NDLSF
National Disaster Life Support Foundation

Lesson 3

Health System Surge Capacity for Disasters and Public Health Emergencies

ADLS
Advanced Disaster Life Support

Learning Objectives

- Describe all-hazards taxonomy for surge capacity and surge capability

- List four support elements that contribute to effectiveness of surge capacity and capability

- Delineate tiered management system for integrating medical and health resources

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Learning Objectives

- Discuss strategies for providing contingency and crisis surge capacity

- Explain purpose of exercises and drills for all-hazards preparation and planning

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Response Goals

1. Safeguard personnel and uninjured

2. Minimize mortality in critically injured

3. Maximize care delivered to casualty population

4. Restore normal health care delivery

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D	Detection
I	Incident management
S	Safety and security
A	Assess Hazards
S	Support [surge]
T	Triage and [phased] treatment
E	Evacuation
R	Recovery

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Support for Surge

Capacity: **Space for greater casualty inflow**

Capability: **Ability to provide necessary casualty care**

Background: **Existing chronic surge**

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Surge

Capacity
- Additional beds (20%)
- Number of casualties/facility

Capability
- Number of ventilated casualties
- Critical casualties/hour/level of care

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Three Phases of Surge Capacity

Conventional phase	Contingency phase	Crisis phase

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Surge

Supply
- Clear existing beds (Reverse Triage)
- Stop business as usual
- Create new space

Demand
- Triage
- Security

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Surge Capability

Ensure care of casualties related to disaster

Ensure care of usual patients unrelated to disaster

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Surge Response

Space

Staff

Supplies

Systems

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Space Strategies

Conventional → Reverse triage, available beds

Contingency → Procedural areas as monitored settings

Crisis → Flat space, alternate sites

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Staffing Strategies

Conventional	Staff redistribution, less differentiation
Contingency	Staff augmentation from outside, de-differentiation
Crisis	Staff above usual scope of practice

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Supply Strategies

Conventional	Local resource sharing, supply equivalence
Contingency	Supply substitutes, local stockpiling
Crisis	Resource reallocation, Strategic National Stockpile

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Pediatric Surge

SPACE	Use of adult facilities
STAFF	Cross-training of adult staff to care for older children and adolescents
SUPPLIES	Stockpiling of pediatric resources
SYSTEMS	Pediatric critical care transfers

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Community Surge Considerations

- Real human behaviors
- Special population needs
- Home-based solutions
- Citizen cooperation for recovery

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Establish Alternate Sites

- Family
- Media
- Worried well
- Volunteer providers
- Fatalities

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Alternate Care Facilities

Churches
Community centers
Doctor offices and clinics
Fairgrounds
Hotels
Malls
Schools

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Evacuation

1. Casualty needs exceed institutional capabilities
2. Facility threatened or damaged by disaster
3. Increase surge capacity by transferring current patients

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Medical Surge Capacity and Capacity Management System

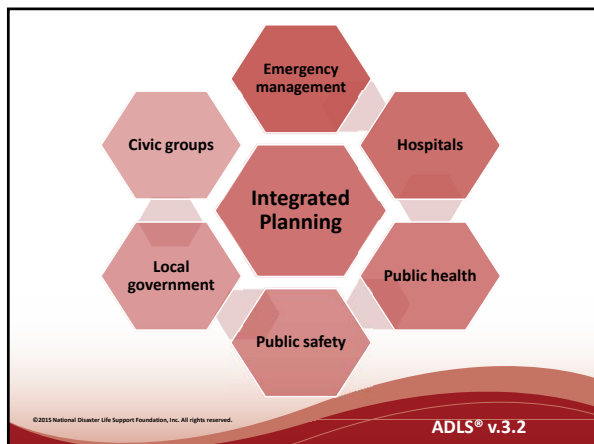| Tier Six	Federal response
Tier Five	Interstate regional collaboration
Tier Four	State response
Tier Three	Jurisdictional incident management
Tier Two	Health care coalition
Tier One	Health care asset management

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Hazard Vulnerability Analysis

Event	Probability	Risk	Level of Preparation
Natural			
Biological			
Man-made			

Define the preparedness gap

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Slide 1

Emergency management

Civic groups

Hospitals

Integrated Planning

Local government

Public health

Public safety

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Slide 2

The Joint Commission — **Definitions**

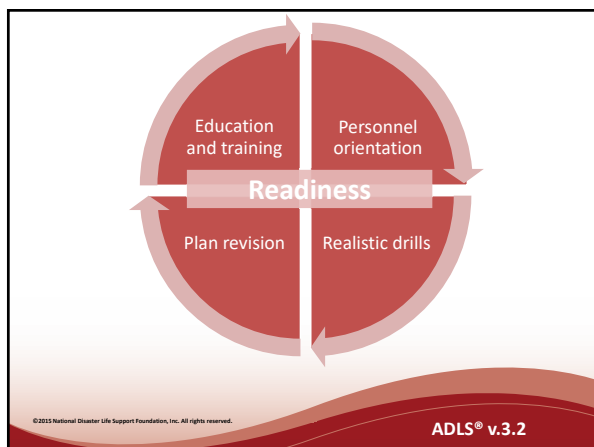| Emergency	Disaster
1. Unexpected or sudden event with demand	1. Increase complexity, scope, or duration of demand
2. Disrupts ability to provide care	2. Threatened capabilities
3. Disrupts environment of care	3. Outside help for care, safety, or security

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Slide 3

The Joint Commission — **Standards**

Medical leaders participate in HVA

Establish response procedures for 96 hours

Surge and casualty tracking

Plan for inventory and resupply

Two drills/exercises per year, excluding tabletops

- Influx of simulated casualties
- Community participation

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From Planning to Practice

- Health care facility
  - Tabletop simulation exercise: single function
  - Functional exercise: incident management
- Community: field exercise drill

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Which phase of surge capacity involves altering the standard of care?

a) conventional

b) contingency

c) crisis

d) all of the above

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Which of the following is an example of reverse triage at a hospital in a disaster?

a) cancelling clinic appointments

b) discharging patients to skilled nursing facilities

c) providing critical care in endoscopy suite

d) reallocating a ventilator to a casualty with greater change of survival

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Which of the following exercises is the best simulation for disaster response?

a) field exercise drill

b) functional exercise

c) tabletop exercise

d) triage exercise

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Summary

- Surge capacity is resource availability
  Surge capability is resource operability

- Efficient surge capacity and capability: space, staff, supply, and systems

- Surge occurs across spectrum of conventional, contingency, and crisis capacity

- Tiered management system integrates medical and health resources from local to federal levels

- Realistic exercises and drills promote readiness

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