

Learning Objectives

- Describe pediatric vulnerabilities and challenges that need to be addressed in all-hazards disaster preparedness and response planning
- Discuss the potential impact of disasters on individuals with chronic illnesses
- Discuss mental and behavioral health consequences for children and adults affected by a disaster or public health emergency

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Definition of a Public Health System

A complex network of individuals and organizations that, when working together, can represent what we as a society do collectively to ensure the conditions in which people can be healthy.

Institute of Medicine (IOM), 1988

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Public Health System Basics

- Function:
 - Protect populations against injury, disease, environmental and occupational hazards
- Workforce:
 - Diverse skill sets, backgrounds, and experience



© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Large-Scale Disasters and Public Health Emergencies

- Damage to public health infrastructure
- Widespread population displacement
- Health service disruption
- Population resource disruption
- Critical: Integration of public health and emergency care system

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL[®] v.3.2

Shift in Perspective

Jocelyn Augustino/FEMA Andrea Booher/FEMA

Individual Population

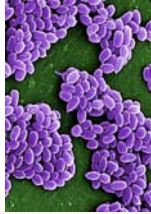
© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL[®] v.3.2

Public Health Functions in Disaster	
Promote health and hygiene, prevent epidemics and spread of disease	Provide supply of food, clean water, sanitation supplies
Conduct mass vaccination/prophylaxis	Implement environmental controls
Enhance epidemiologic surveillance	Ensure provision of health services
Inform professionals about health issues and emerging diseases	Enforce laws and regulations relating to health and disease
Implement and enforce isolation and quarantines	Provide emergency risk communication
Assist with community evacuation and sheltering operations	Manage incidents related to public health issues/epidemics
Collect health data and report to community, responders, and providers	Develop new policies and plans to aid in preparedness for next disaster

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL[®] v.3.2

Epidemiologic Surveillance

- Ongoing assessment of community health
- Identify new health concerns/issues (look for patterns, oddities)
- Track and document potential exposures



Laura Rose/CDC

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Epidemiologic Investigation

- Comprehensive and multidisciplinary
- Investigative work
- In outbreaks
 - Map spread of disease
 - Mechanism of spread
 - Identify the “index case”
 - Morbidity and mortality



© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Rapid Needs Assessment

- Determine nature and scale of disaster
- Extent of population's immediate needs
- Stability of health care infrastructure
- Impact on essential human services

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Emergency Public Health Powers



- Decrease exposure and spread of contagious disease
- Public health interventions: quarantine and isolation

Individual rights vs. common welfare

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

Incident Management Emergency Support Functions

- ESF-6: Mass Care, Emergency Assistance, Housing, and Human Services
 - FEMA, American Red Cross, and Public Health
- ESF-8: Public Health and Medical Services
 - Public Health traditional lead agency of ESF-8
- During certain events Public Health takes incident command leadership roles
 - Biological disasters

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

ESF-6: Mass Care Services Public Health Supporting Role

- Assessing health and medical needs of populations
- Provision of emergency medical care
- Surveillance in sheltering facilities




Norman Lenburg/FEMA

Immediate needs: Food, water, shelter, and sanitation

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

ESF-8: Public Health and Medical Services Role in Sheltering Populations

- Disease outbreaks
 - GI and respiratory
- Injury safety
 - Interpersonal violence
- At-risk
 - Worsening of chronic and mental illnesses



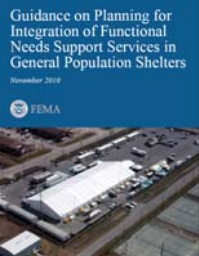
Andrea Booher/FEMA

Crowding + limited resources = high-stress environment

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

Sheltering Guidelines

- General population shelters
- Guidelines for sheltering children and adults with functional support needs
- Functional Needs Support Services - "FNSS"



Services enabling individuals to maintain independence!

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

Health in Disasters

- Lodging and shelter
- Sanitation, hygiene, and pharmaceutical supplies
- Health testing including pregnancy management
- Protection from physical and sexual assault
- Psychological impact



Andrea Booher/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. **BDLS® v.3.2**

Vulnerable Populations

Disasters disproportionately affect certain populations:

- Infants and children
- Pregnant women
- Elderly
- Those with chronic disease
- Those with functional and access needs



Chris Ragazzo/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Children in Disasters

- Disasters do not discriminate by age
- Communities need plans for the care of children in disasters
- Emergency managers and responders must be educated in needs of children



Michael Reiger/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Children in Disasters Pediatric Vulnerabilities

Unique Characteristics

- Anatomic
- Physiologic
- Developmental
- Behavioral
- Familial




George Armstrong/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Children in Disasters Pediatric Care




Andrea Booher/FEMA

- Communicate as if your own child
- Provide clinical and emotional support
- Remember special drug doses, equipment
- If able, include parents

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL^S® v.3.2

Children in Disasters Other Pediatric Considerations

- Sheltering requires planning
 - Special food, diapers, sleeping furniture
 - Prone to exploitation and violence
- Must keep families together
 - Reunification is a high priority
 - Medical care, decontamination, shelters
- Limited pediatric health access
 - Specialty care and ICU beds
- Monitor pregnant women to ensure health of fetus




Jocelyn Augustino/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL^S® v.3.2

People with Chronic Illnesses

- 80% of adults over 65 have at least one
- Disaster planning is focused on acute issues
- Disasters disrupt:
 - Pharmacies, dialysis
 - Oxygen supplies, electricity
 - Medical infrastructure



Liz Roll/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDL^S® v.3.2

People with Chronic Illnesses



Jocelyn Augustino/FEMA

- Exacerbation of illness due to effects of disaster
- Loss of functional and life-sustaining equipment, medications, medical records
- Loss of access to usual health care

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

People with Chronic Illnesses Considerations

- Individuals should prepare:
 - Medical alert
 - Identification
 - Current list of medications
 - Allergies
 - History
- Where will patients get dialysis, chemotherapy, tube feeds, ventilators, bariatric beds?
- How to evacuate?



Thinkstock

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

People with Functional or Access Needs

Assistance with:

- Maintaining independence
- Communication
- Transportation
- Supervision
- Medical care



Robert Kaufmann/FEMA

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2

Mental Health Effects

Everyone involved will have own response to event

FEAR

Loss of appetite

Anger

Difficulty concentrating

Helplessness

Worry

Sleepiness

Fatigue

Confusion

Reaction of Children = Own Response + Parents' Reaction

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDLS® v.3.2

Stress and Psychological Trauma

The diagram consists of three overlapping circles. The top circle is labeled 'Distress responses'. The bottom-left circle is labeled 'Psychiatric illness'. The bottom-right circle is labeled 'Behavioral changes'. The overlapping areas between these circles represent the intersection of these concepts.

For example:

- Insomnia
- Sense of vulnerability

For example:

- Change in travel patterns
- Smoking
- Alcohol consumption

Psychological Consequences of Disasters and Other Mass Trauma Events

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDLS® v.3.2

Responder Mental Health Effects

Andrea Booher/FEMA
© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

- Susceptible to same psychological traumas
- Should be monitored closely by team and trained mental health providers
- Realistic training and education can help

BDLS® v.3.2

Question 1
Large-scale disaster and public health emergencies require health professionals to shift their perspective from individual provider relationships to _____ health.

- a. Global
- b. Population
- c. Workforce
- d. Personal
- e. All of the above

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDLS® v.3.2

Question 2
Which of the following is a function of public health during a disaster?

- a. Implement isolation and quarantine
- b. Conduct mass vaccination and prophylaxis
- c. Promote health and hygiene in shelter operations
- d. Provide emergency risk communication
- e. All of the above

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDLS® v.3.2

Question 3
Disasters disproportionately affect certain vulnerable populations, including all of the following except _____?

- a. Infants and children
- b. Elderly
- c. Truck Drivers
- d. Pregnant Women
- e. Those with chronic illnesses

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved. BDLS® v.3.2

Lesson Summary

- Disasters require us to change our focus from needs of individual to those of population as a whole
- Integration of public health and emergency care is essential to response and recovery
- Certain groups in our communities are especially vulnerable to the effects of disasters and require special planning

© 2015 National Disaster Life Support Foundation, Inc. All rights reserved.

BDLS® v.3.2



Questions?