


Hazard Vulnerability Assessments

IDENTIFYING AND QUANTIFYING HAZARDS AND RISKS TO HEALTHCARE FACILITIES

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Introductions

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TETRA TECH

Emergency Preparedness and Community Resilience Practice





TETRA TECH


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Administrative Issues

- Phones on vibrate
- Fire alarms and nearest exits
- Restrooms
- Questions during presentation are encouraged within time constraints and 15 minutes has been reserved for Q&A at the end.
- Bob and I are happy to stay after the session to answer questions and I will be available throughout the day tomorrow
- Copies of the slides will be available on the conference website
- Show of hands for facility types represented



Objectives

1. Introduce an HVA
2. Discuss importance and applicability of an HVA
3. Outline different types of HVAs and the process to produce one.
4. Outline how the HVA directs future planning, training and exercise efforts



New CMS Healthcare Facility Emergency Preparedness Requirements

- Each facility type has specific standards and requirements and they vary by facility type. Facilities should go to www.asprtracie.hhs.gov to review the emergency preparedness requirements for their facility type.
- The final CMS rule was published September 16, 2016, and is effective November 11, 2017.
- Compliance with the regulations is a "Condition of Participation" of the Medicare and Medicaid Programs.



CMS Health Care Emergency Preparedness Regulated Facilities

- Religious Non-Medical Health Care Institution (RNMHCI)
- Ambulatory Surgical Services (ASS)
- Hospice Care
- Psychiatric Residential Treatment Facility (PRTF)
- Programs of all-Inclusive Care for the Elderly (PACE)
- Hospitals
- Transplant Center
- Long-Term Care Facilities (LTCF)
- Intermediate Care Facility for Individuals with Intellectual Disabilities (ICF-IID)
- Home Health Services



CMS Health Care Emergency Preparedness Regulated Facilities

- Comprehensive Outpatient Rehabilitation Facility (CORF)
- Critical Access Hospital (CAH)
- Clinics, Rehabilitation Agencies, and Public Health Agencies as Providers of Outpatient Physical Therapy/Speech-Language Pathology (POPT/SP)
- Community Mental Health Center (CMHC)
- Organ Procurement Organization (OPO)
- Rural Health Clinic (RHC)/Federally Qualified Health Center (FQHC)
- End-Stage Renal Diseases Facilities (ESRDF)



CMS Health Care Emergency Preparedness Regulated Facilities



What is a Hazard Vulnerability Assessment (HVA)

An HVA is an evaluation of vulnerability to specific hazards and results in an HVA document.

It categorizes hazards by applying a standard methodology

Factors include:

- Probability of occurrence
- Human impact
- Property and business impact
- Response

Creates numeric value quantifying the relative threat

It is a living document that should be updated at least yearly



Potential Hazards

Active Shooter	External Flood	Internal Fire	Planned Power Outages	Tornado
Acts of Intent	Fire	Internal Flood	Power Outage	Transportation Failure
Bomb Threat	Flood	IT System Outage	Radiation Exposure	Trauma
Building Move	Forensic Admission	Landslide	Seasonal Influenza	Tsunami
Chemical Exposure, External	Gas / Emissions Leak	Large Internal Spill	Sewer Failure	VIP Situation
Civil Unrest	Generator Failure	Mass Casualty Incident	Shelter in Place	Water Contamination
Communication / Telephony Failure	Hazmat Incident	Natural Gas Disruption	Strikes / Labor Action / Work Stoppage	Water Disruption
Dam Failure	Hazmat Incident with Mass Casualties	Natural Gas Failure	Suicide	Weapon
Drought	Hostage Situation	Other	Supply Chain Shortage / Failure	Workplace Violence / Threat
Earthquake	Hurricane	Other Utility Failure	Suspicious Odor	Zombies
Epidemic	HVAC Failure	Pandemic	Suspicious Package / Substance	
Evacuation	Inclement Weather	Patient Surge	Temperature Extremes	
Explosion	Infectious Disease Outbreak	Picketing		



Purpose of an HVA?

“Facilities will plan in accordance with facility-based and community-based risk assessment” – New CMS Requirements

Fulfills regulatory requirements

Allows informed risk-based choices

Provides perspective on the scale of events most likely to impact the facility

Ensures preparedness efforts and funding are being used efficiently

Aligns facilities with regional priorities

Most importantly, an HVA helps identify which emergency response capabilities are most needed



FEMA Core Capabilities

Core Capabilities	Core Capabilities				
	Prevention	Protection	Mitigation	Response	Recovery
Planning	●	●	●	●	●
Public Information and Warning	●	●	●	●	●
Operational Coordination	●	●	●	●	●
Intelligence and Information Sharing	●	●	●	●	●
Inspection and Diversion	●	●	●	●	●
Screening, Search, and Detection	●	●	●	●	●
Forensics and Attribution	●	●	●	●	●
Access Control and Identity Verification	●	●	●	●	●
Cybersecurity	●	●	●	●	●
Physical Protective Measures	●	●	●	●	●
Risk Management for Protection Programs and Activities	●	●	●	●	●
Supply Chain Integrity and Security	●	●	●	●	●
Community Resilience	●	●	●	●	●
Long-term Vulnerability Reduction	●	●	●	●	●
Risk and Disaster Resilience Assessment	●	●	●	●	●
Threats and Hazards Identification	●	●	●	●	●
Critical Transportation	●	●	●	●	●
Environmental Response/Health and Safety	●	●	●	●	●
Facility Management Services	●	●	●	●	●
Fire Management and Suppression	●	●	●	●	●
Logistics and Supply Chain Management	●	●	●	●	●
Mass Care Services	●	●	●	●	●
Mass Search and Rescue Operations	●	●	●	●	●
On-scene Security, Protection, and Law Enforcement	●	●	●	●	●
Operational Communications	●	●	●	●	●
Public Health, Healthcare, and Emergency Medical Services	●	●	●	●	●
Situational Assessment	●	●	●	●	●
Infrastructure Systems	●	●	●	●	●
Economic Recovery	●	●	●	●	●
Health and Social Services	●	●	●	●	●
Housing	●	●	●	●	●
Natural and Cultural Resources	●	●	●	●	●

Importance of an HVA

Without an HVA preparedness efforts would be unfocused and inefficient

Some potential threats would be overlooked or improperly minimized while others are given too much attention

Facilities may be out of sync with community efforts to plan for largest threats

The HVA process often uncovers unknown potential impacts and may provide validation of budget requests

An HVA can support federal mitigation grant requests

Incorporating Mitigation

Mitigation is a foundational element in the quantitative analysis of hazards during an HVA

Mitigation allows facilities to buy down their risk

By analyzing the probability of occurrence and the potential impacts, a cost/benefit analysis can be done

Findings may provide additional business justification to invest in mitigation projects of all sizes, types and investment

For some facilities, mitigation grants may be available through the federal government

Lessons Learned: 2011 Lourdes Hospital

Previously flooded in early 2000s

- Millions of dollars in damage and lost revenue
- Hospital is the region's largest medical center

Applied for and received mitigation grants to help fund retaining wall

- Built to 500 year flood event

Facility was protected during record breaking floods

- Evacuated but not damaged during flood
- Reopened shortly after picture was taken
- Minimized loss of revenue and regional impacts



Finding Relevant HVA Data

Community Data

- Local/County
 - Hazard Vulnerability Assessment (HVA)
 - Mitigation Plan
- State
 - Threat and Hazard Identification and Risk Assessment (THIRA)
 - State Hazard Mitigation Plan
- Healthcare Coalition
 - Hazard Vulnerability Assessment (HVA)

Facility Data

- Historical occurrences
- Specific facility impacts
- Preparedness and mitigation efforts factored in



Montana Specific Data

2013 Montana Hazard Mitigation Plan

http://readyandsafe.mt.gov/Portals/105/Full%202013%20Mitigation%20Plan_1.pdf

2015 Montana THIRA and SPR

<https://readyandsafe.mt.gov/Portals/105/Emergency/DOCS/Grants/Montana2015THIRA-SPRExecutiveSummary.pdf>

2012 Yellowstone County Pre-Disaster Mitigation Plan

<http://co.yellowstone.mt.gov/des/plans/>



Developing an HVA

An HVA should be collaborative with representation from all facility departments including:

- Medical/operations staff
- Facilities personnel
- Senior leadership
- Risk management
- Finance
- Legal

The HVA is often conducted by the same planning team that addresses preparedness issues and the process is closely interwoven with planning and exercises

The HVA can be revisited as often as hazards change or amplify

- e.g. in Hawaii there was a sudden increased threat of radiological exposure from North Korea Threat



Lessons Learned: Rehabilitation Center of Hollywood Hills



Sheltered-in-place for Hurricane Irma

- No flooding and minimal damage
- Failure of a single transformer resulted in partial power loss to the facility

Backup system worked as designed

- Existing generator had capacity for critical needs, lights, fridge, freezer, etc. but not the A/C
- Facility had a plan and had conducted a recent hurricane drill
- Facility was in compliance with State and CMS regulations in effect at that time

Conflicting accounts of attempts to request assistance

- Notified local OEM of power outage
- Spoke to several state and local agencies as well as the power company
- May not have identified any pressing medical needs or emergencies

Fatalities believed to be heat related

- 8 deaths and 100+ evacuated with signs of heat related distress
- State places moratorium on future facility admissions
- Governor vows to punish anyone culpable in the deaths and a criminal investigation is underway



Choosing an HVA Tool

A number of existing HVA tools are available on the internet from:

- State and Local Governments
- Hospital Associations
- Hospital Networks
- Private Companies

Today we will be using a tool developed by Kaiser Permanente Health System and available on the California Hospital Association website:


<https://www.calhospitalprepare.org/hazard-vulnerability-analysis>

This tool was updated in 2017 and has a long history of being widely used. While not perfect, it is easy to use and provides a solid methodology. Quantification is valued on a 0 – 4 scale and mitigation and preparedness actions are factored in.




HVA Tool Demonstration





Q&A



Thank You!

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