Principles of Planning for Disaster Risk Reduction

Clinician Outreach and Communication Activity (COCA) Conference Call
September 18, 2012

CDC

Objectives

At the conclusion of this session, the participant will be able to accomplish the following:

- ❑ **Describe the characteristics of an effective disaster risk reduction plan**

- ❑ **Compare and contrast objective-based planning, operational level planning, and capacity-based planning**

- ❑ **List steps required for exposure reduction, susceptibility reduction, and resilience strengthening following a disaster**

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TODAY'S PRESENTER

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Principles of Planning for Disaster Risk Reduction

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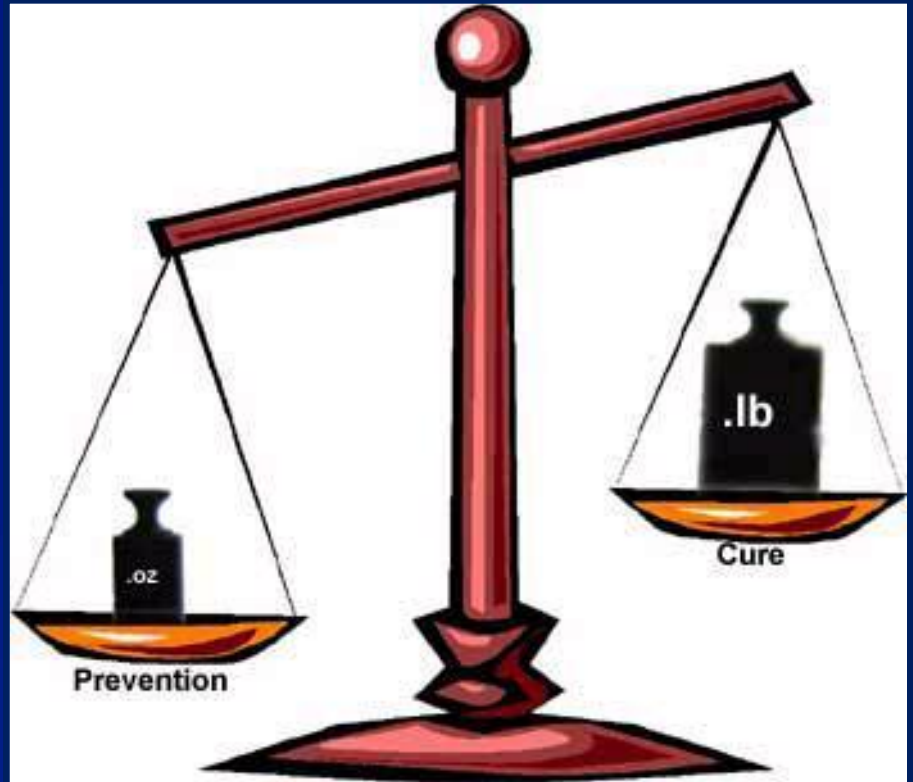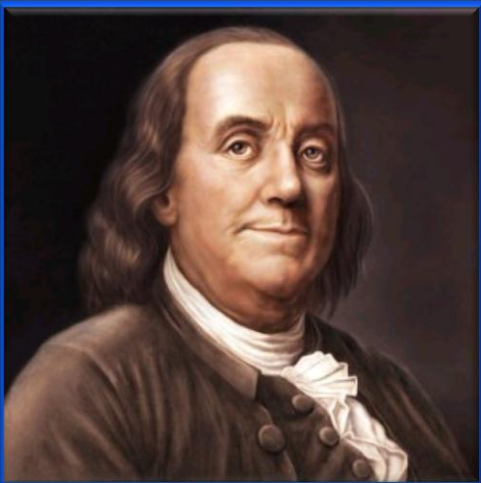Agency for Toxic Substances and Disease Registry

CDC ATSDR

Why do we plan for health emergencies?

- To save lives and lessen suffering

Why do we plan for disaster risk reduction ?

- To prevent illness, injury and deaths

Good plans are:

- **Simple** to use
- Written by a **group**
- Written by the **people that will do the work**

- Based upon **goals** set by leadership

Good goals are SMART

- **Specific**
  - Good goals state exactly how tasks are to be performed

- **Measurable**
  - Good goals describe measurable signs of progress

- **Attainable**
  - Good goals are within our ability to achieve

- **Realistic**
  - Good goals are based upon realistic expectations

- **Time-based**
  - Good goals have a time schedule for completion

Good plans
answer 5 questions:

- **WHAT** tasks should we perform?
- **WHO** will we perform the tasks?
- **HOW** will we perform the tasks?
- **WHEN** will we perform the tasks?
- **WHERE** will we perform the tasks?

Good plans are O^2C^3:

- Objective-based
  - Include measurable objectives
- Operational
  - Written to include operational-level detail
- Consensus-based
  - Are developed by consensus among stakeholders
- Capability-based
  - Based upon what we are actually capable of doing
- Compliant with local, state and national strategies
  - Follows guidance from leadership

Objective-Based Planning

Establishes a set objectives and identifies activities that will accomplish each objective

Operational Level Planning

Details how strategic objectives, goals, or plans will be accomplished:

- Where are we now?
- Where do we want to be?
- How do we get there?
- How do we measure progress?

Consensus-based planning

- The best plans are written by those whom will actually *implement* the plan
- Plans can be viewed as "contracts" that result from the negotiation of various stakeholders
  - "The planning is more important than the plan"
- Requires a *very* well-organized facilitation process in order to save time

Capability-based planning

Focus is on capability, not hazards

Capabilities for Disaster Risk Reduction

- Hazard avoidance
- Vulnerability reduction
  - Exposure reduction
  - Susceptibility reduction
  - Resilience building

The "SOARS" Model for Objective-based Planning

Capability

Strategic Objective

Operational Objective

Activities for each objective

Responsibility assigned each activity

Specific timeline (or procedure)

S-O-A-R-S Planning Matrix

Strategic objective	Operational objectives	Activities	Responsible parties	Specifics

What is Disaster Risk Reduction?

- Risk Management
  - Prevention
  - Mitigation
  - Preparedness
  - Response
  - Recovery

- Risk Reduction
  - Prevention
  - Mitigation
  - Preparedness

Risk Reduction lessens the *likelihood* of disaster

How Do We Estimate Disaster Risk?

$$D = H \times V$$

D = Risk of disaster
H = Hazard
V = Vulnerability of population

What is a hazard?

- Definition of a hazard
  - "A dangerous phenomenon, substance, human activity or condition that may cause *loss of life, injury or other health impacts,* property damage, loss of livelihoods and services, social and economic disruption, or environmental damage"

Examples of hazards

Floods
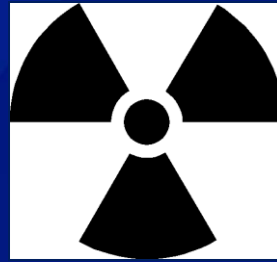
Radiation

Earthquakes

Typhoons

Outbreaks

Tornadoes

What is vulnerability?

"The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effect of a hazard" UNISDR 2009

Or simply put…

Likely to incur physical or emotional illness or injury

Public health vulnerability

- Certain populations are more vulnerable to disaster-related morbidity and mortality

Vulnerability = (E x S) / R

- Factors affecting vulnerability:
  - Exposure
  - Susceptibility
  - Resilience

Keim ME. Preventing Disasters: Public Health Vulnerability Reduction as a Sustainable Adaptation to Climate Change. Disaster Med Public Health Prep. 2011 Jun;5(2):140-8

What is exposure?

- Exposure
  - "People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses"

- Example of exposure
  - Living in an area that floods

What is susceptibility?

- Susceptibility
  - "The state of being at risk, if exposed to a hazard"

- Example of susceptibility
  - Not being able to swim

What is resilience?

- Resilience
  - "The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions".

- *Example of resilience*
  - *Living among healthy people who can help you*

CASE STUDY: Heat Wave Disasters

❑ Europe 2003

- Hottest summer on record
- Death toll exceeded 70,000
- Most deaths were among isolated elderly
- Occurred when many physicians were on vacation

❑ Chicago 1995

- 2nd hottest on record
- 750 deaths
- Most deaths were among isolated elderly
- Power failures
- Inadequate ambulance service and hospital facilities
- Cooling centers not fully utilized

Jean-Marie R, Cheung S, Le Roy S, Van Oyen H, et al. (2008). "Death toll exceeded 70,000 in Europe during the summer of 2003". *Comptes Rendus Biologies* **331** (2): 171–178.

Klinenberg, Eric (2002). *Heat Wave: A Social Autopsy of Disaster in Chicago*. Chicago, IL: Chicago University Press.

CAPABILITY : Exposure Reduction

Strategic Objective	Operational Objective	Activity	Responsible Party	Specific timeline
Hazard exposures are reduced	People are warned	Develop public service announcements	Public health	
		Identify people at risk	Charities, churches, outreach groups	
	The need for evacuation is lessened	Perform needs assessments	Public health	
		Provide home cooling for high risk groups	Charities, churches, outreach groups	
	People are evacuated	Identify cooling shelters	Public health Local EMA	

CAPABILITY: Reducing Susceptibility

Strategic Objective	Operational Objective	Activity	Responsible Party	Specific timeline
People are made less susceptible to illness	People are healthier	Promote healthy lifestyles: activity, diet, etc.	Public health, MRC	
		Promote healthy homes	Public health	
		Improve access to healthcare	Public health, medical care	
		Eliminate health disparities	Public health	
	At risk groups are not isolated	Improve social networks for elderly	Public health, charities, churches	

CAPABILITY: Building Resilience

Strategic Objective	Operational Objective	Activity	Responsible Party	Specific timeline
Lives are saved during the emergency	People are able to recognize heat illness	Provide public education	Public health	
	Emergency medical services are fully operational	Ensure 911 is adequately staffed	Public safety	
		Ensure EMS has adequate resources	EMS	
	Hospitals and clinics are fully operational	Ensure hospitals have adequate resources	Medical system	

**Centers for Disease Control and Prevention
Atlanta, Georgia**

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