

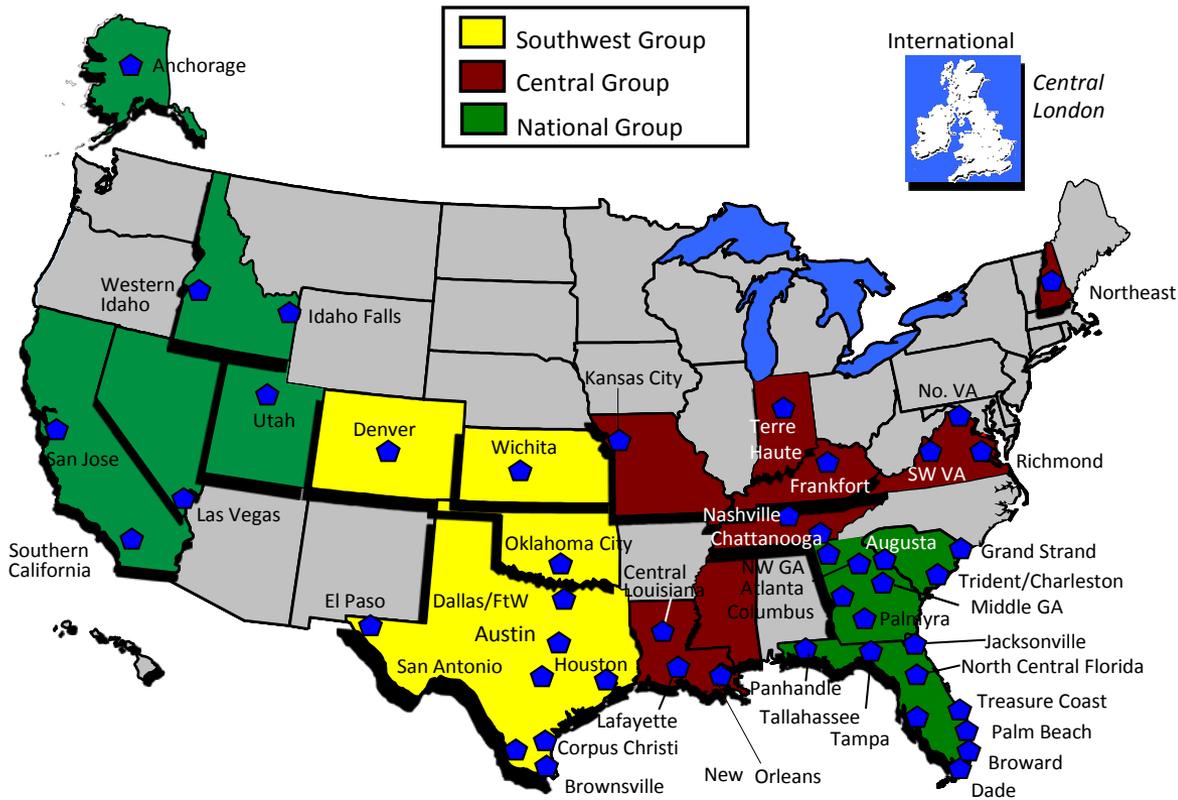
# Community Healthcare Planning and Response to Disasters

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# HCA Overview



Accounted for approximately 5% of major hospital service in U.S.:

- Admissions > 1.5 million
- Patient Days > 7.6 million
- Deliveries > 0.23 million
- Total Surgeries > 1.3 million
- ED Visits ~ 6 million

- 164 hospitals, 106 freestanding surgery centers, and 400 physician practices in 20 states and England
- Hospitals range from complex tertiary referral & academic medical centers to urban and suburban community medical centers
- ~ 194,000 employees
- 35,000 affiliated physicians
- More than 38,000 licensed beds
- ~ 150,000 Health Care Workers

# Disaster Response

- 2001- Amerithrax
- 2005-Hurricane Katrina
- 2008- Hurricanes Gustav and Ike
- 2009- H1N1 Pandemic
- 2010- Haiti Earthquake, Nashville, TN Floods
- 2011- Hurricane Irene
- 2012-Virginia Storms, Hurricanes Isaac and Sandy, Fungal Meningitis Outbreak



# Goal

- The goal of this course is to demonstrate the importance of a whole community approach to planning for, responding to, and recovering from large-scale incidents that may overwhelm or significantly affect the healthcare of the community.

# Scope of Course

- Community Healthcare Concepts and Preparedness
- Planning for Community Response
- Ethical and Legal Issues
- Functional Aspects of Community Disaster Operations
- Caring for Mass Casualties
- Post-Disaster Recovery and Return to Normalcy

# Defining Disaster

- How does your community define disaster?

**Fatalities**

**Injuries**

**Economic loss**

**Resources consumed**

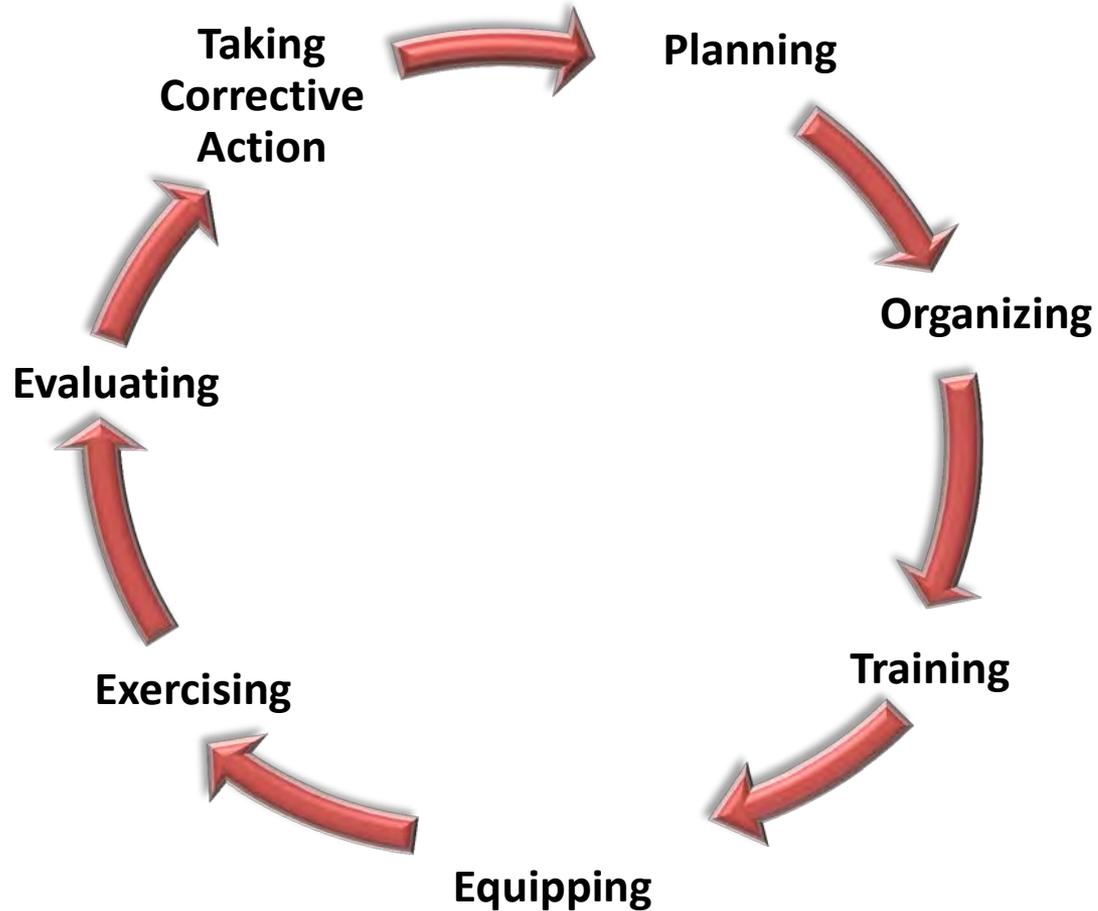
# Definitions of Disaster

- UN Dept. of Humanitarian Affairs
  - *“A serious disruption of the functioning of society, causing widespread human, material, or environmental losses which exceed the ability of affected society to cope using only its own resources.”*
- Disaster Recovery Journal
  - *“Sudden, unplanned, catastrophic event causing unacceptable damage or loss”*
  - Inability *“to provide critical functions, processes, or services for some unacceptable period of time”*

# Definitions of Disaster

- American College of Emergency Physicians
  - *“A medical disaster occurs when the destructive effects of natural or man-made forces overwhelm the ability of a given area or community to meet the demand for health care.”*

# The Preparedness Cycle



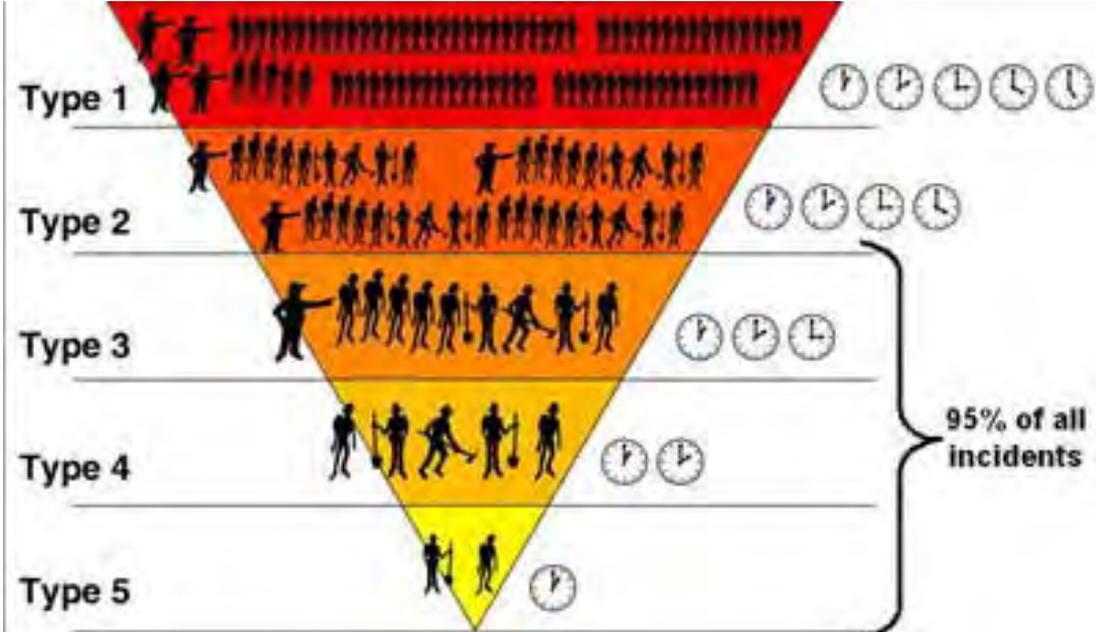
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# Incident Typing

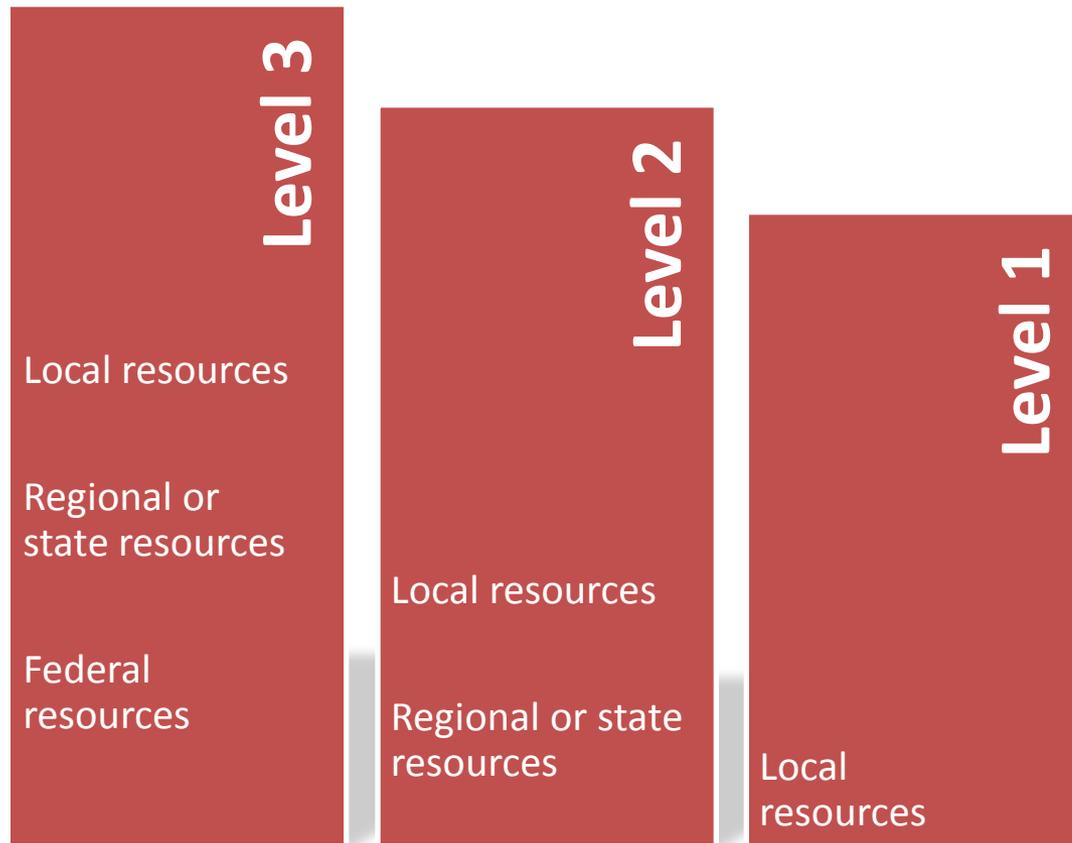
More complex



Less complex



# Levels of Response



# Types of Disasters

Natural



Man-Made



# The Disaster Cycle



# Personal Preparedness

- FEMA Ready America

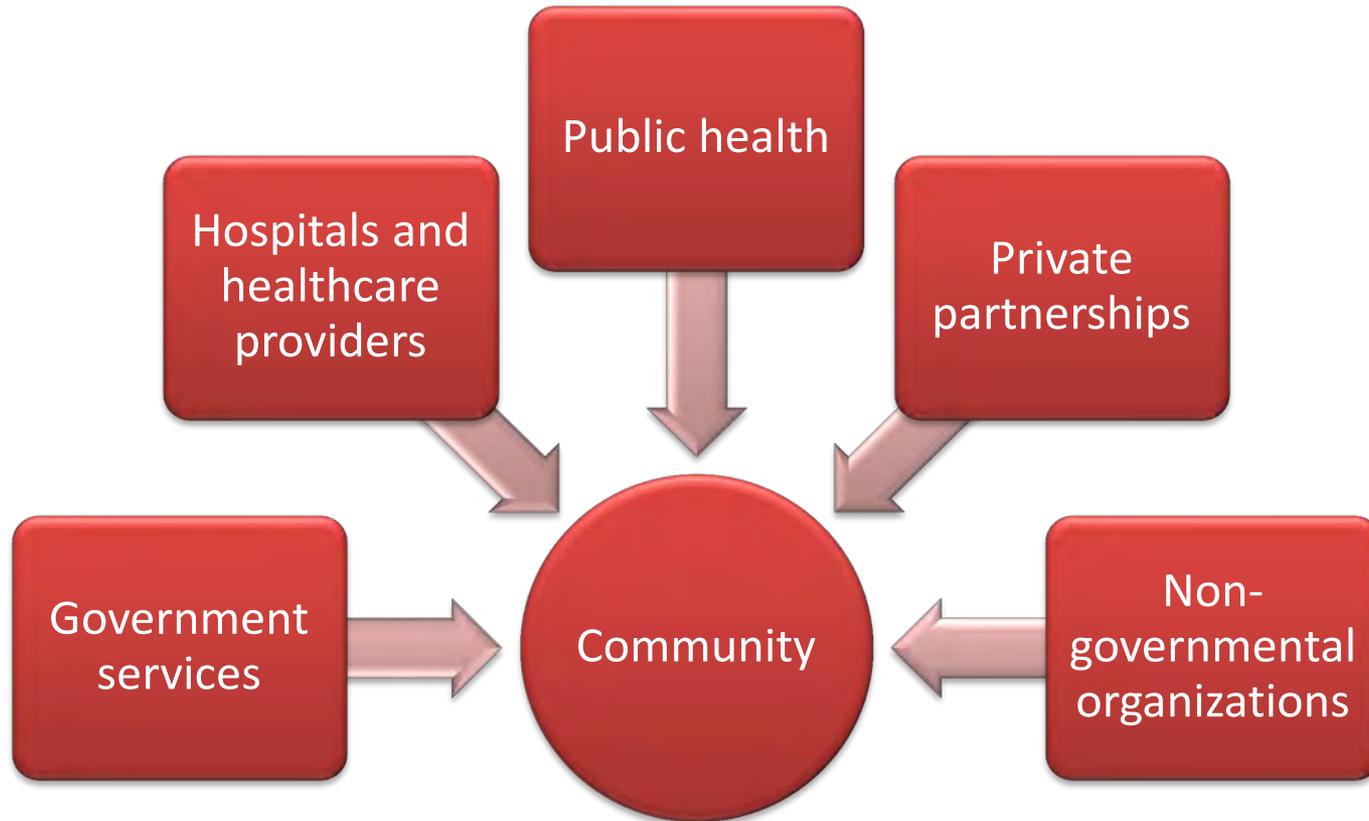
Steps



[www.ready.gov](http://www.ready.gov)

- If an emergency occurred at 5:00 p.m. today, would you be able to respond?
- If an earthquake occurred at noon today, would you be able to respond?
- How would you communicate with your family members?
- How could you plan for resources so you could take part in a response?
- What could your agency do to assist?

# Community Preparedness



# Case Study

- 2009 H1N1 Pandemic



# Threat and Hazard Identification and Risk Assessment (THIRA)

- Assists communities in addressing risk and identifying capabilities
- Scalable to any geographic area
- 5-step process

# Threat and Hazard Identification and Risk Assessment (THIRA)

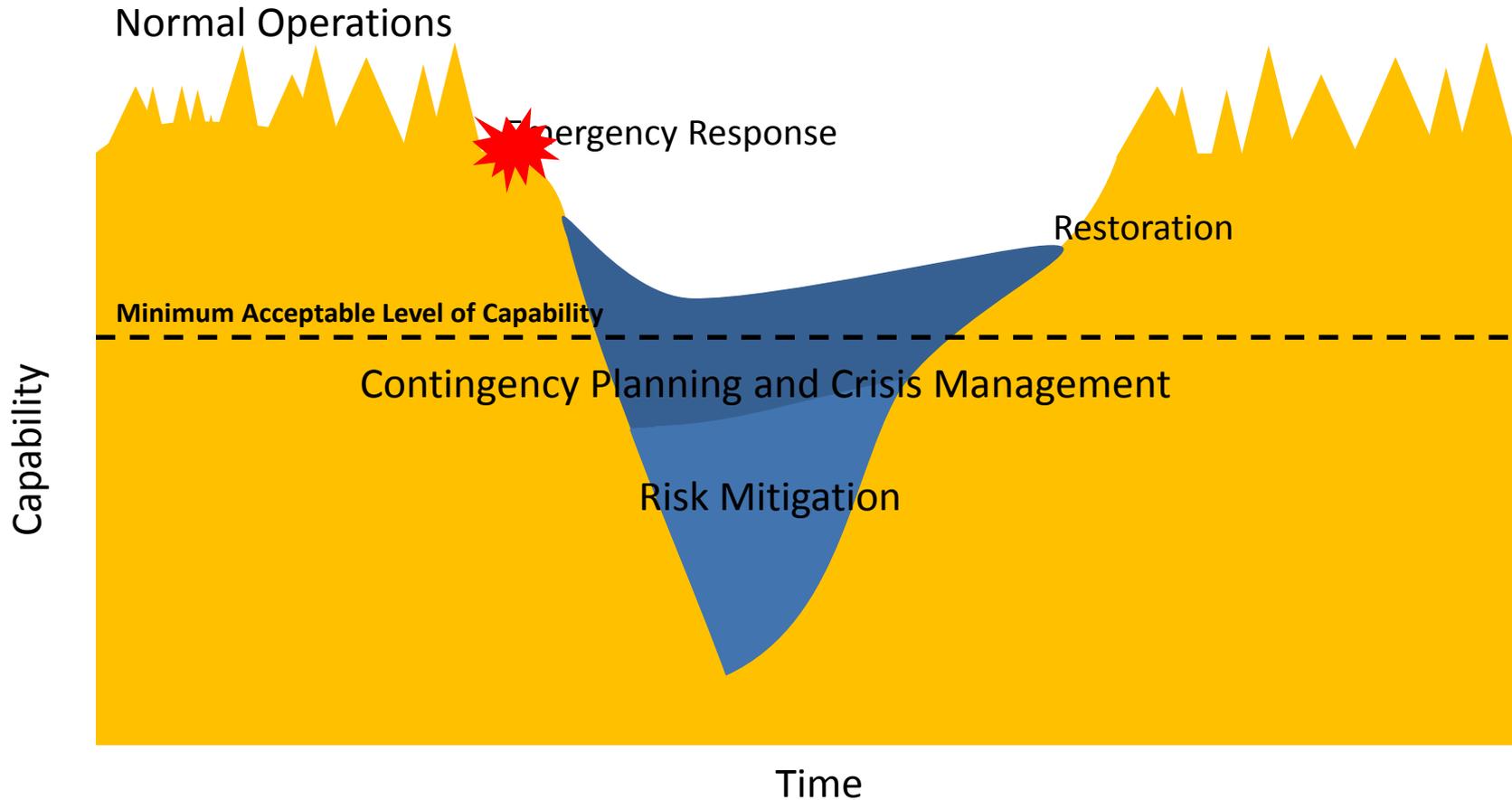
- Identify threats and hazards of concern
- Give threats and hazards context
- Examine core capabilities
- Set capability targets
- Apply results
  - Maintain capabilities
  - Address capability gaps

# Baseline Assessment

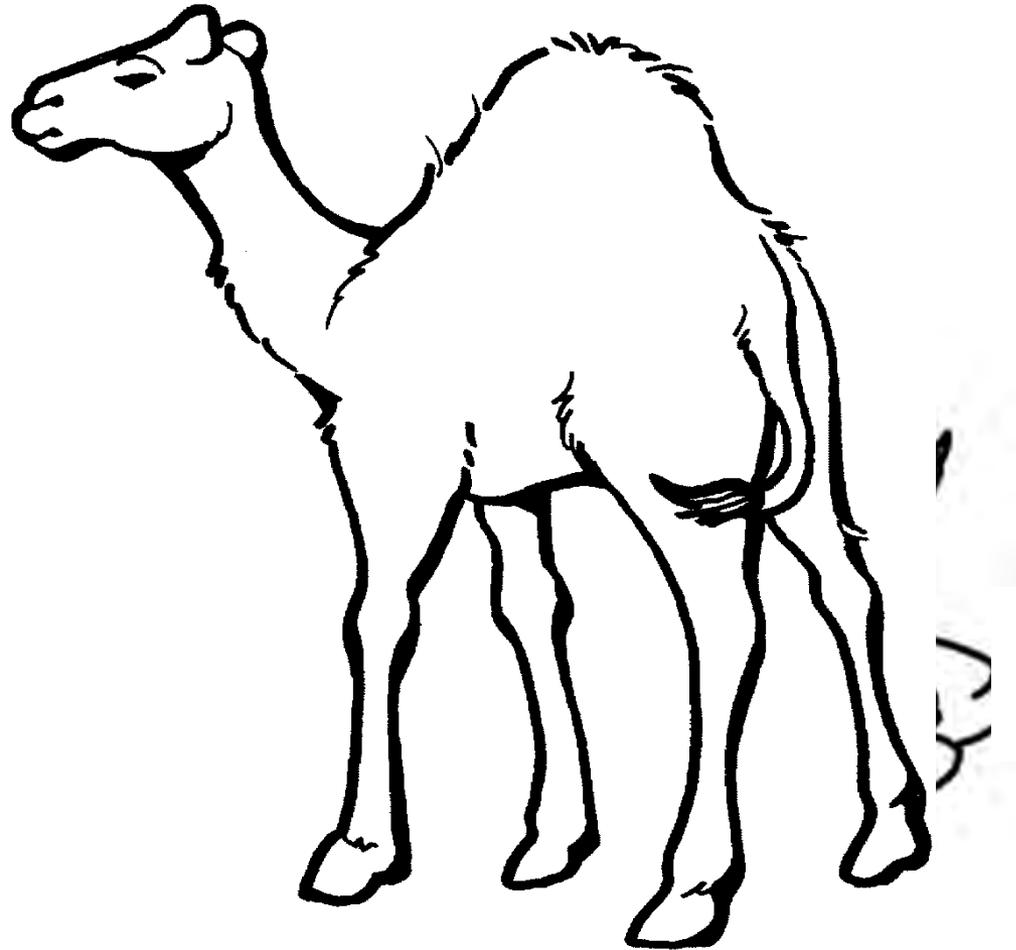
- Snapshot of capabilities
  - Open beds and types/ Ambulances
  - Space available
  - Staff
  - Licensed providers
  - Surge capacity
  - On-hand resources



# Business Continuity Planning



# Failure Points



# Business Impact Analysis

- Identifies critical functions and resource requirements
- Financial impacts
- Restoration priorities
- Two-step process
  - Business process analysis (BPA)
  - Business interruption study (BIS)

# Business Process Analysis

- Material flow
- Information flow
- Cash flow
- People movements
- Time constraints



Tropical  
Storm Allison

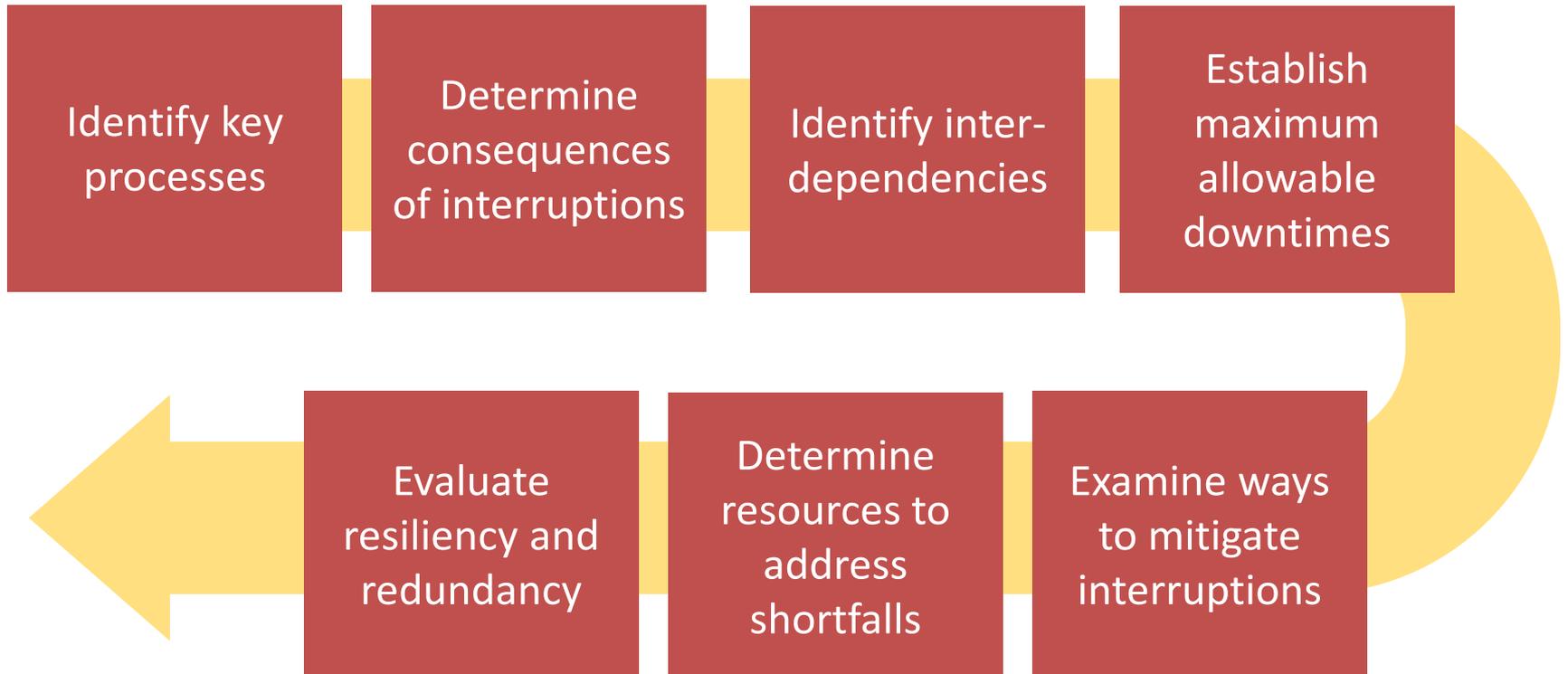
# Business Interruption Study

- Determines effect of failures on overall operations of an organization



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# Business Interruption Study



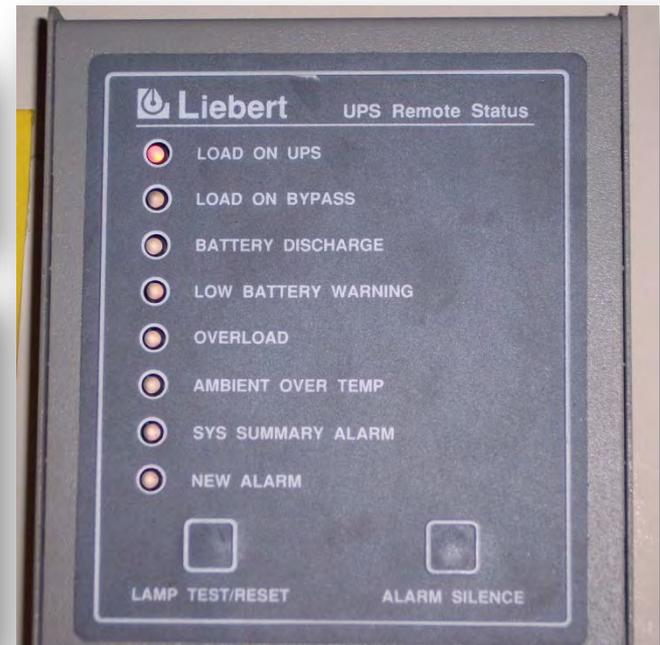
# Prevention and Mitigation

- Deterrence
  - Security patrols
  - Electronic surveillance
- Alter workplace procedures
  - Personal protective measures
  - Immunizations



# Resource Management

- Prioritization
- Communication
  - Social media
- Personnel
- Data



# Case Study



# Ethical and Legal Issues

*Men occasionally stumble over the truth,  
but most of them pick themselves up and  
hurry off as if nothing ever happened.*

—Winston Churchill

# Mindsets, Perceptions, and Biases

Two teams of climbers have become stranded on Mount Everest due to an unexpected blizzard. Each team consists of eight climbers and two guides. There are two injured parties on the first team, and no injured parties on the second team.

Weather forecasts predict that the storms will continue for four to five days, and the teams have enough provisions for two more days if they ration.

Radio contact with the teams is spotty due to the weather, but they have given you their location.

A rescue party is available, and can be on-site within 24 hours.

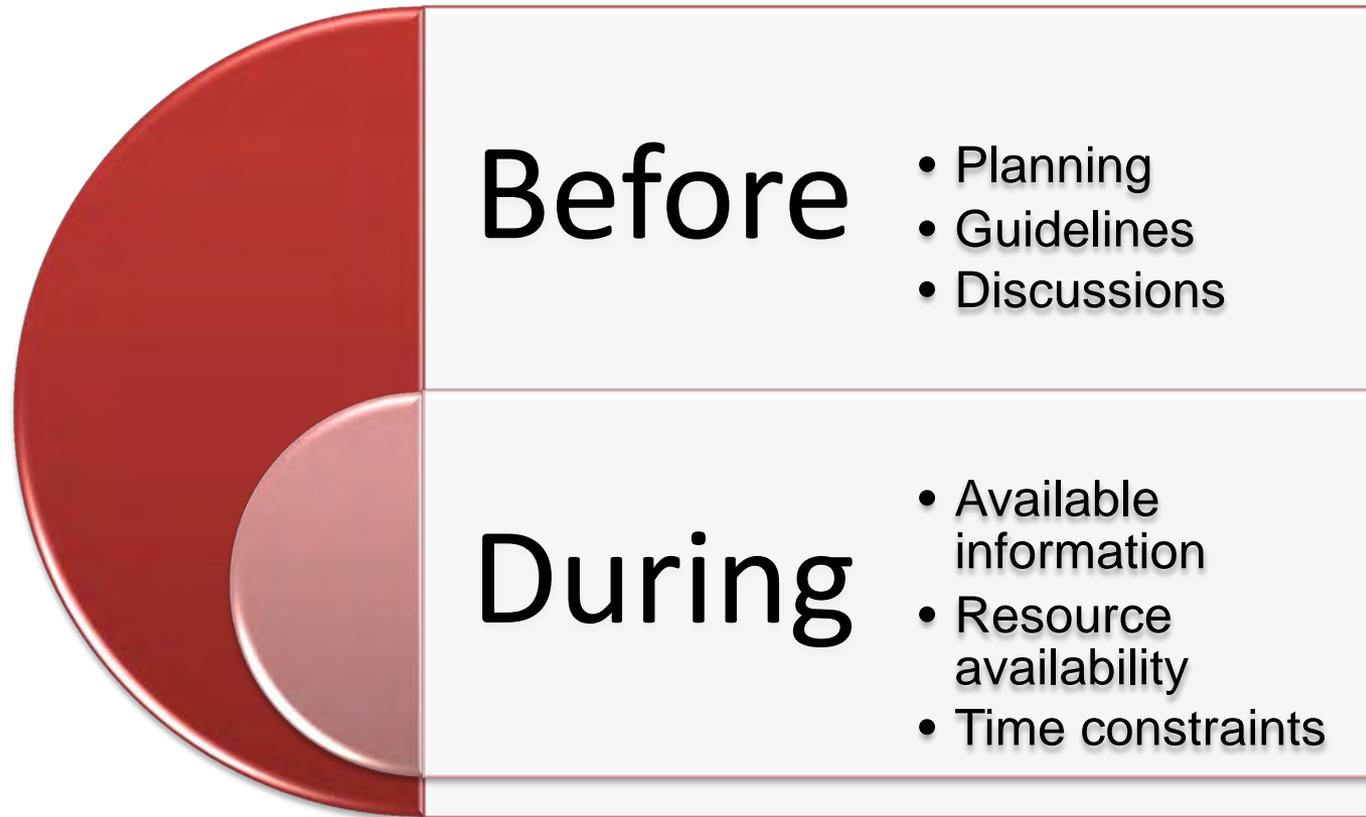
There is a 70% chance that the rescue party can reach the stranded teams and bring them back safely with no loss of life to the teams or the rescue parties if they leave immediately.

There is a 30% chance that people from the rescue party or the stranded teams will die if they leave immediately.

# Decision Making



# Disaster Decision Making



# Ethics

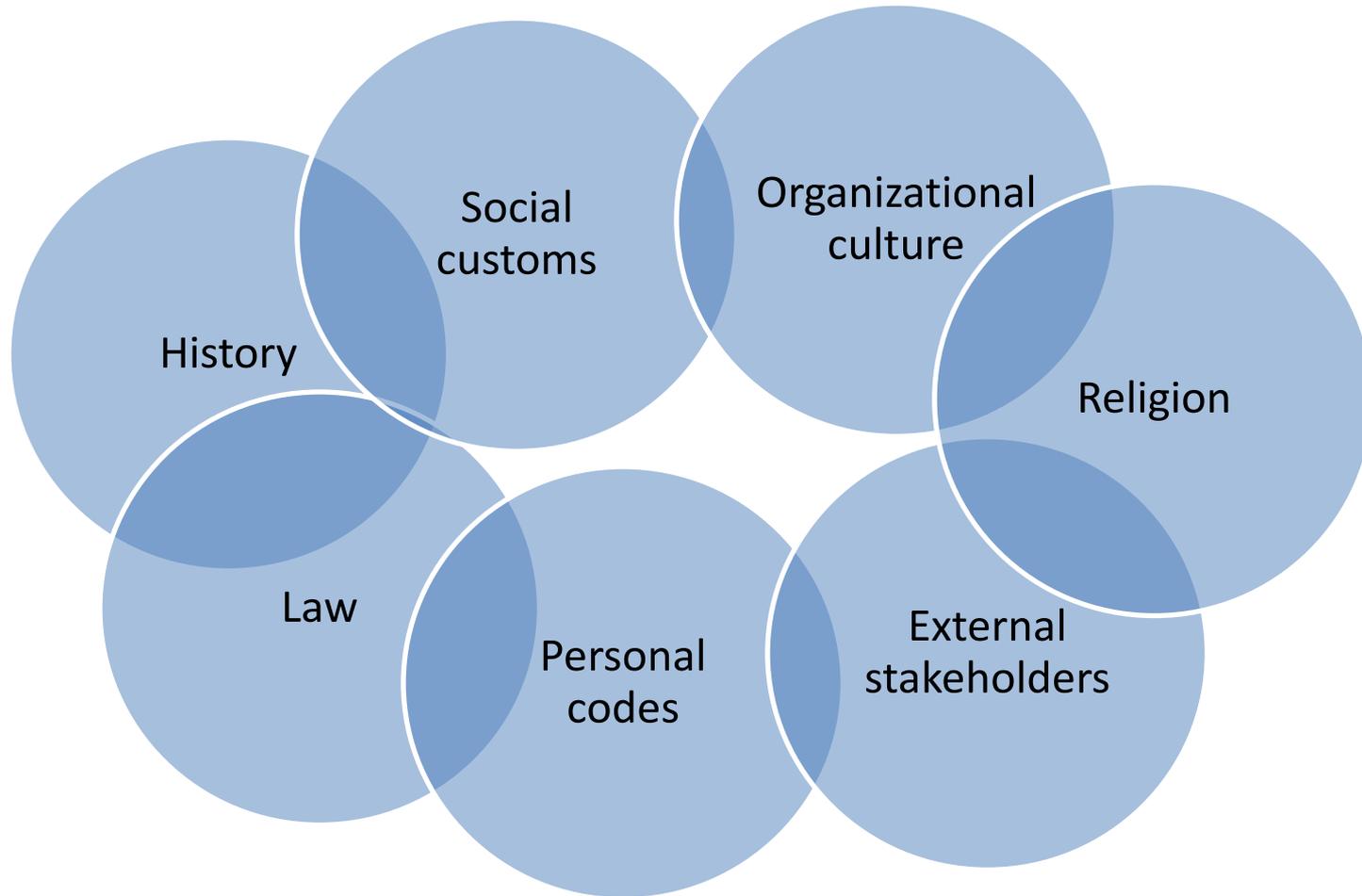
- Codes of conduct
- Principles of honor and morality
- Guidelines for human action
- Rights or standards for individuals or professions
- Character of the group (expected behavior)

# Ethics

- Complexity
  - Conflicting ethical expectations
  - Ethical expectations directly influence daily decisions
  - Decisions can affect many groups, each with different needs



# Forces that Shape Ethics



# Multiple Levels of Emergency Declarations

- The powers and protection that arise from such declarations vary

International public health emergency

- International emergency

Federal public health emergency

- Federal emergency

State public health emergency

- State emergency or disaster

Local emergency or disaster

- Local public health emergency

# Civil Liability

- What is civil liability?
- Who may face civil liability?
- Legal provisions that may grant immunity to volunteers
- “The potential responsibility a person or institution may owe for their actions or failures to provide assistance (sovereign) immunity injuries or losses to organizations that accept volunteers and persons or entities responsible for management assistance registration systems compact
- Volunteer protection statutes
- Governmental (sovereign) immunity
- Organizations that accept volunteers
- Good Samaritan laws and statutes
- Emergency management assistance registration systems compact

# Considerations



Organizational



Personal



# Disaster Communications

*“You need to evacuate this building.”*

*“You need to evacuate this building now. A bomb has been found in the room next door, and if it explodes, it will completely destroy the building. The bomb could explode at any moment. Evacuate the building now.”*

# Case Study

- Lifecare: Long-term acute care facility – Memorial Hospital in New Orleans
- 52 inpatients during Katrina
- 45 corpses found, including LifeCare patients
- Physician, two nurses accused of euthanizing nine patients
  - Physician: medicine to calm patients
- Charges dropped

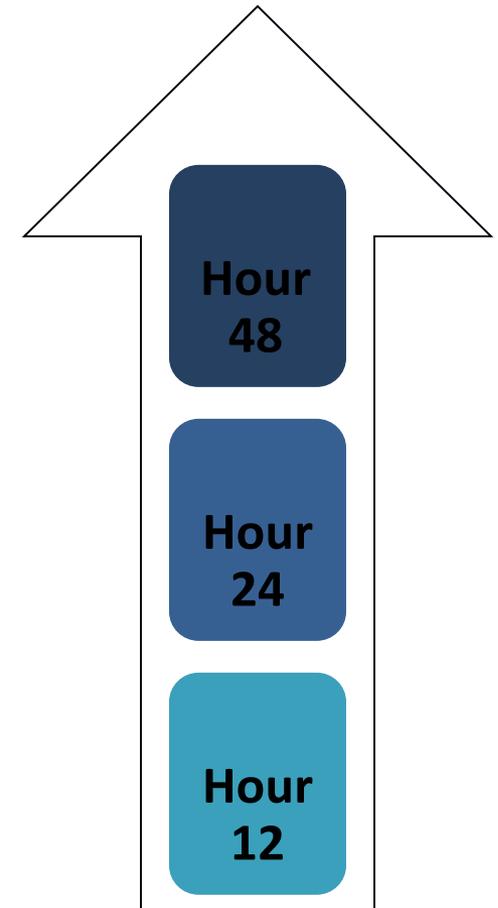
# Logistical Needs and Supplies

- What is needed during a healthcare facility evacuation?

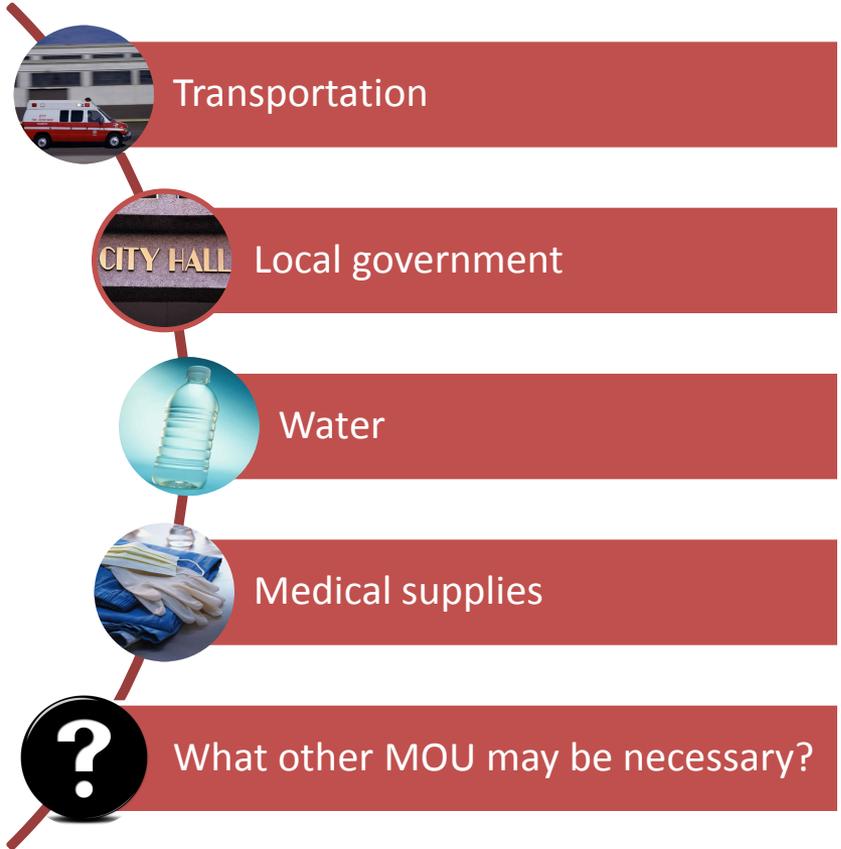


# Resources

- Coordination with local, regional, state, and national authorities
  - Local and state interim stockpiles
  - Strategic National Stockpile
- Plan for duration of disaster

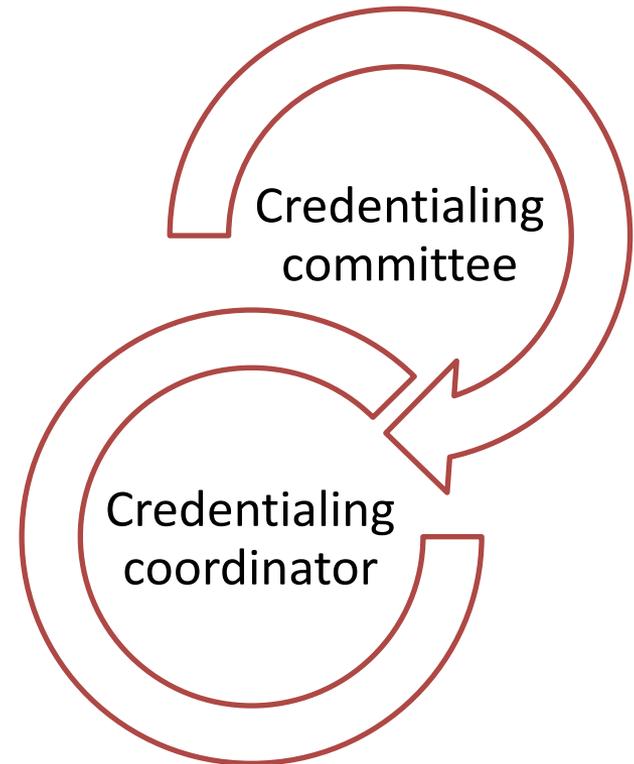


# MOU



# Credentialing

- NIMS credentialing process
- Authorized access and entry privileges
- Responder identification



# ICS and EOC

- ICS

- Management system
- Similar to how organizations operate on a daily basis
- Model for EOC operations
- Federal requirement to receive disaster resources

- EOC

- Virtual or actual
- Convergence of management-level personnel tasked with managing an incident
- Does not command or control on-scene response

# Healthcare Facility Evacuation

- Expedient
  - Immediate, such as a fire
- Non-expedient
  - Allows for a more orderly process, such as a hurricane that can be forecast several hours in advance

# Organizations Involved

- Law enforcement
- Regional or local government health departments
- Emergency medical services
- Certified emergency response teams
- Medical Reserve Corps
- American Red Cross
- School boards
- Religious, nonprofit, volunteer organizations, and community service organizations
- Amateur radio operators (HAM)
- Hospitals, nursing homes, and other community healthcare facilities

# A Tale of Two Hospitals



Evacuation at Tulane Medical Center



Flooded basement at Charity Hospital

Patients and staff at Charity Hospital



Photos courtesy of LSU Health Care Services Division

# A Tale of Two Hospitals

	Charity	Tulane
Building Age	66 years	29 years
Patients at Time of Storm	347	178
Storm Damage	Flooding, major roof damage, broken windows	Flooding, minor roof damage, broken windows
Emergency Power	Lost due to flooding of switches	Lost due to flooding of switches
Messaging	Get patients ready; FEMA coming to help	Evacuate yourselves; no help available
Tracking	None	All patients tracked



HCA



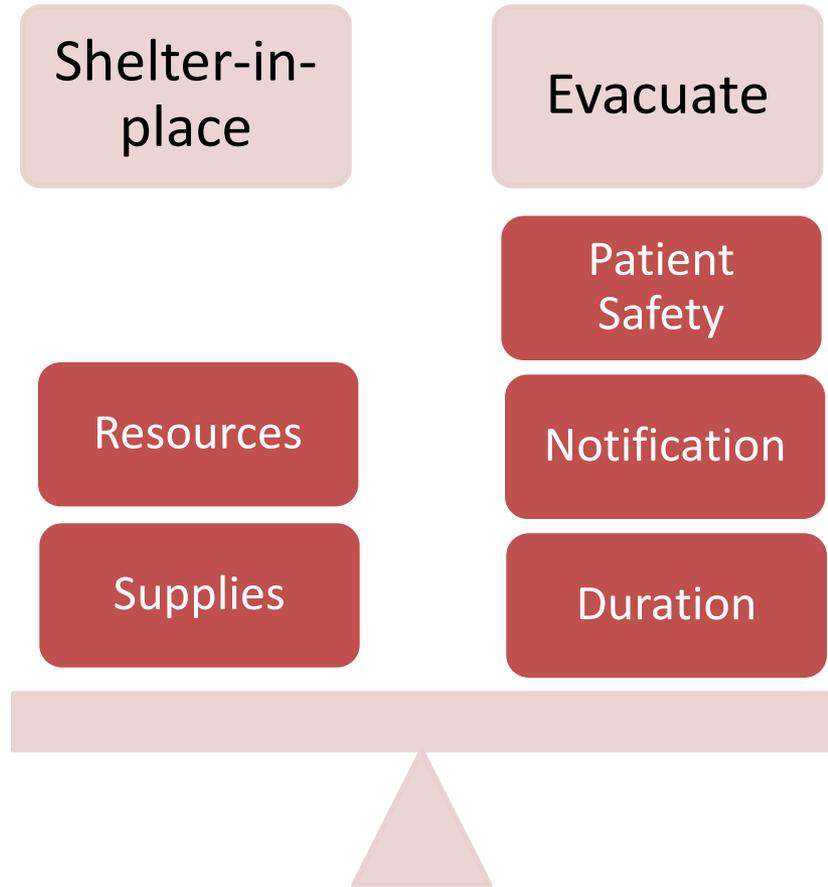
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# Healthcare Facility Evacuations

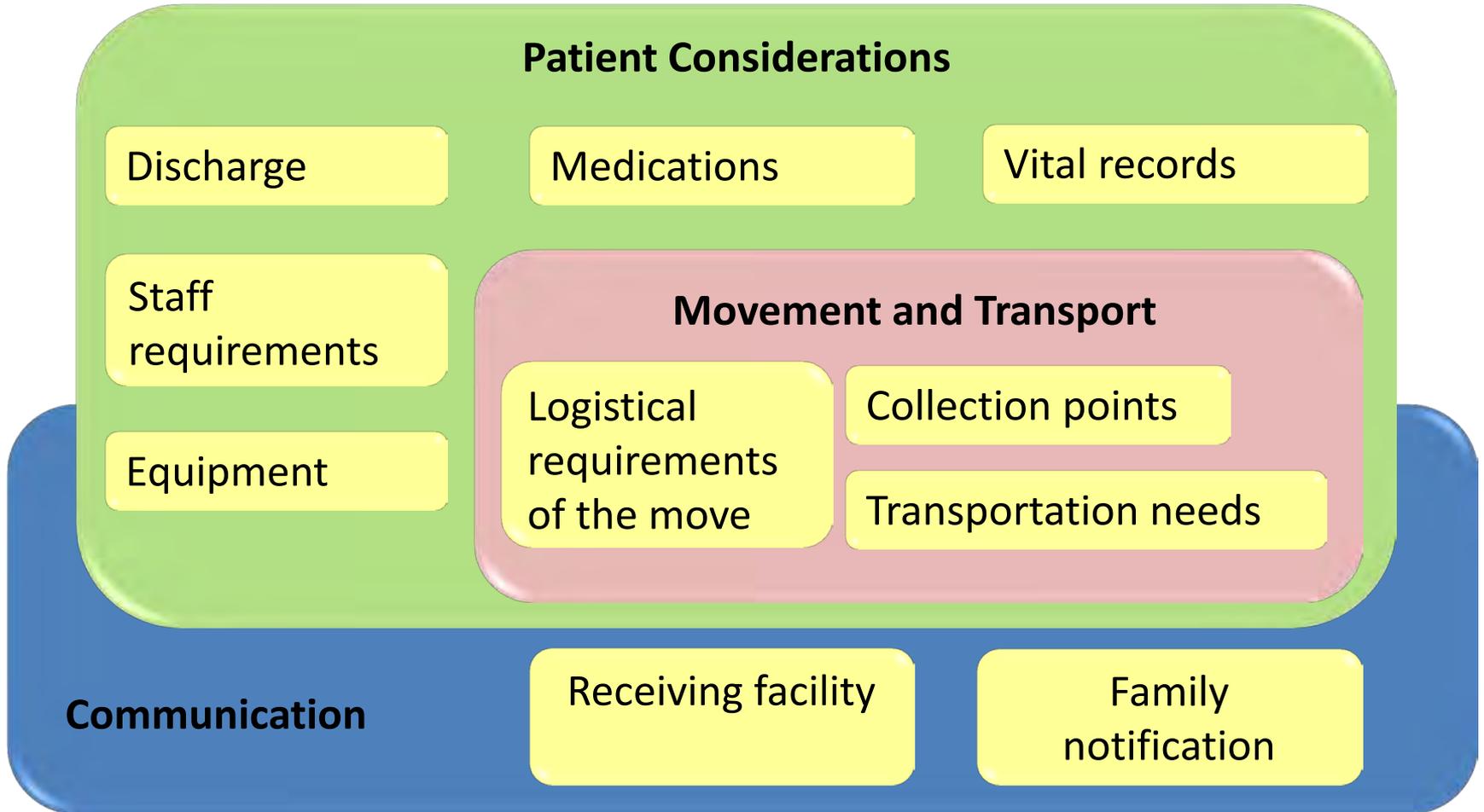
- How will patients be affected?



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# Out-of-Facility Considerations



# Case Study



# Mass Casualty Event

- Any event that causes a large number of individuals to become ill or injured and that overwhelms the resources of the healthcare delivery system at that time (Murphy 2002).

*Disaster Medicine*

# Types of Mass Casualty Events

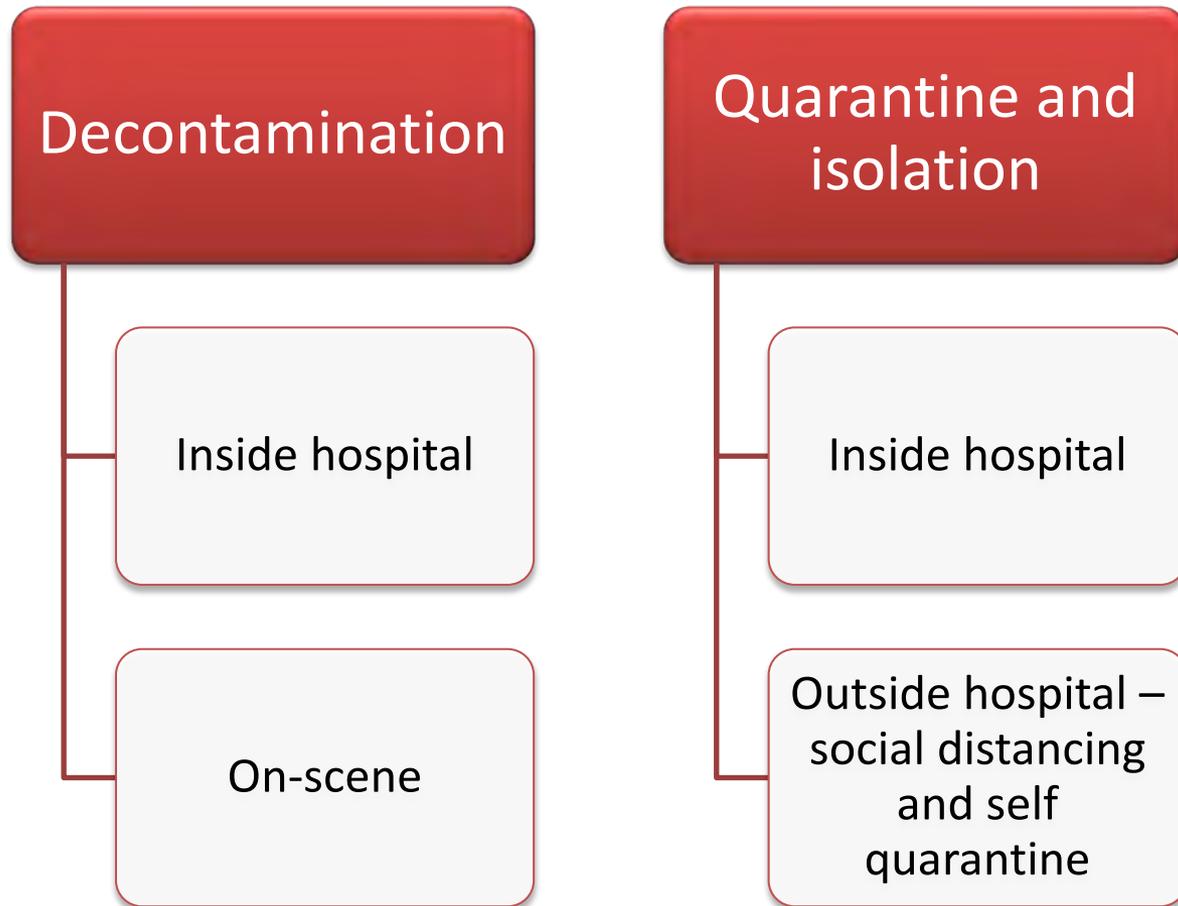
## Sudden impact

- Unpredictable
- Requires immediate response
- Many initial casualties

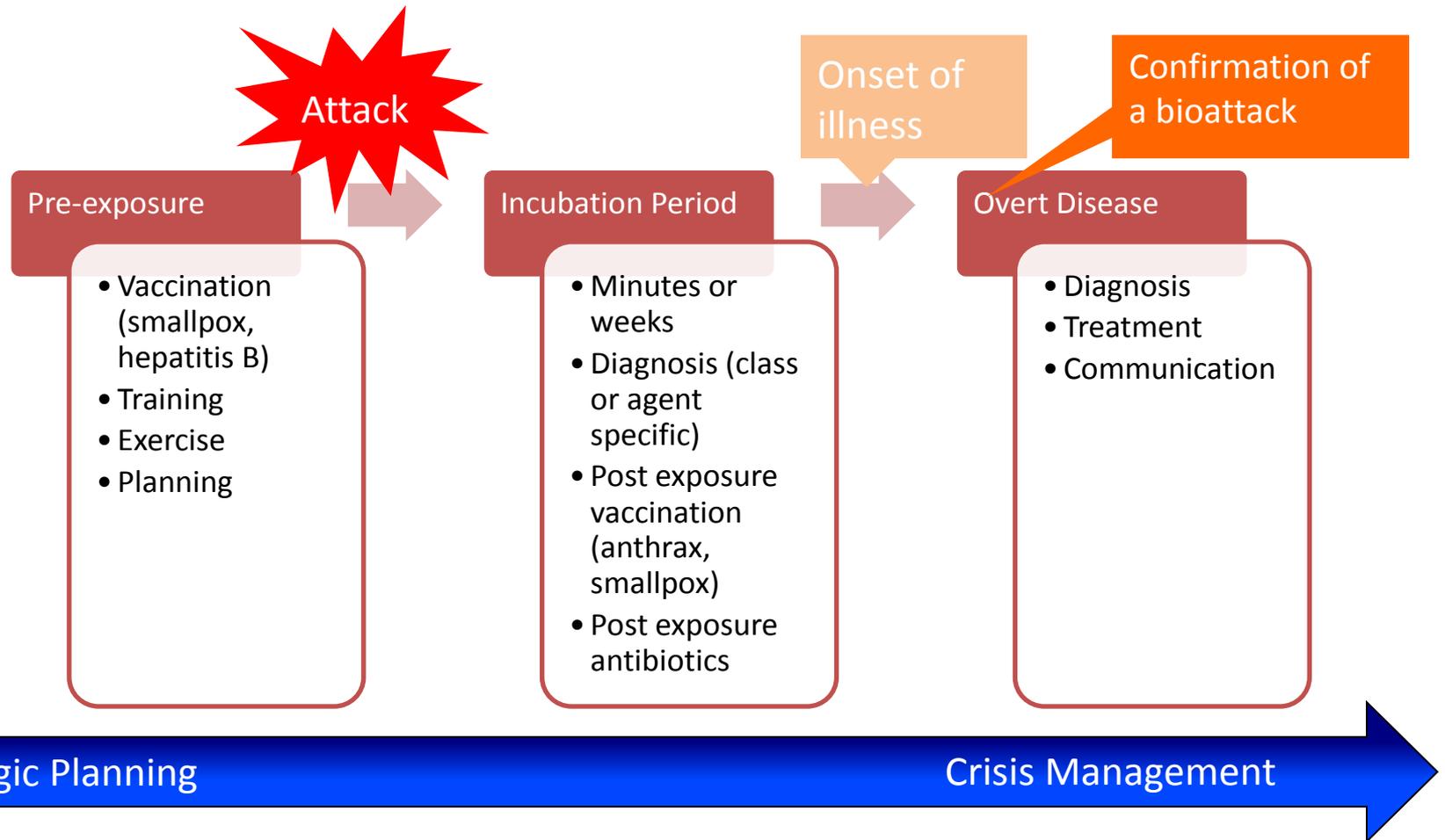
## Developing impact

- More predictable
- Preparedness efforts may mitigate impact
- Casualties gradual

# CBRNE Challenges



# Response Timelines



# Planning Considerations

*“Disaster planning is only as good as the assumptions on which it is based.”*

- Erik Auf der Heide, US  
Department of Health and  
Human Services

# Community Planning



# Planning Considerations

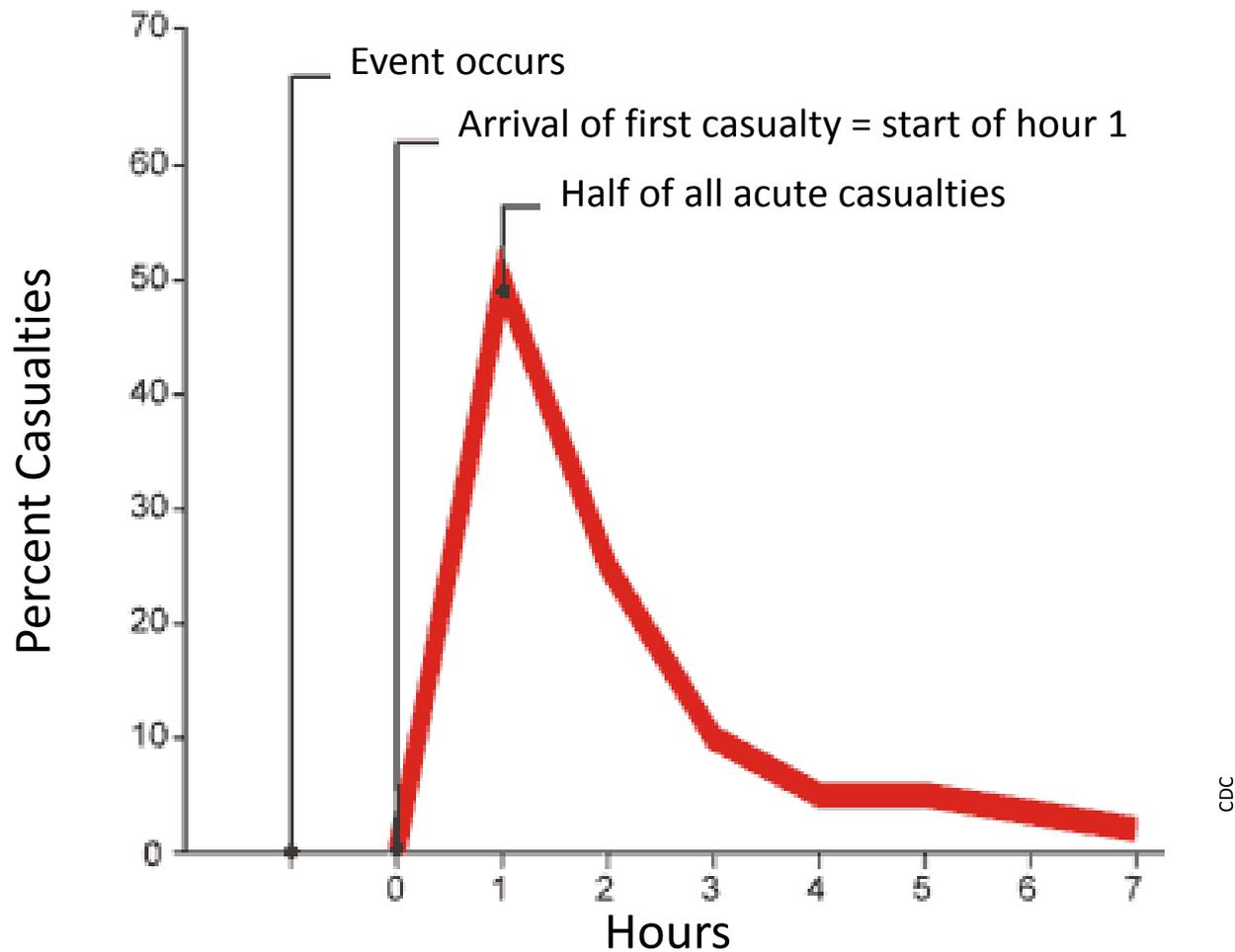
Assumption	Observation	Planning Implications	Potential Interventions
Casualties will be transported to hospitals appropriate for their needs in manner that no hospitals receive a disproportionate number.	Most casualties transported to the closest or most familiar hospital.	<p>Although specific hospitals may be designated to receive contaminated casualties, patients often choose their destination.</p> <p>May not be possible to prevent inefficient casualty distribution, but could influence or plan around it.</p>	<p>Ambulances bypass hospitals closest to the disaster.</p> <p>EMS or hospital mutual aid plans and radio systems for ambulances could be directed to hospitals best able to treat patients.</p> <p>Use “First Wave” protocol to distribute casualties.</p>

# Mass Casualty Incident Considerations

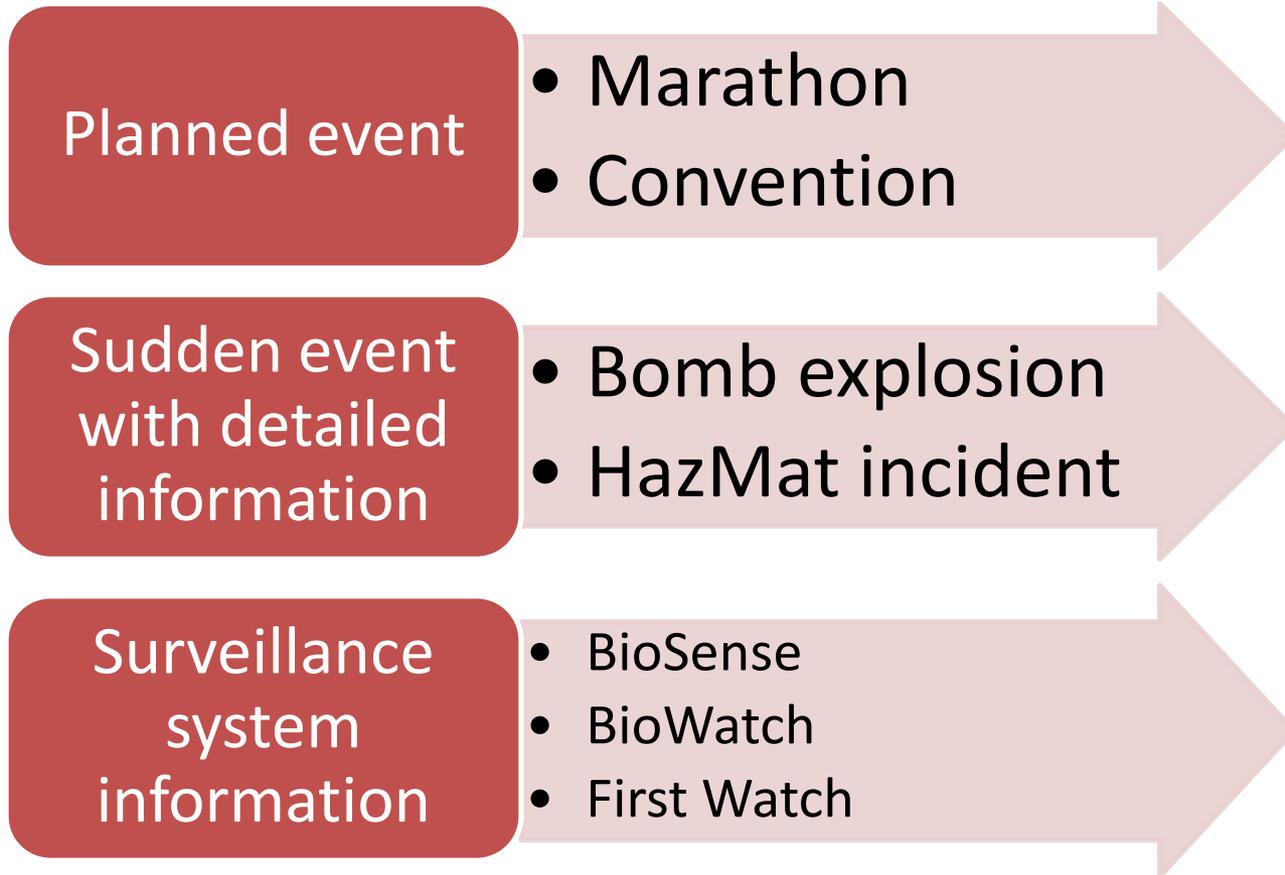
- Compounding factors
  - Loss of services
  - Infrastructure destruction
  - Supply shortages



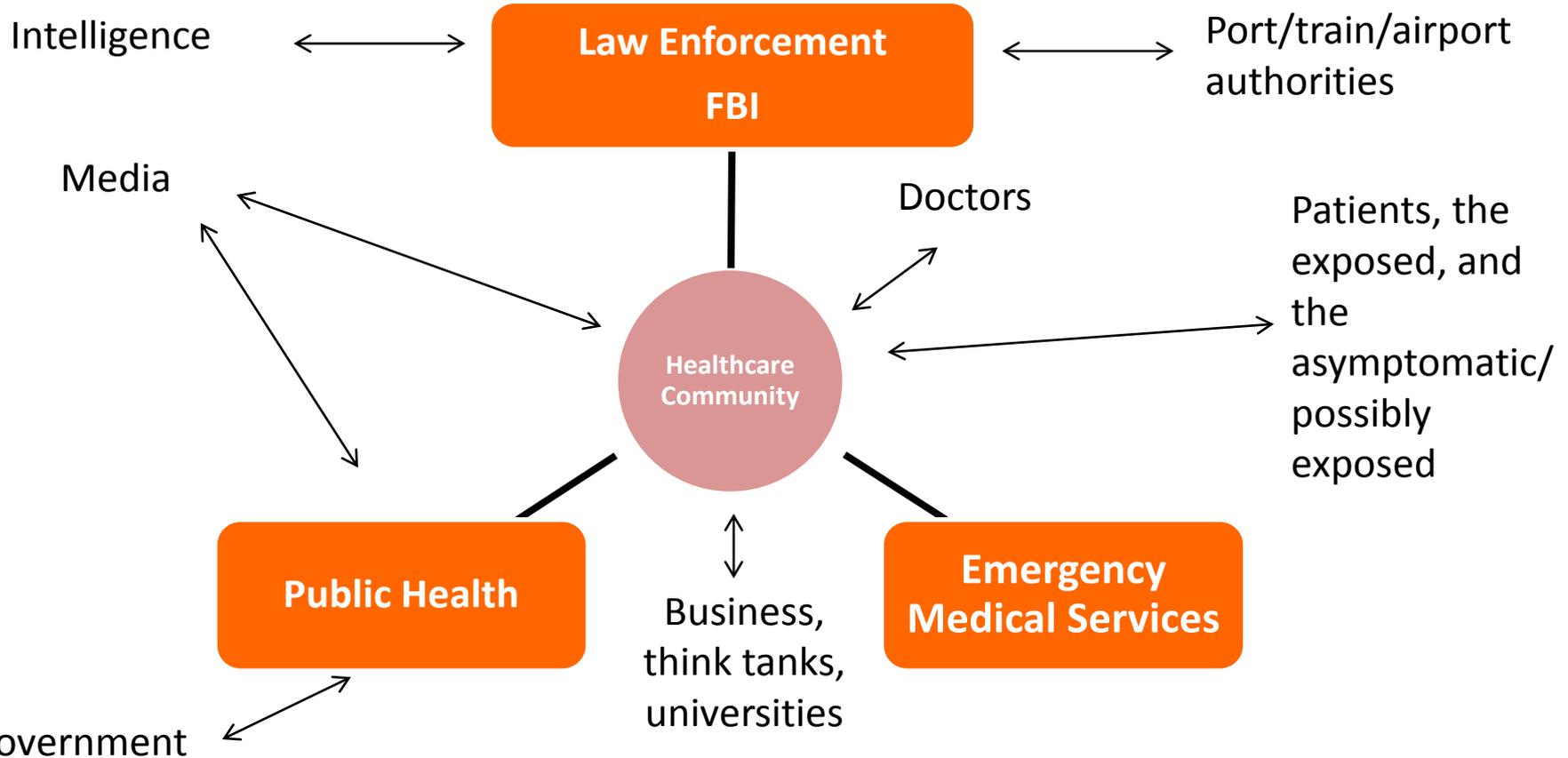
# CDC Mass Casualty Predictor



# Triggers to Activate a Plan



# Healthcare Dependencies on Community Organizations



# Mass Triage Tools

- ER
- Inpatient
- Color codes

CareFlite

START

SALT

JumpSTART

SMART

STM

# Resource Management

- Supplies
  - Vendor managed
  - SNS
  - Private
- People
  - MOU
  - State assets
  - Federal assets
- Transportation
  - Private
  - MOU
  - Federal
  - EMS

# Allocation of Scarce Resources

- Factors that may influence sustainability and resiliency
  - Long-term health problems
  - Economic
  - Infrastructure
  - Mental health concerns
- Partnerships and coordination
  - Local agencies
  - Private businesses
  - Faith based organizations

# Reasons for Alternate Care Sites

- For overflow patients
- For patients requiring isolation or quarantine
- To expand ambulatory or outpatient care
- To care for patients not ready for discharge
- As triage center



# Alternate Care Sites

- Hurricane Katrina
  - Assembly center in Baton Rouge
  - Initially triage center
  - Eventually surge hospital
- September 11 attacks
  - Chelsea Piers in New York City



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# Altered Standards of Care

- Changes in the usual standards of health and medical care
- Required to achieve the goal of saving the most lives in a mass casualty
- Allocate scarce resources in a different manner to save as many lives as possible



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FEMA

# Altered Standards of Care

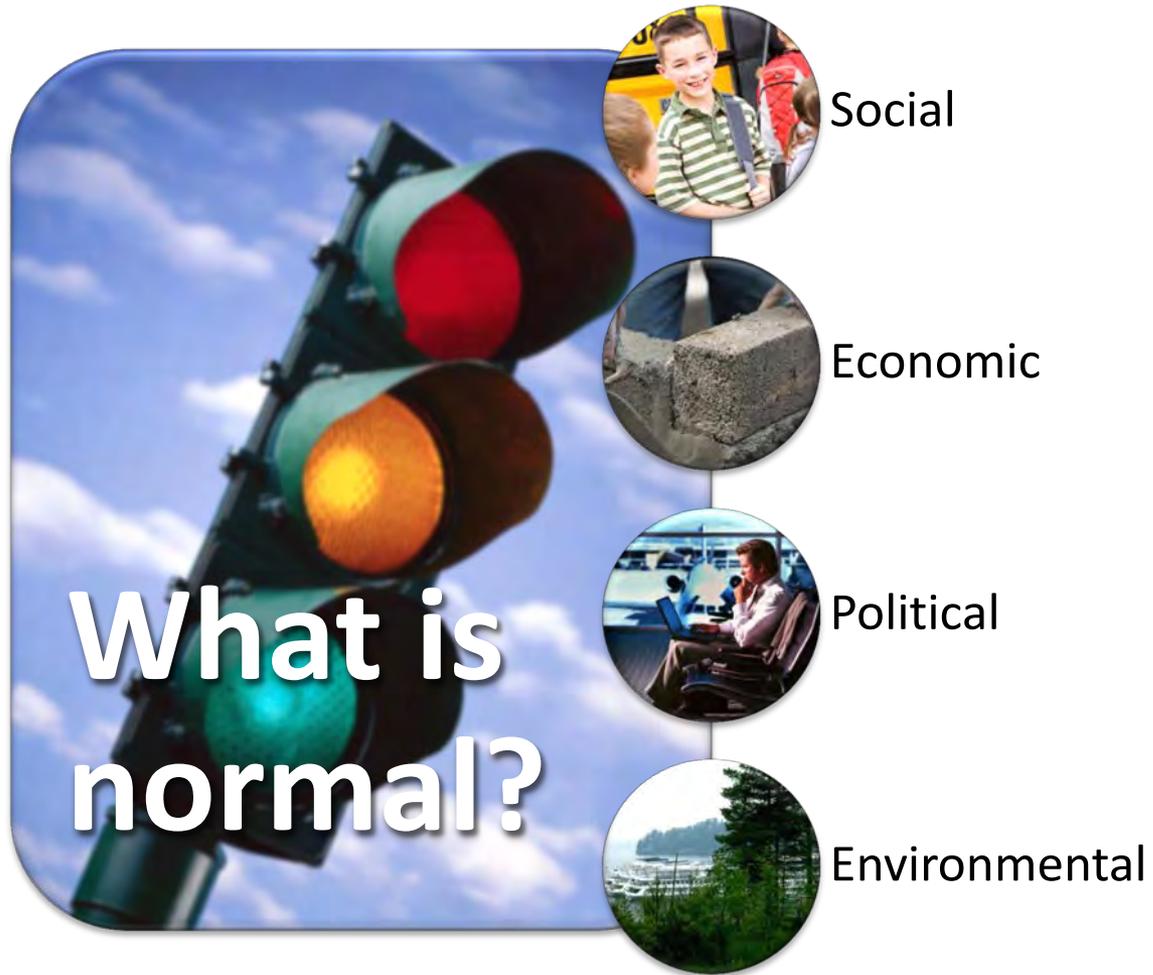
- Implemented at pre-hospital level with little formality during a mass casualty incident
- Hospital may require formal declaration or change in regulatory enforcement to implement
- May be implemented at alternate care site



# Post-Disaster Recovery

- *Recovery* can be described as the capabilities necessary to recover effectively from an incident
- Short-term goals
- Long-term goals

# Post-Disaster Normalcy



# Post-Disaster Normalcy



Social

- Activities resume
  - Sports, church, employee recognition programs
- Local media returns to normal programming

# Post-Disaster Normalcy



Economic

- Replenishing cash reserves
- Access to banking facilities and personal accounts
- Payroll
- Documentation

# Post-Disaster Normalcy



Political

- Government and support agencies regain normal hours of operation

# Post-Disaster Normalcy



Environmental

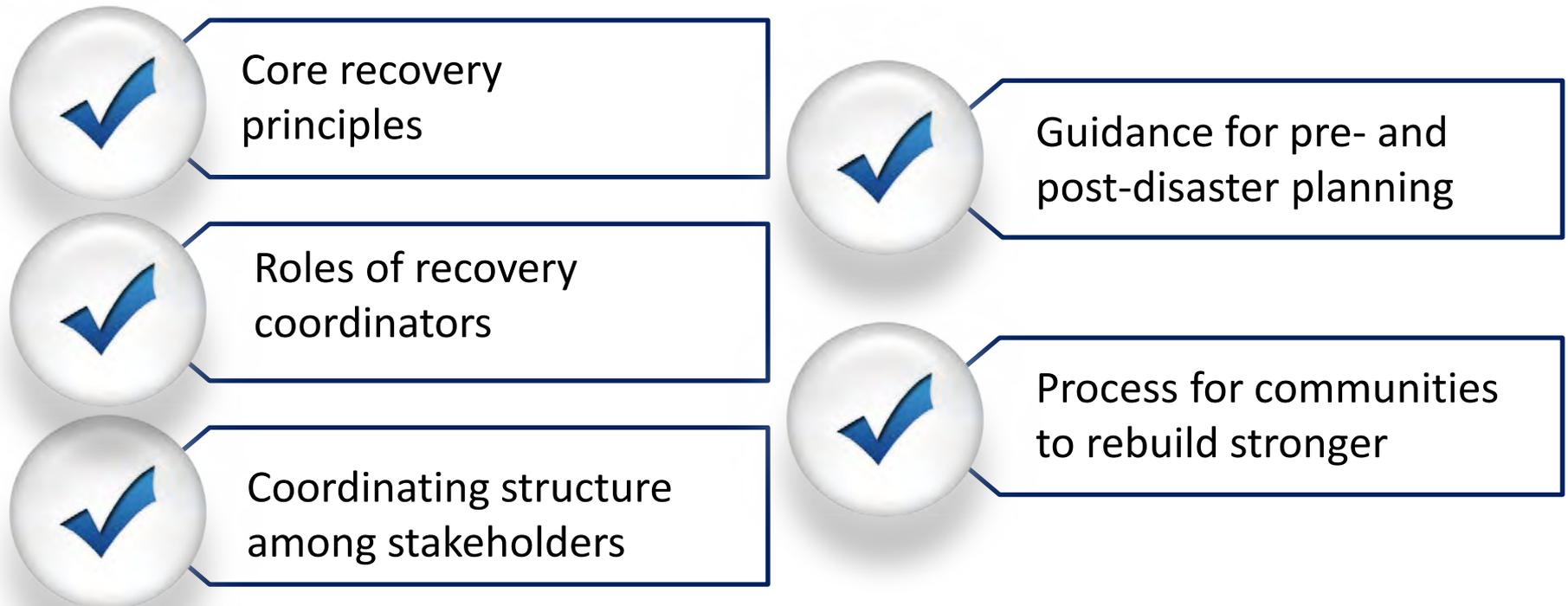
- Environmental hazards removed
- Debris cleared and disposed of
- Primary and secondary roads opened
- Replanting and reseeding

# National Disaster Recovery Framework

- Recovery Support Functions replaced Emergency Support Functions
- Different from Emergency Support Functions
- Guidance to enable effective recovery support to states, tribes, and local jurisdictions
  - Community planning and capacity building
  - Economic
- Aligned with the National Response Framework
  - Health and social services
  - Infrastructure systems
  - Natural and cultural resources



# National Disaster Recovery Framework



# NDRF Concepts and Terms

- Focal points for incorporating recovery considerations into the decision-making process

Federal Disaster  
Recovery Coordinator

State or Tribal Disaster  
Recovery Coordinator

Local Disaster Recovery  
Managers

Recovery Support  
Functions

- Six groupings of core recovery capabilities

# Case Study

- 2010 Nashville Floods



“The Secretary of Homeland Security shall coordinate a comprehensive campaign to build and sustain national preparedness, including public outreach and community-based and private-sector programs to enhance national resilience”

President Barack Obama  
Presidential Policy Directive 8:  
National Preparedness  
March 2011

# Additional Sources of Information

- InfraGard
- Homeland Security Digital Library
- FEMA Lessons Learned Information Sharing
- Homeland Security Information Network
- NCBRT Training Courses
- Agency for Healthcare Research and Quality

# Conclusion

- Goal: to prepare whole communities to effectively plan for, respond to, and recover from large-scale incidents that may overwhelm or significantly impact community healthcare.
- Defined concepts related to community healthcare and preparedness and examined what constitutes a disaster in a community.
- Recognized the components of a comprehensive plan for a whole community incident response.

# Conclusion

- Examined legal and ethical considerations during disasters.
- Described how to assemble information regarding disaster resources and described incident management and agency roles during a disaster.
- Examined use of medical resources, facilities, and altered care during mass casualty incidents.
- Examined the steps that a community may take to recover and return to post-disaster normalcy.