scale Exercise

Discussion Based Exercise

- **Tabletop -** A tabletop exercise is intended to generate discussion of various issues regarding a hypothetical, simulated emergency. Tabletops can be used to enhance general awareness, validate plans and procedures, rehearse concepts, and/or assess the types of systems needed to guide the prevention of, protection from, mitigation of, response to, and recovery from a defined incident
- **Game -** simulation of operations that often involves two or more teams, usually in a competitive environment, using rules, data, and procedures designed to depict an actual or hypothetical situation.
- **Seminar –** Seminars generally orient participants to, or provide an overview of, authorities, strategies, plans, policies, procedures, protocols, resources, concepts, and ideas.
- **Workshop -** Although similar to seminars, workshops differ in two important aspects: participant interaction is increased, and the focus is placed on achieving or building a product.

Operations Based Exercise

- **Drill -** Validate a specific function or capability in a single agency or organization. Drills are commonly used to provide training on new equipment, validate procedures, or practice and maintain current skills.
- **Functional Exercise -** Validate and evaluate capabilities, multiple functions and/or sub-functions, or interdependent groups of functions. Functional exercises are typically focused on exercising plans, policies, procedures, and staff members involved in management, direction, command, and control functions.
- **Full Scale Exercise -** Involve multiple agencies, organizations, and jurisdictions and validate many facets of preparedness. Full-scale exercises often include many players operating under cooperative systems such as the Incident Command System (ICS) or Unified Command.

How did we exercise

Tabletop

Full Scale

Tabletop: Pre-exercise

- Picked Objectives
- Created a realistic scenario
- Invited the appropriate internal and external partners to participate
- Created exercise documents
  - Situation Manual
  - Presentation

Objectives

Assess

Assess the Geisinger participant's knowledge of the Geisinger Emergency Department High Consequence Pathogen process.

Review

Review the proper notification process for contacting the PA Department of Health regarding a patient with a suspected case of Ebola.

Review

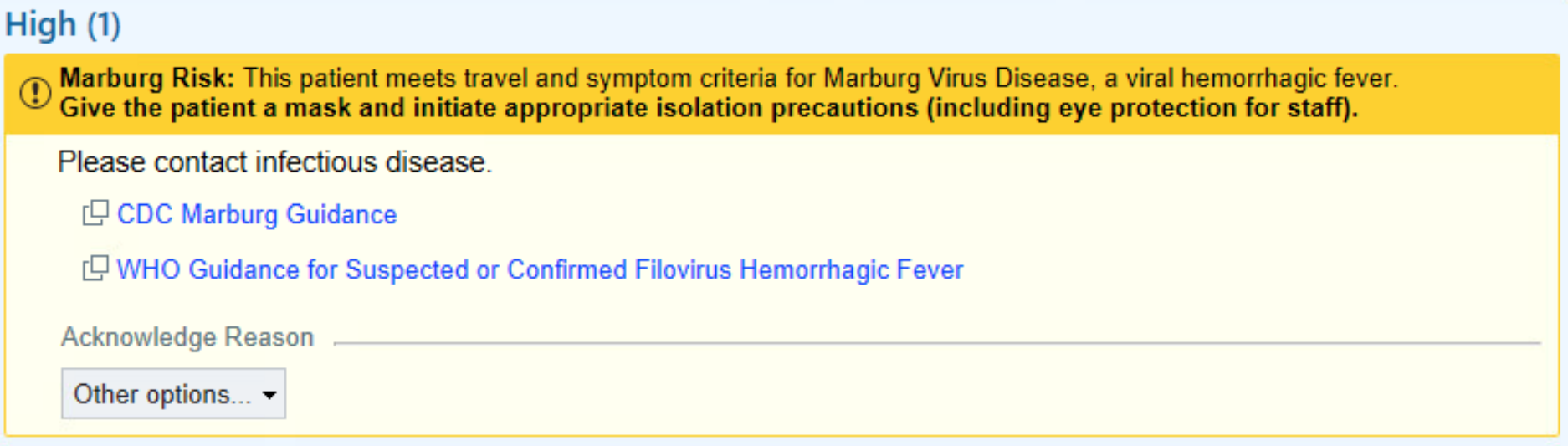
Review the Geisinger process for collecting a Category A specimen and assess participant's knowledge on how to coordinate Ebola testing through the PA Department of Health and Laboratory Response Network.

Review

Review the process and coordination required when planning to transport a patient from a Frontline Facility to a Special Pathogens Treatment Facility.

Scenario

- A patient presents to the Geisinger Medical Center Emergency Department with headache, fever, nausea, diarrhea, abdominal pain, and generalized malaise. During triage the patient notes recent travel to the Uganda and returned to the United States 12 days ago. A Best Practice Alert launches stating that the patient is at risk for having Marburg. The patient was in a part of Uganda where there is an active Marburg outbreak with 32 known patients.



Scenario Progression

Patient placement

Spill in ED Triage

Differential/testing

Internal notifications

External notifications

Laboratory studies

Transportation considerations

Multiple patients/specialty populations/bioterrorism

Patient refusal of admission

Tabletop: Post-exercise

Hotwash/Debrief

After Action Report/Improvement Plan

Adjust existing plans

Provide education

Test it again

Tabletop Exercise Review

- Difficulty ascertaining the timeline
- Prepare additional injects to deliver
- Ensure adequate time for breaks
- Prepare for real world events
- May need some coaching to get people to participate
- Scribe

Full Scale Exercise: Pre-exercise

Discussed in summer 2022, revisited in summer 2023, conducted in January 2024

Created Objectives

Engaged external partners - local, state, federal, media

- Meetings with each group
- Preplan

Engaged internal partners

- Internal communications

Create exercise materials

Revise exercise materials

Objectives

Activate the Geisinger Biocontainment Unit per policy, within 4 hours of notification, ensuring the activation checklist is followed

Coordinate patient transfer and care with external partners to safely receive a patient in the Geisinger Biocontainment Unit

Based off current guidance obtain medical countermeasures to treat the patient

Provide patient care to a suspected viral hemorrhagic fever patient in the Geisinger Biocontainment Unit while maintaining maximal PPE precautions and reducing bioburden within the unit

Ensure the unit is properly placed into containment mode and remains in that status during the duration of the exercise

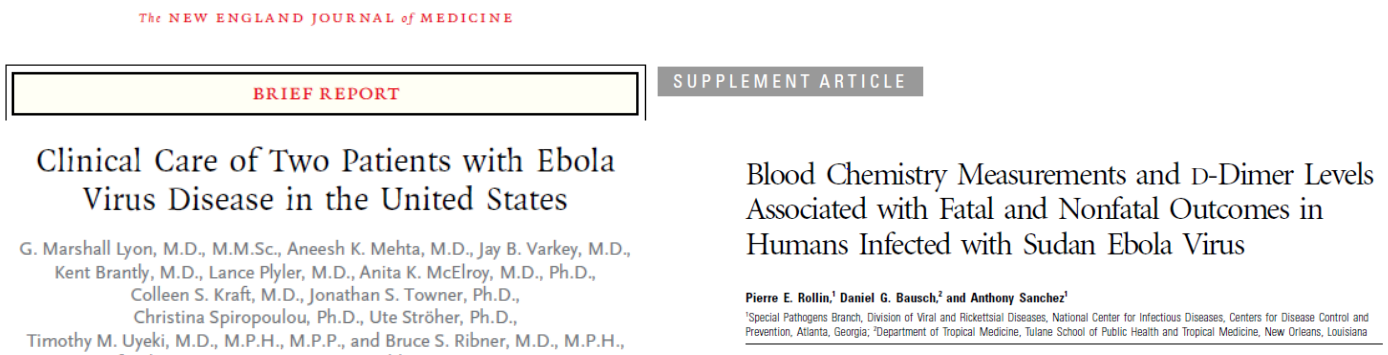
Ensure access control to the Biocontainment Unit, and hospital if needed, is maintained

Participants

- Geisinger Shamokin Area Community Hospital – Biocontainment Unit
- Geisinger Health
- UPMC Susquehanna Health Regional EMS
- Central Region Healthcare Coalition
- Pennsylvania Department of Health
  - Bureau of Emergency Preparedness and Response
  - Bureau of Epidemiology
  - Bureau of EMS
- Federal Bureau of Investigation
- US Department of Health and Human Services
  - Centers for Disease Control and Prevention
  - Administration for Strategic Preparedness and Response

Patient Information

- Try to make it as realistic as possible – do your homework
  - Follow actual disease progression
  - Create realistic exposures
  - Don’t overexaggerate
- Does your Electronic Health Record have a training environment
- Share with external participants



The NEW ENGLAND JOURNAL of MEDICINE

BRIEF REPORT

Clinical Care of Two Patients with Ebola Virus Disease in the United States

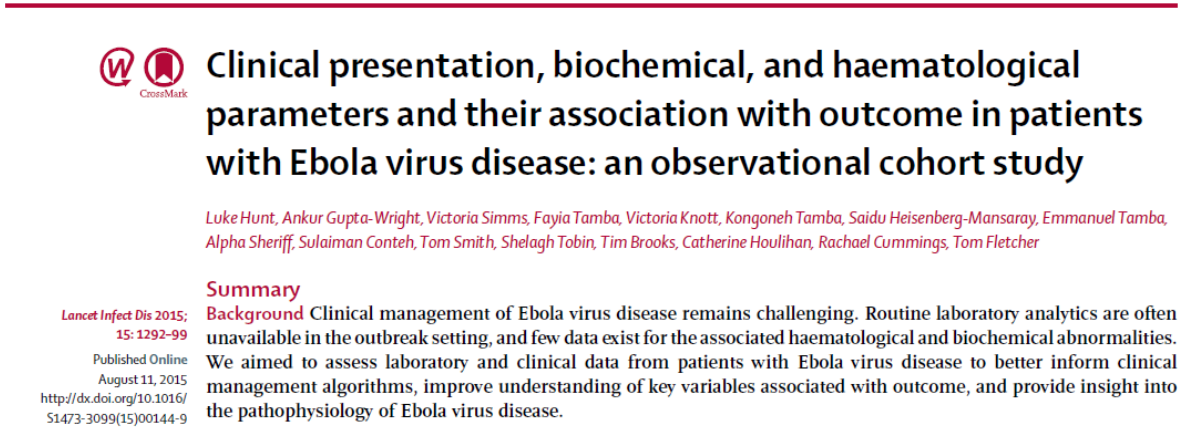
G. Marshall Lyon, M.D., M.M.Sc., Aneesh K. Mehta, M.D., Jay B. Varkey, M.D., Kent Brantly, M.D., Lance Plyler, M.D., Anita K. McElroy, M.D., Ph.D., Colleen S. Kraft, M.D., Jonathan S. Towner, Ph.D., Christina Spiropoulou, Ph.D., Ute Ströher, Ph.D., Timothy M. Uyeki, M.D., M.P.H., M.P.P., and Bruce S. Ribner, M.D., M.P.H., for the Emory Serious Communicable Diseases Unit*

SUPPLEMENT ARTICLE

Blood Chemistry Measurements and D-Dimer Levels Associated with Fatal and Nonfatal Outcomes in Humans Infected with Sudan Ebola Virus

Pierre E. Rollin,[1] Daniel G. Bausch,[2] and Anthony Sanchez[1]

[1]Special Pathogens Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia; [2]Department of Tropical Medicine, Tulane School of Public Health and Tropical Medicine, New Orleans, Louisiana



Clinical presentation, biochemical, and haematological parameters and their association with outcome in patients with Ebola virus disease: an observational cohort study

Luke Hunt, Ankur Gupta-Wright, Victoria Simms, Fayia Tamba, Victoria Knott, Kongoneh Tamba, Saidu Heisenberg-Mansaray, Emmanuel Tamba, Alpha Sheriff, Sulaiman Conteh, Tom Smith, Shelagh Tobin, Tim Brooks, Catherine Houlihan, Rachael Cummings, Tom Fletcher

Summary

Background Clinical management of Ebola virus disease remains challenging. Routine laboratory analytics are often unavailable in the outbreak setting, and few data exist for the associated haematological and biochemical abnormalities. We aimed to assess laboratory and clinical data from patients with Ebola virus disease to better inform clinical management algorithms, improve understanding of key variables associated with outcome, and provide insight into the pathophysiology of Ebola virus disease.

Lancet Infect Dis 2015; 15: 1292–99
Published Online August 11, 2015
http://dx.doi.org/10.1016/S1473-3099(15)00144-9

Full Scale Exercise: Post-exercise

- Hotwash/Debrief
- After Action Report/Improvement Plan
- Adjust existing plans
- Provide education
- Test it again

Full Scale Exercise Best Practices

- Realism produced better results
- Advise participants of artificialities at the start of the exercise
- Prepare additional injects
- Communications
- Exercise documents are beneficial
- Media - PIO
- Healthcare coalition resources – Exercise kit
- Assign a liaison for external partners
- Get feedback from participants!

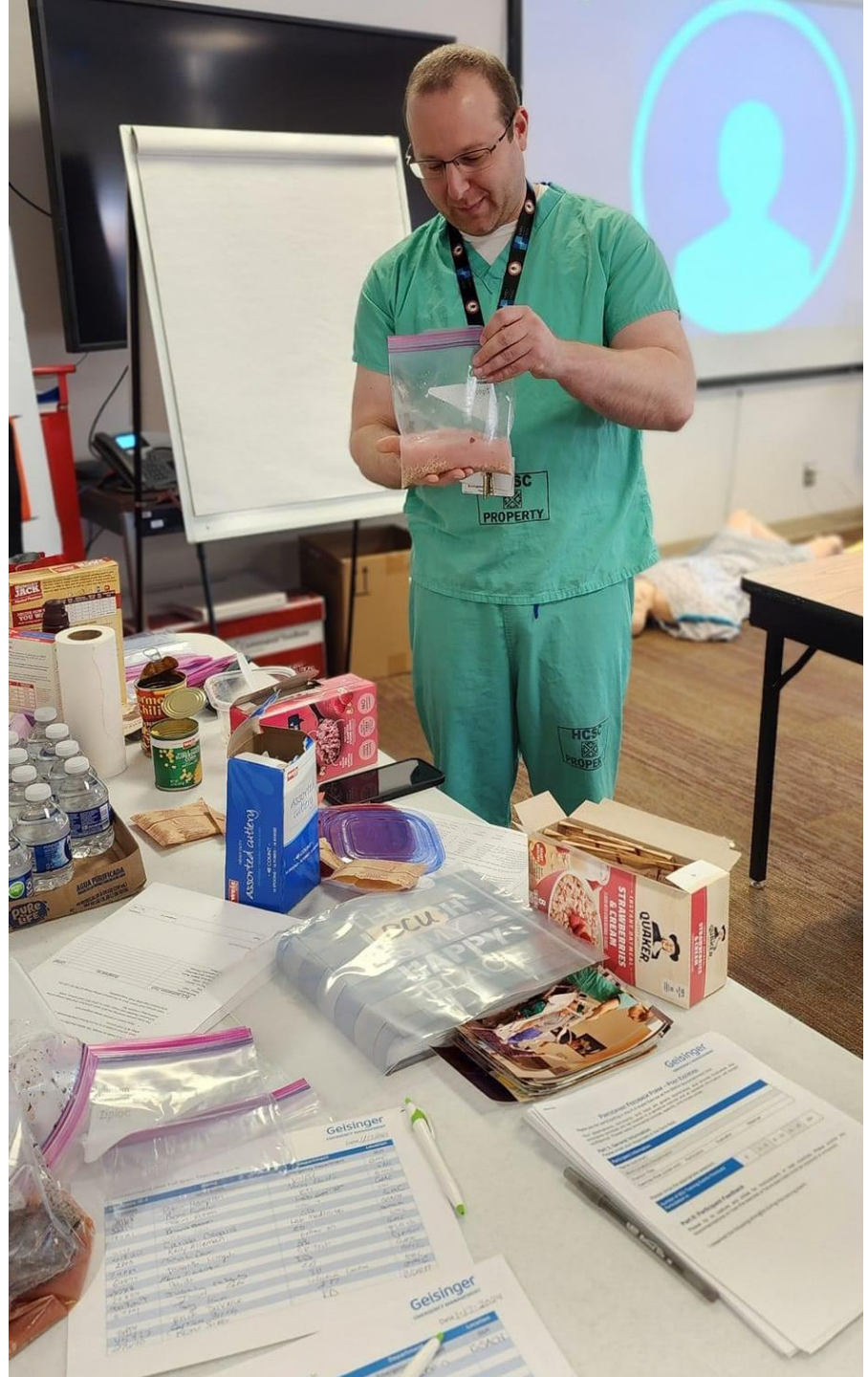
Full Scale Exercise Areas for Improvement

- Ensure you have important exercise documents
- Communications
- Multiple injects happening at the same time – Pause the exercise so everyone can participate
- Could have done a better job with meeting planning and coordination amongst all partners
- Crowding of staff
- Outside agency staff – tours
- Additional evaluators would have been beneficial

Resources

- Healthcare Coalitions
- FEMA Independent Study
- PEMA/FEMA Training
- HSEEP
- Juvare
- National Domestic Preparedness Consortium
  - Center for Domestic Preparedness
- Local and State Health Departments
- NETEC/NSPS
- ASPR TRACIE
- CDC
- FBI WMD Coordinator


SOILED STORAGE


PROPERTY
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Pure Life


DRY
TRASH

Thank you!

Questions?