Environmental Health Literacy: Can the public be healthy without it?

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We live in an ever changing landscape of health and environmental risk ( & fear)
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-Zarcadoolas MSSM 2006
KATRINA: THE STORM WE'VE ALWAYS FEARED

TIMES-LE lune

FRIDAY, SEPTEMBER 2, 2005

HURRICANE EDWIN

AFTER THE DISASTER CHAOS AND LAWLESSNESS RULE THE STREETS

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WHO warns of more bird flu cases

Thursday, September 22, 2005;
Posted: 6:53 p.m. EDT (22:53 GMT)

Health workers inspect an exotic bird at a bird market in Jakarta, Indonesia, earlier this week.

GENEVA (CNN) -- The World Health Organization has announced a third confirmed case of H5N1 avian flu in Indonesia and warns of more to come.
So, what’s the problem with environmental health outreach / education/ communications?

- Often top down – deficit model
- Rarely start with where people are at
- Seldom mindful of fundamental literacy
- Not mindful of health & environmental literacy principles and guidelines
What is health literacy?

The wide range of skills, and competencies that people develop over their lifetimes to seek out, comprehend, evaluate, and use health and environmental information and concepts to make informed choices, reduce health risks, and increase quality of life.

- (Zarcadoolas, Pleasant & Greer, 2003; 2006)
Benefits of health literacy

A health literate person is able to use health concepts and information generatively – applying information to novel situations. A health literate person is able to participate in the ongoing public and private dialogues about health, medicine, scientific knowledge, and cultural beliefs.
Communication seems easier than it really is.
DEFECTIVE EQUIPMENT: The Palm Beach County Ballot

Error dot lines between Republican and Democrat appear below.

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usually recalled, and sometimes reparations are made.

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Six different routes and four contrawide points are part of the new evacuation plan for the metro area. Officials say the new plan will prevent:

- Heavy traffic and confusion that occurred in September during Hurricane Ivan.
- Traffic on Loop 1604.
- Traffic on the Northbound lanes.
- Traffic on the La Place area.

**HOW TO JOIN CONTRAFLW:**

- At Williams Boulevard and HO
- To Mississipi to Northside
- To Veterans Memorial Boulevard and 1-10
- East exit ramp at Williams Blvd. becomes an off-ramp
- Veterans Memorial Boulevard becomes an on-ramp
- At Clearview Parkway and 1-10
- Contrawide turns
- To Mississippi
- To Northside
- To 1-10 East exit ramp at Clearview Parkway becomes an off-ramp

Click here for an Interactive PDF for this map

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4 Domains of Health/Environmental Literacy

- **Fundamental literacy**
- **Science literacy**
- **Civic literacy**
- **Cultural literacy**

(Zarcadoolas, Pleasant & Greer, 2003; 2004; 2006)
Functional literacy

- The National Adult Literacy Study (NALS 1993) 49% (almost half) of all Americans do not have functional literacy above the 8th grade level.

- Twenty five percent (25%) are functionally illiterate – that’s 40 to 44 million adults. Another 50 million adults are only marginally literate.
Policy cont’d …

- Agency for Healthcare Research and Quality (AHRQ) evidence report/ technology assessment (#87) 2004
- American Medical Association
  - Health literacy toolkit (incl. video)
- Partnership for Clear Health Communication (AMA, Pfizer, many others)
Fundamental Literacy

- Reading
- Writing
- Speaking
- Numeracy
What is anthrax?
Bacillus anthracis, the etiologic agent of anthrax, is a large, gram-positive, non-motile, spore-forming bacterial rod. The three virulence factors of B. anthracis are edema toxin, lethal toxin and a capsular antigen. Human anthrax has three major clinical forms: cutaneous, inhalation, and gastrointestinal. If left untreated, anthrax in all forms can lead to septicemia and death.

What is the case definition for anthrax?
A confirmed case of anthrax is defined as

1. a clinically compatible case of cutaneous, inhalational, or gastrointestinal illness that is laboratory-confirmed by isolation of B. anthracis from an affected tissue or site, or
2. a clinically compatible case of cutaneous, inhalational, or gastrointestinal disease with other laboratory evidence of B. anthracis infection based on at least two supportive laboratory tests.

(Source: http://www.bt.cdc.gov/DocumentsApp/FAQAnthrax.asp)
Science Literacy

- knowledge of fundamental scientific concepts, scientific process
- comprehend technical complexity,
- understand technology
- understand scientific uncertainty and that rapid change in the accepted science is possible.
NSF, Public Understanding of Science

- Between 5 and 15% of the public qualify as scientifically literate.

- 18% can be considered an attentive science public.
Types of anthrax

Toxins: That cause respiratory anthrax in cases of acute exposure has a sepsis-like pattern of bacteria, usually enters through the skin. The symptoms appear because of fever, chills, and muscle pain. There’s often a period of improvement that followed by breathing difficulties, sweating, and diarrhea. The symptoms usually occur within 24 to 38 hours after exposure. The symptoms may appear up to 90 percent of cases unless treated early. Symptoms: warm, red lesions appear. Contact through clothing or objects. It often fails more than 20 percent of cases. Anthrax treatment: Antibiotics: Help usually used to fight bacteria, but if untreated, it may cause fever, chills, and muscle pain. Drug resistance is mediated because of getting food and water. Penicillin was used in 1970s. Anthrax treatment: Antibiotics: Help usually used to fight bacteria, but if untreated, it may cause fever, chills, and muscle pain. Drug resistance is mediated because of getting food and water. Penicillin was used in 1970s.
Civic Literacy

- enable citizens to become aware of public issues, to participate in critical dialogue about them, and to become involved in decision-making processes.

  - media literacy skills,
  - knowledge of civic and governmental systems and processes,
  - knowledge of power, inequity and other hierarchical relationships, and
  - knowledge that personal behaviors and choices affect others in a larger community and society
Two residents wade through chest-deep water after finding bread and soda from a local grocery store after Hurricane Katrina came through the area in New Orleans, Louisiana. (AFP)
A young man walks through chest deep flood water after looting a grocery store in New Orleans on Tuesday, Aug. 30, 2005. Flood waters continue to rise in New Orleans after Hurricane Katrina did extensive damage when it made landfall on Monday. (AP)
Cultural Literacy

Ability to recognize, understand and use the collective beliefs, customs, world-view, and social identity of diverse individuals to interpret and act on information. Bilateral - experts should understand aspects of the culture of the recipient and visa versa.
Percent Distribution of Foreign Born by World Region of Birth: 2000

- Latin America: 51.0%
- Asia: 25.5%
- Europe: 15.3%
- Other Regions: 8.1%


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There is little capacity for health and environmental equity without good, effective communication. There is no civil society without it.
Guidelines

- Understand people’s current conceptions and cultural models for understanding and acting on environment/health information

- Collaborate to tailor communications to their environmental health literacy

- Evaluate the impact of communications on an ongoing basis.

- Advance the public’s environmental health literacy.
Forgive me for writing such a long letter. I did not have the time to write a shorter one.

(Pascal)