Identify Simulation Applications in Risk/Crisis Management for Resilience Building (1090-003933)

Huilin Lu, CHSE, PMP, PMI-RMP

SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021

Disclosure Statement

- I am the
  - Chief Executive Officer of AMC China
  - Vice President of Advanced Electronic Devices Inc. (AED Taiwan)
- I'm covering topics other than those represented by my relationships with AMC China and AED Taiwan.
- I do not receive any financial compensation for this presentation.
- I have no relevant nonfinancial relationship to disclose.

Objectives

1. Understand **definition, frameworks and phases** (mission areas) of **risk** management and **crisis management.**
2. Develop appropriate **plan outline** and simulation applications for attendees' organization according to its system needs and unique scenarios
3. Explore **applications of simulation activities** in the risk and crisis management phases to help strengthen system resilience.

Presentation Outline

Unit 1. Concepts, definitions and frameworks

Unit 2. Risk management processes

Unit 3. Health system resilience and preparedness

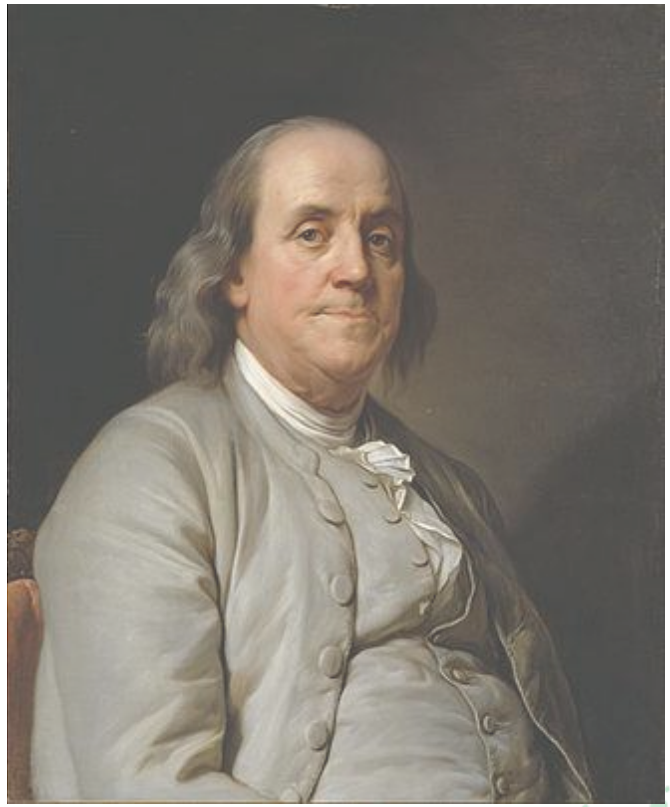
Unit 4. What to do if a crisis happens?

Unit 1

Concepts, Definitions and Frameworks

What are

- Risk
- Risk management
- Crisis
- Crisis management
- Resilience
- Health system resilience



MIL and HLS Exercise Types

Discussion-Based Exercise
Seminar
Workshop
Tabletop exercise (TTX)
Games
Operation-Based Exercise
Drill
Functional exercise (FE)
Full-Scale Exercise (FSE)

MIL and HLS Exercise Types

A dust explosion incident led to 500 casualties (2015)
https://tw.appledaily.com/local/20200529/5FIO2FKED7GPQW6KN2LA7NWV3Q/ https://news.ltn.com.tw/news/society/breakingnews/1378122

Course structure

Unit 2

Risk Management Processes

Plan Risk Management

- Why?
- Know your resources and limits
- Objectives, policy and practice
- Stakeholders

Plan Risk Management

- **Plan Risk Management**
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Monitor and Control Risks

Unit 2. Risk Management Processes

Risk Management Plan

- Introduction and description of the project
- Methodology
- Organization
- Roles, responsibilities and corresponding authority
- Stakeholder risk tolerance
- Criteria for success
- Tools and guidelines
- Thresholds and corresponding definitions
- Document Templates
- Communications plan
- Strategy
- Risk breakdown structure

Identify Risks

- Why?
- How to identify risks

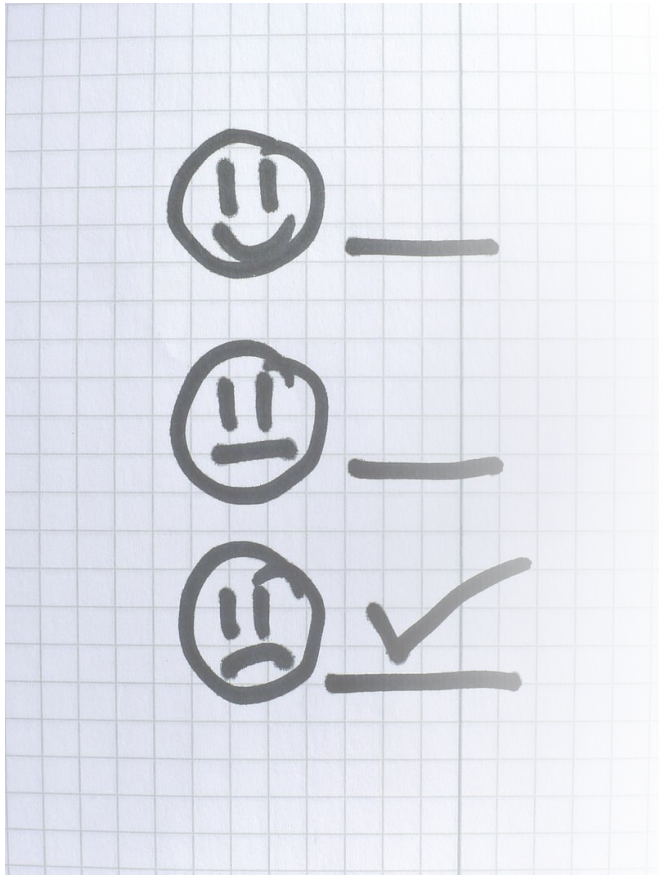
- Plan Risk Management
- **Identify Risks**
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Monitor and Control Risks

Identify Risks

- **How to describe a risk?**
  - **cause - risk - effect**
- **There can be positive risks**
  - “As a result of (new outpatient hall layout design), (less patient traffic flow may occur), which would lead to (improved timeliness of care).
- **Practice #1**

Qualitative Risk Analysis

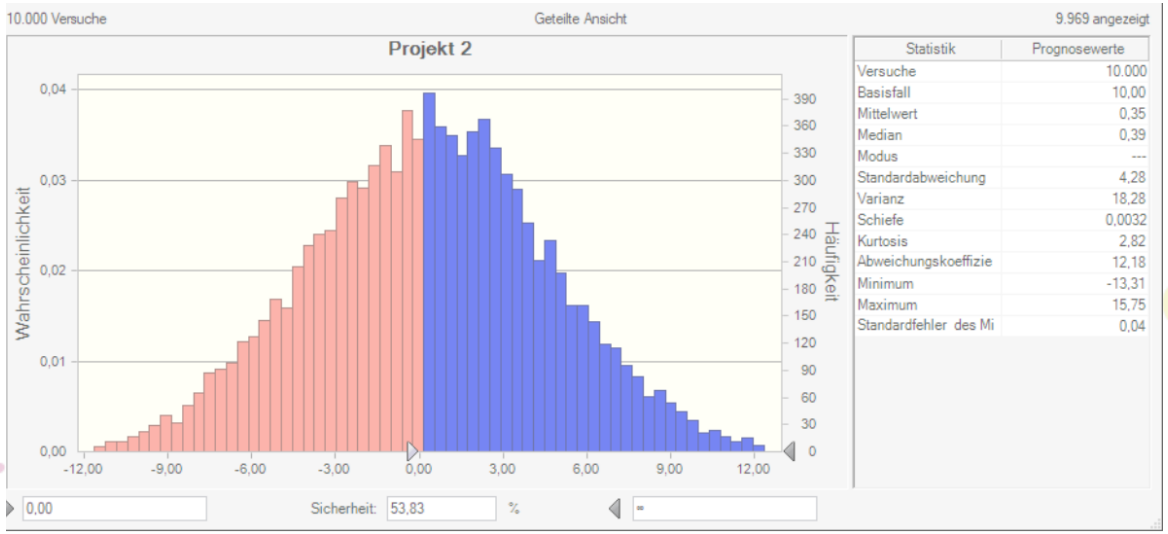
- Why?
- Probability x Impact
- Proximity
- Manageability
- Overall impact



- Plan Risk Management
- Identify Risks
- **Perform Qualitative Risk Analysis**
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Monitor and Control Risks

Quantitative Risk Analysis

- Why?
- Qualitative vs. quantitative



https://commons.wikimedia.org/wiki/File:H%C3%A4ufigkeitsdiagramm_Monte-Carlo-Simulation_Projekt_2.png

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- **Perform Quantitative Risk Analysis**
- Plan Risk Responses
- Monitor and Control Risks

Plan Risk Response

- **Why?**
- **Strategies**
  - Avoid/Exploit
  - Transfer/Share
  - Mitigate/Enhance
  - Accept

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- **Plan Risk Responses**
- Monitor and Control Risks

Plan Risk Response

- Success in planning risk responses
- Simulation applications?
- Practice #2

Communication

- **Stakeholders**
- **Diversity**
- **Plan**
  - Risk
  - Targets
  - Objectives
  - Sim modality
  - Resource
  - Debriefing

Roles and Responsibilities

- **Crisis Resource Management**
- **Plan**
  - Simulation
  - Targets
  - Objectives
  - Sim modality
  - Scenario
  - Debriefing

©2008 Diagram: S. Goldhaber-Fiebert, K. McCowan, K. Harrison, R. Fanning, S. Howard, D. Gaba
http://web.stanford.edu/dept/anesthesia/em/crm.pdf?_ga=2.173353379.1406350378.1501440567-576169366.1501440567

Timing

- When to start?
- Trigger conditions
- Plan

Resource

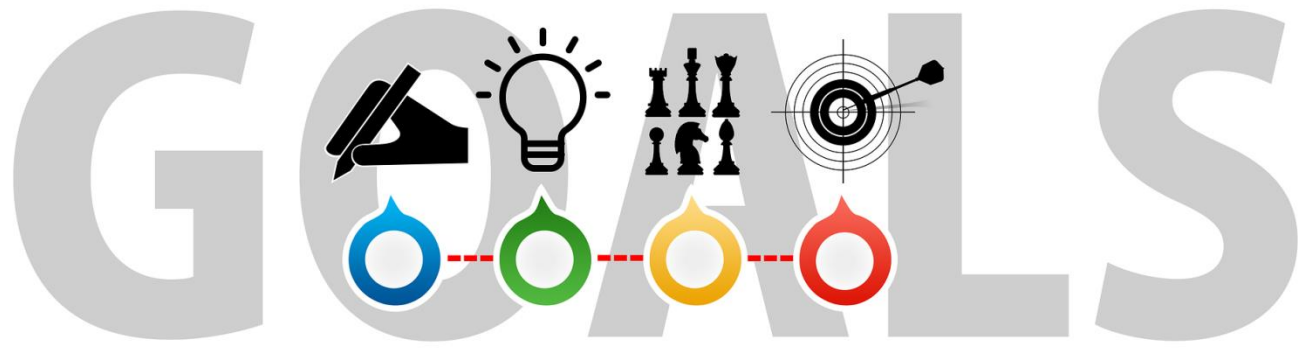
- Budget
- Schedule
- Others
- Plan

Interactions

- **Secondary risk**
- **Contradictory or coherent?**
- **Plan**
  - Risk
  - Targets
  - Objectives
  - Sim modality
  - Resource
  - Debriefing

Appropriateness

- **Values, goals, and objectives**
- **Feasibility**
- **Abilities**
- **Plan**
  - Risk
  - Targets
  - Objectives
  - Sim modality
  - Resource
  - Debriefing



Monitor and Control Risks

- Why?
- Iteration
- Status awareness
- Lessons learned

Plan Risk Management

Identify Risks

Perform Qualitative Risk Analysis

Perform Quantitative Risk Analysis

Plan Risk Responses

Monitor and Control Risks

Unit 3

Health System Resilience and Preparedness

Health System Risk Domains and Resilience

■ Risk Domains

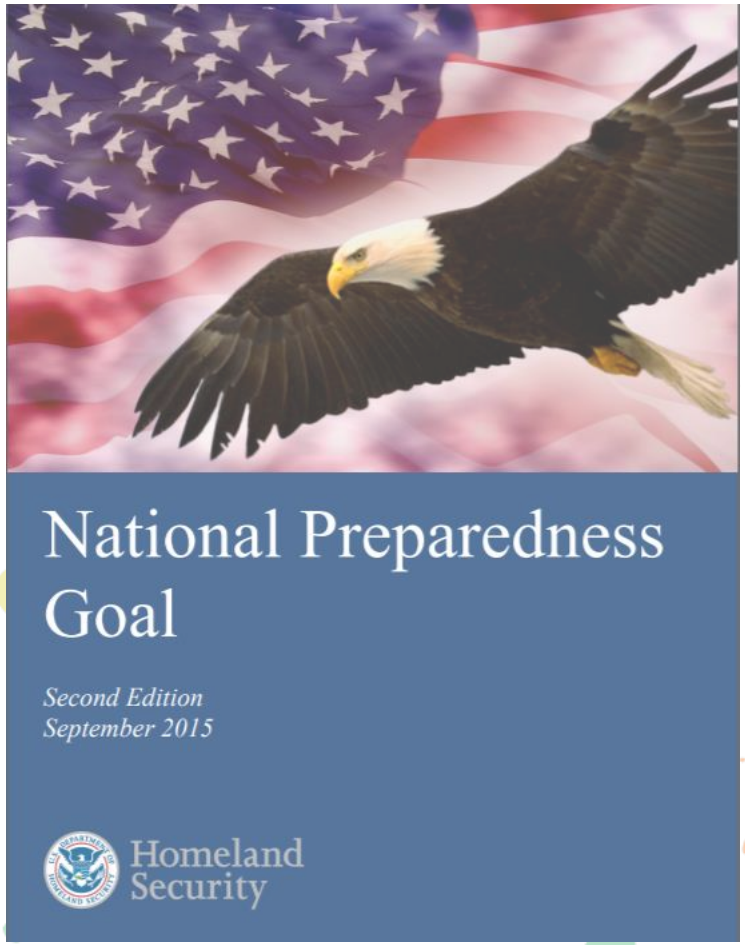
by American Society for Healthcare Risk Management

- Operational
- Clinical
- Strategic
- Financial
- Human capital
- Legal/regulatory
- Technology
- Hazard

■ Practice #3

National Preparedness Goal

- A Framework for response plan



Unit 3. Health System Resilience and Preparedness

Mission Area 1: Prevention

https://commons.wikimedia.org/wiki/File:Situation_Room_(8726071905).jpg
https://commons.wikimedia.org/wiki/File:Hospital_Management_System.png

Unit 3. Health System Resilience and Preparedness

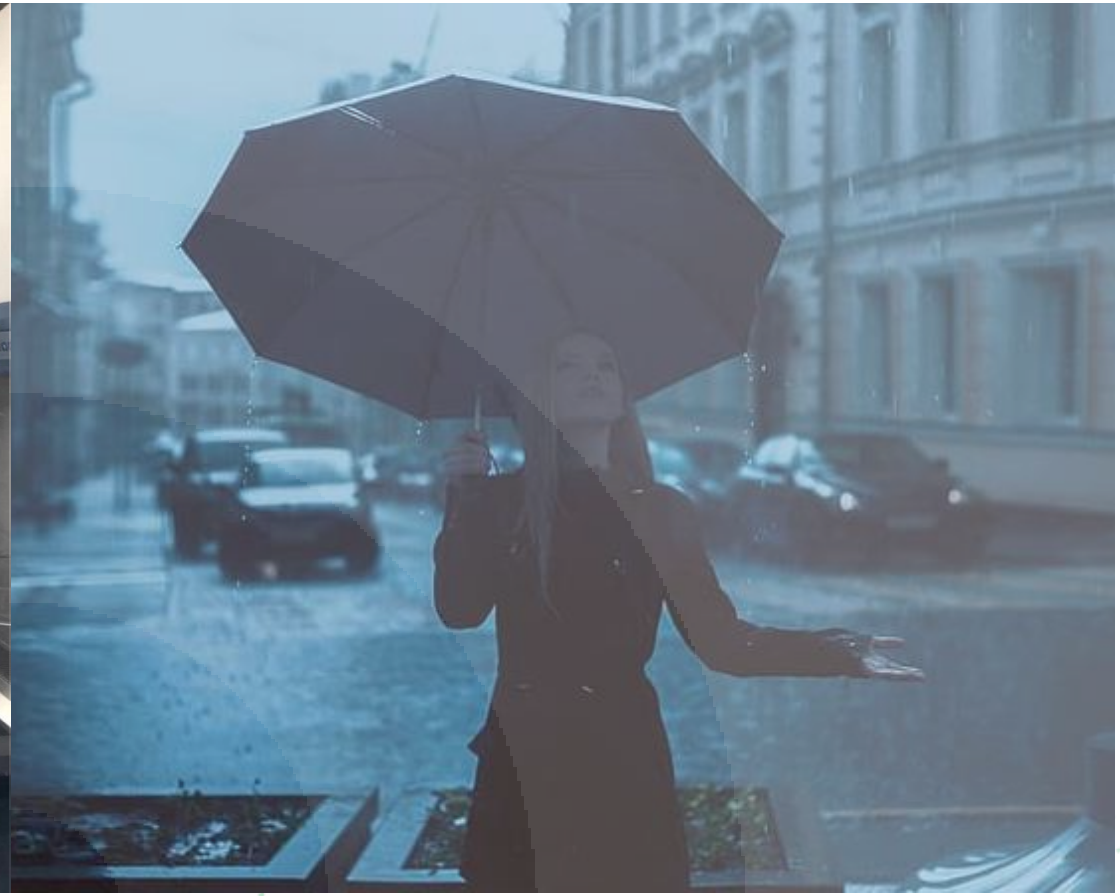
Mission Area 2: Protection

Drive/Walk Through Pharmacy

Negative Pressure Screening Station
+ HEPA filter

Photo credits: Buddhist Tzu Chi General Hospital, Hualien, Taiwan

Mission Area 3: Mitigation



Unit 3. Health System Resilience and Preparedness

Mission Area 4: Response

Mission Area 5: Recovery

Unit 3. Health System Resilience and Preparedness

Unit 4

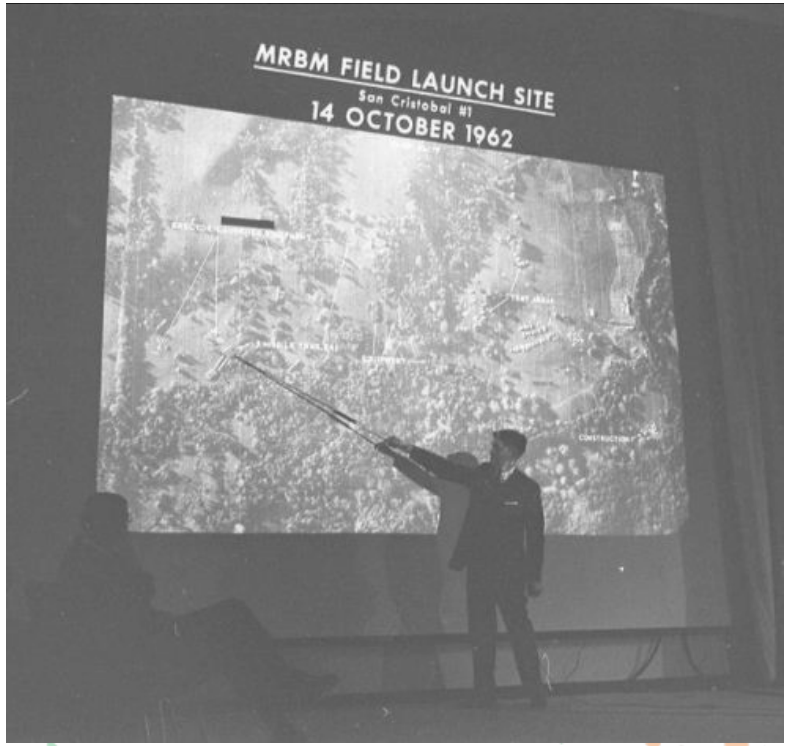
What To Do If A Crisis Happens?

Crisis Management

- **Crisis management processes**
  - **Prevention-response-recovery**

Crisis Management

- **When a crisis happens**
  - Leadership
  - Decision-making support
  - Communication and media plan
  - Records and documentation
- **Lessons Learned**



Summary

- What can we contribute to healthcare resilience ?
- What do we learn from such experience?
- Threats and opportunities

Acknowledgement

- Ming-Chen Hsieh, MD
  Department of Medical Education
  Hui-Li Chiang, RN
  Infection Prevention and Control
  Buddhist Tzu Chi General Hospital, Hualien, Taiwan

- Jukka Karjalainen, RN
  Simulation instructor/ Project Specialist (in)
  LAB University of Applied Sciences, Faculty of Social and Healthcare

- Taiwan Association for Strategic Simulation

QUESTIONS?

- **Contact me for questions, feedbacks, discussion and comments!**
  huililn@amc-online.at

- **Kindly fill in the post-session survey to help me improving !**
  https://www.surveycake.com/s/LBN7K

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THANK YOU!

Identify Simulation Applications in Risk/Crisis Management for Resilience Building (1090-003933)

Presenter

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Course Practices

Practice #1 Risk Metalanguage Table

ID	Cause	Risk	Effect

Practice #2 Critical Success Factors of Risk Responses

Question:

You are in the risk response planning meeting in your organization. Consider the risks you identified previously in “Identify risk” process, and now we will be planning responses and, you, as the representative from sim center, are going to propose the applications of simulation as well.

1. Communication:
   Consider a simulation for diversity communication training that you or your sim center can apply in your organization. Outline a plan for executing this simulation, address each of the following areas and briefly discuss your rationale.

   - Topic (risk identified)
   - Communication targets (stakeholders)
   - Objectives of this simulation activity
   - Simulation modality
   - What resources (environment, equipment, personnel…) will you prepare for this communication training?
   - Describe your debriefing strategy if any, and why?

2. Roles and Responsibilities:
   Consider simulation applications to address work distributions according to the topic you choose. Please give a brief description of the following areas, and the rationale.

   - Simulation activity applicable to high quality work distribution
   - Targets (who should attend this activity)
   - Objectives of this simulation activity
   - Select simulation modality (if any)
   - Scenario
   - Debriefing strategy (if any)

3. Timing:
   Please give an outline plan of your simulation activity applicable to timing of responses.

4. Resource:
   Please give examples from your perspective.

5. Interactions:
   Consider a risk you identified and give an example of such simulation activity with following areas:

   - Simulation activity applicable to addressing interactions of risk and responses
   - Targets (who should attend this activity)
   - Objectives of this simulation activity
   - Select simulation modality (if any)
   - Scenario
   - Debriefing strategy (if any)

6. Appropriateness:
   Please give an outline plan of simulation activity you consider to contribute in this factor, following areas can be addressed:

   - Simulation activity applicable to any topic mentioned in this section.
   - Objectives of this simulation activity
   - Select simulation modality (if any)
   - Targets (who should attend this activity)
   - Scenario
   - Debriefing strategy (if any)

Practice #3 Risk Domains

Risk Domains		
	Domain	Risks Descriptions As a result of (cause), (risk) may occur, which would lead to (effect)
1	Operational	
2	Clinical/Patient Safety	
3	Strategic	
4	Financial	
5	Human Capital	
6	Legal/Regulatory	
7	Technology	
8	Hazard	

Note: Reprinted from Carroll R, Hoppes M, Hagg-Rickert S, et al. Enterprise risk management: a framework for success. American Society for Healthcare Risk Management. 2014. Available at: http://www.ashrm.org/pubs/files/white_papers/ERM-White-Paper-8-29-14-FINAL.pdf. Accessed November 23, 2020.

Practice #4 Risk Responses and Simulation Applications

The 5 mission areas of core capabilities in National Preparedness Goal

Mission area	Risk response/action items	Simulation activities
Prevention		
Protection		
Mitigation		
Response		

Note: Reprinted from Department of Homeland Security. National Preparedness Goal. 2nd ed. Available at: https://www.fema.gov/media-library-data/1443799615171-2aae90be55041740f97e8532fc680d40/National_Preparedness_Goal_2nd_Edition.pdf. Accessed November 30, 2020.

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