Toxic Soup or Not?

Hurricane Katrina through the Lens of Environmental Health Preparedness

Satellite Conference and Live Webcast
Thursday, December 15, 2005
12:00-1:30 p.m. (Central Time)

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Objectives

- Name the challenges posed by Hurricane Katrina to the traditional environmental public health "toolbox."
- List opportunities for action to strengthen environmental public health preparedness.
- Describe the roles of risk perception and risk communication in a disaster situation.

Toxic soup or not?

Photo credit: Richard Olsen

No, but…

- Flooding
- Drinking water contamination
- Local hot spots
- Debris
- Mold

Shifting Gears…

Debris management

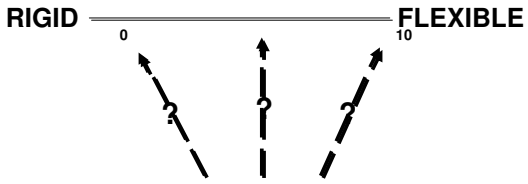
- Quantity
- Composition
- Disposal

Changing Policies

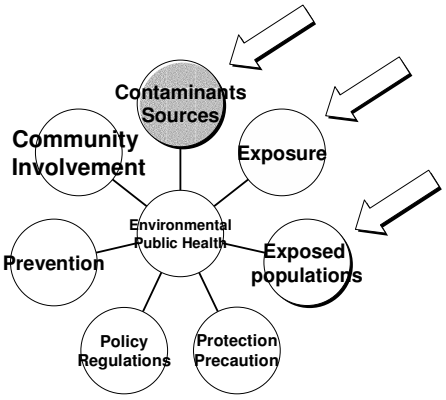
Mold

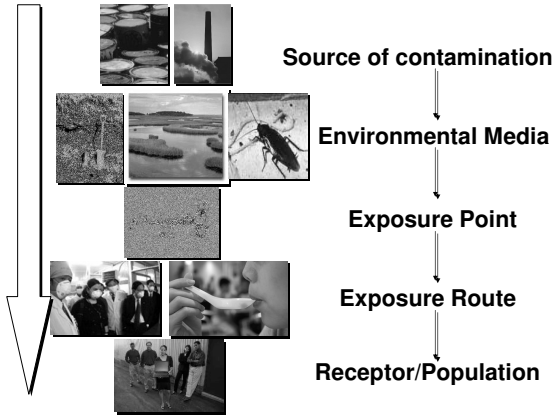
- **Standards**
- **Habitability**
- **Health impact**

Continuum of Care



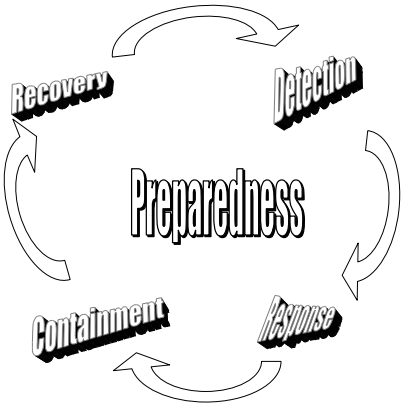
Environmental Health Preparedness





A Look Across Pathways…

- **Water: drinking, surface, ground**
- **Air: indoor, outdoor**
- **Soil: surface soil, sediments**
- **Food chain: subsistence, export, recreation**



Katrina On Science

- Conventional methods
- No baselines
- Environmental and disease data gaps
- "Extrapolation across everything"

Katrina On Policy

- Rigidity
- Paucity
- Complexity

Katrina On Practice

- $CC = C^2$?
- Priority vs. low-hanging fruit
- Protection or precaution?

It's About Real People…

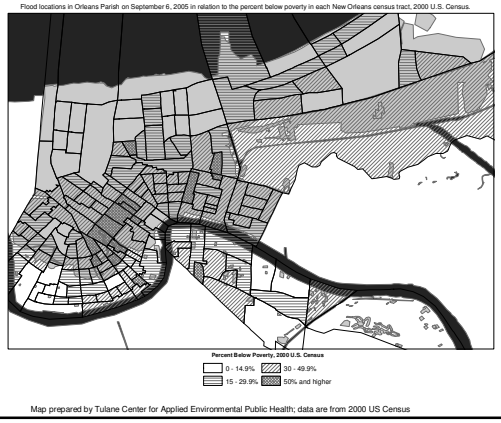
Photo credit: Andrea Bruce, The Washington Post

Economic Vulnerability

- Economic barriers
- Education barriers
- Lack of vehicles

36% of evacuees surveyed in the Astrodome said that they did not initially evacuate because they didn't have a vehicle

***Source: The Washington Post*/Kaiser Family Foundation/Harvard School of Public Health Survey of Katrina Evacuees, September 2005.**



Social Vulnerability

- Insular New Orleans
  - Family
  - Travel
  - Attachment
  - 73% of evacuees surveyed in the Astrodome said that they had lived in New Orleans all of their lives

Source: The Washington Post/Kaiser Family Foundation/Harvard School of Public Health Survey of Katrina Evacuees, September 2005.

Lessons (not so well) Learned . . .

- Psychosocial aspects of risk perception
- Communications
  - Evacuation/outreach
  - Infrastructure

Risk Perception

- Controllable
- Known
- Equitable
- Voluntary
- Old risk

- Uncontrollable
- Unknown
- Inequitable
- Involuntary
- New risk

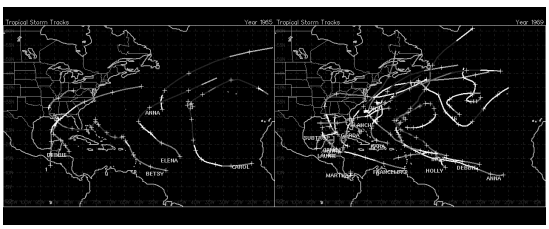
(Slovic P. 1987. Perception of Risk. Science 236:280-285)

Risk Perception

- People are more likely to believe information that is consistent with what they already think.
- Beliefs change SLOWLY and PERSIST in the face of contrary evidence.

Risk perception of the "storm savvy" BEFORE Katrina

Hurricane History: Betsy Syndrome



Risk Perception

Of evacuees surveyed in the Astrodome,

- **73% said that they had heard that an evacuation order had been given;**
- **66% thought the information was clear;**

***Source: The Washington Post*/Kaiser Family Foundation/Harvard School of Public Health Survey of Katrina Evacuees, September 2005.**

Risk Perception

Of evacuees surveyed in the Astrodome,

- **61% did not evacuate;**
- **29% did not evacuate because they didn't think the storm would be as bad as it was;**
- **10% did not evacuate because they didn't want to leave.**

***Source: The Washington Post*/Kaiser Family Foundation/Harvard School of Public Health Survey of Katrina Evacuees, September 2005.**

Risk perception of the "storm savvy" AFTER Katrina

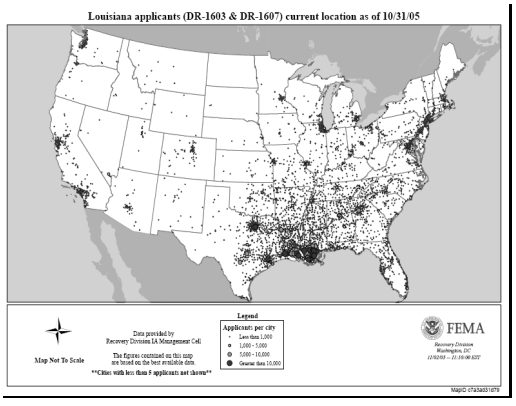
Disaster Communication Infrastructure: Katrina

- **Cell phones**
- **Land lines**
- **Television**
- **Radio broadcasts**
  - **Need to have media on board ahead of time**

The Role Of Media In Disaster Communications

- **THE MAIN source of health info for the public in an non-disaster setting.**
- **THE MAIN source of ANY info in a disaster setting.**

79% of evacuees surveyed in the Astrodome said that they heard an evacuation message on TV, and 13% heard it on the radio.



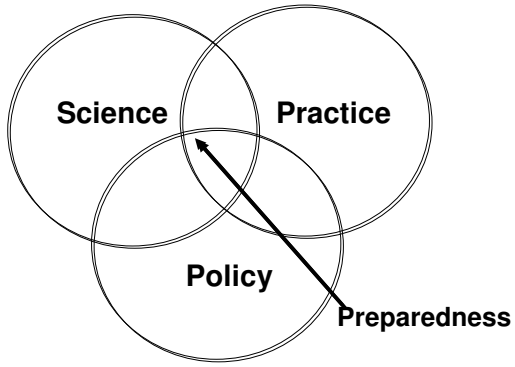
Gaps In Science, Policy And Practice

- Infrastructure technology
- Disaster communication methods and plans
  - Population in diaspora
- Outreach, education and communication bridges with communities

Framing Questions

- What's the problem?
- What has been done to date?
- What needs to happen?
- What are the next steps?

Common Area = Preparedness



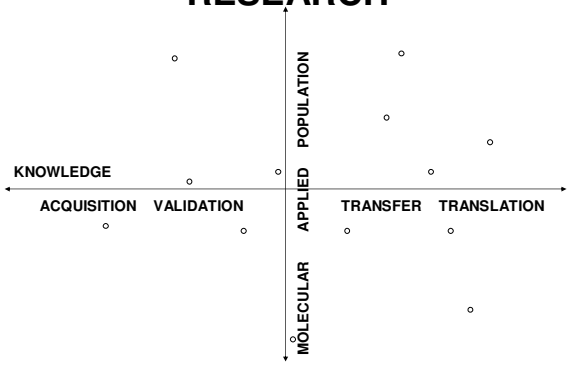
Science Actions

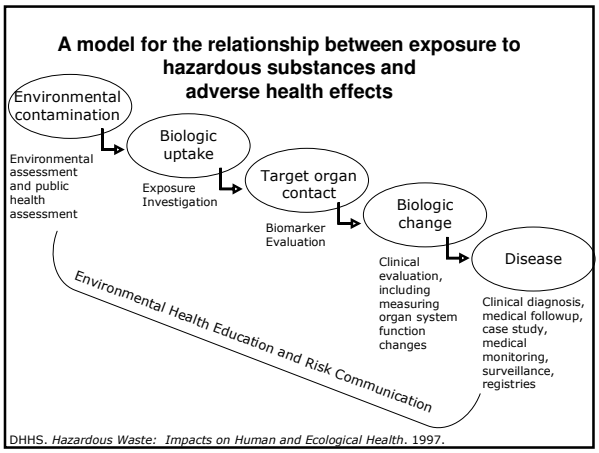
- Basic science
- Disease-oriented research
- Environmental health and the built environment
- Environmental justice: communication partnerships
- Training tomorrow's scientists

How Should We Address The Knowledge Gaps?

- Take exploratory approach
- Address real risks to real people
- Informed by bench *AND* trench

RESEARCH





DHHS. *Hazardous Waste: Impacts on Human and Ecological Health*. 1997.

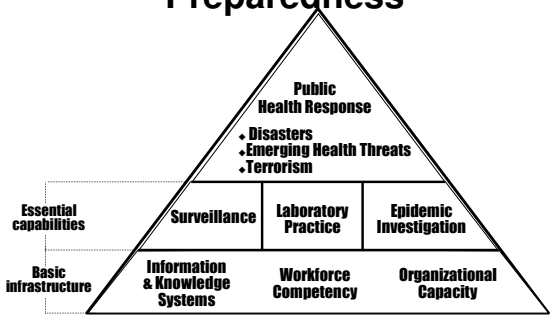
Guiding Principles For Research

- Yield demonstrable return on investments
- Engage end users
- Cut across more than one disease or condition (disaster duo)
- Inform new environmental policies

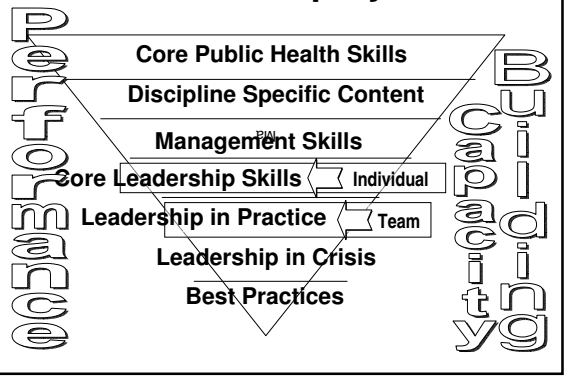
Practice Actions

- Systems approach
- Workforce development
- Think regionally, act locally

Public Health System Preparedness



New Leadership Pyramid

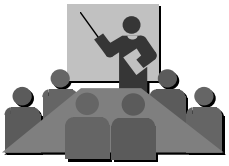


Policy Actions: Changing The "Unchangeables"

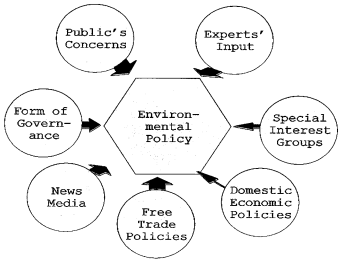
- Levee system design
- Habitability
- Zoning
- Just-in-time, just-in-case "ad hoc"

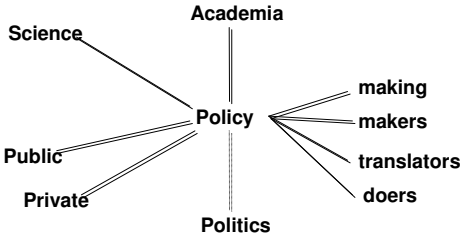
Policy

- **Policy: A <u>definite course</u> or method of action selected from among alternatives and in light of given conditions to <u>guide and determine present and future directions</u> (Webster's 9th).**

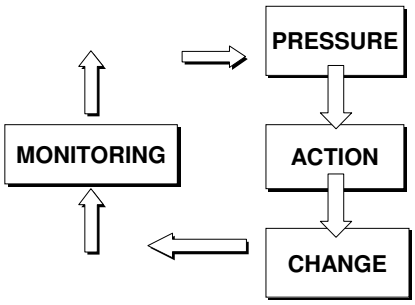


Influences On EH Policies

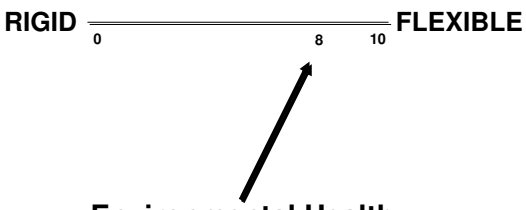




PACM Model



Continuum Of Care



Upcoming Programs

STD Update for Clinicians and Counselors
Wednesday, January 11, 2006
2:00-4:00 p.m. (Central Time)

For a complete listing of satellite conferences and live webcasts: www.adph.org/alphtn