

Lesson 1
**Disasters and
Public Health Emergencies**



Learning Objectives

- Discuss rationale for including public health emergencies as operational elements of modern disaster classification
- Explain need to evaluate, describe, and monitor public health impact of disasters
- Discuss elements of DISASTER Paradigm™ in context of providing mass casualty and population-based care


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Shift in Perspective



Individual



Population

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Natural Event




Disaster



Public Health Emergency

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Human Systems Failure



Disaster

Unintentional
Collateral damage
Indirect consequences

Public Health Emergency

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Conflict



Disaster



Public Health Emergency

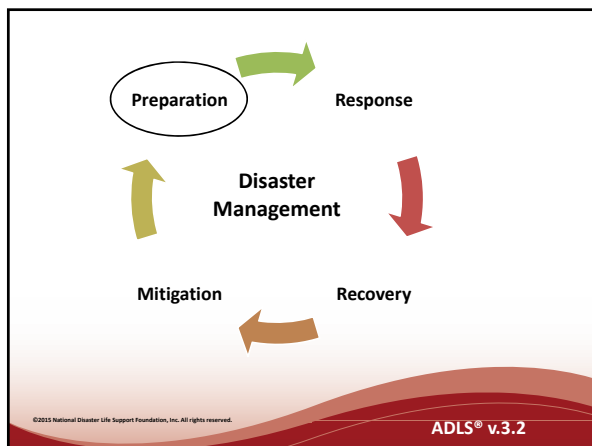
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Public Health Interventions


- Shelter in place
- Mass evacuation
- Mass sheltering
- Mass feeding
- Mass prevention
- Mass health care

} **Logistics**


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Elements of Disaster Response



Public Health




Clinical Care



Emergency Management

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Andrea Bocher/FEMA

Detection
Incident Management
Safety and Security
Assess Hazards
Support
Triage and Treatment
Evacuation
Recovery

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Incident and community survey

Casualty management

Recovery/Restoration

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DISASTER **Detection**

- Sustain situational awareness
- Maintain appropriate personal safety
- Assess basic needs
- Alert authorities

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DISASTER **Needs Assessment**

Inter-Agency Standing Committee (IASC)
INITIAL RAPID ASSESSMENT (IRA):
FIELD ASSESSMENT FORM

ASSESSMENT TEAM			
Name (Team Leader first)	Institution	Title/position	Profession/qualifications

IRA SUMMARY

Date(s) of field assessment: / / Admin level 1 name: _____
 Principal contact(s) at the site: Admin level 2 name: _____
 Position in community: Admin level 3 name: _____
 Telephone #: Site name: _____
 GPS coordinates in decimal degrees: P-code: _____

Summary of the crisis

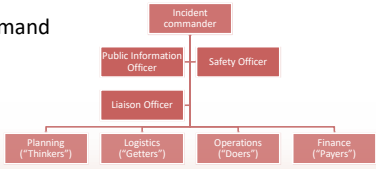
- overall judgment of humanitarian situation and the severity of needs identified
- short-term outlook (whether the crisis is worsening or becoming less serious)
- underlying causes of problems and risks
- threats to security (natural hazards, population movements, armed groups, etc.)
- population groups that are inaccessible (and if so, why)
- risk-factors that could worsen humanitarian conditions or impede relief operations (bad weather, insecurity etc.)

Inter-Agency Standing Committee, World Health Organization

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DISASTER **Incident Management**

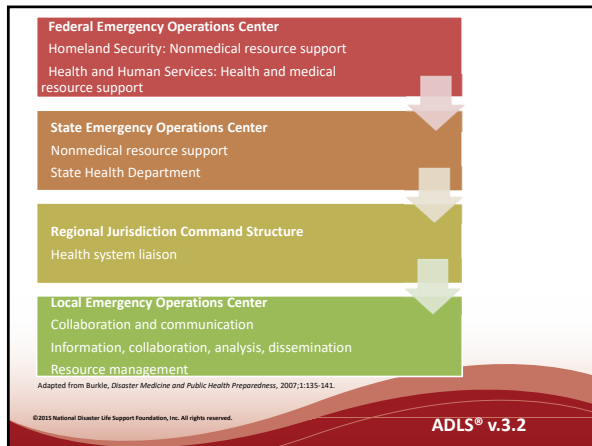
- Links local, state, and federal response under NIMS
- Defines roles, functions, and lines of communication
- Chain of command



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graph TD
    IC[Incident Commander] --- PIO[Public Information Officer]
    IC --- SO[Safety Officer]
    IC --- LO[Liaison Officer]
    LO --- P[Planning "Thinkers"]
    LO --- L[Logistics "Getters"]
    LO --- O[Operations "Doers"]
    LO --- F[Finance "Payers"]
    
```

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DISASTER **Safety and Security**

- Survey environment
 - Secure scene and facilities
 - Define routes in and out
- Anticipate natural environment
 - Weather
 - Terrain
 - Wind direction
 - Daylight



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DISASTER **Priorities**



1. Protect self and team
2. Protect uninjured public
3. Protect casualties
4. Protect scene and environment

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DISASTER **Assess Hazards**

Identify and mitigate secondary events

- Bombs and snipers
- Exposed utilities
- Structural collapse
- Fires and explosions
- Crowd surge



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DISASTER **Support**




- Define resource needs
- Determine resource availability
- Mobilize surge capability
 1. Local
 2. Regional, state, then federal

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DISASTER **Triage Principles**


- Save those most likely to benefit from care
- Minimize additional casualties
- Maximize combined survival of existing casualties



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DISASTER **Scene Triage**

Sort based on ability to follow commands




S	Sort
A	Assess
L	Lifesaving interventions
T	Treatment/transport

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DISASTER **Expanded Triage**

- Population Triage
 - Triage of the entire at risk community for the protection of the population (e.g., shelter in place, when to seek medical care)
- Tertiary Triage/rationing of resources
 - Ventilators
 - Vaccinations
 - Medication prophylaxis



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DISASTER **Treatment Crisis Standards of Care**



- Context of care
- Minimal acceptable care
- Functional shift in disaster

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DISASTER **Tourniquets**

- Stop life-threatening extremity bleeding
- Effective application
 - Bleeding stopped
 - Distal pulse absent
 - Document time of application
- Remove after direct control in hospital

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DISASTER **Evacuation**

- Move casualties from scene to safety and care
 - Casualty collection points
 - Consider non-traditional transport
- Considerations
 - Special needs populations
 - Hospital evacuation consideration



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DISASTER **Recovery**

Environment	▪ Minimizes physical and psychosocial impact
Community	
Receivers	
Responders	
Families	
Casualties	▪ Begins with acute scene restoration and continues long term
	▪ Depends on resiliency

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Question 1

Which of the following events is most likely to become a public health emergency?

- a) Homicide bombing
- b) Levee breach
- c) Single tornado
- d) 2-car passenger train derailment

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Question 2

Which is not a step of the disaster management cycle?

- a) Response
- b) Recovery
- c) Triage
- d) Preparation
- e) Mitigation

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Question 3

Generation of surge capacity occurs under which part of the DISASTER Paradigm™?

- a) Detection
- b) Assess hazards
- c) Support
- d) Triage & treatment

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Summary

- Disaster response shifts care from individual to casualty population
- DISASTER Paradigm™ applies to clinical care, public health, and emergency management
- Disaster triage: greatest good for greatest number of casualties and population

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