Environmental Health Literacy

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This presentation will ...

- Discuss recent research on EHL knowledge and skills
- Describe connections among functional literacy, health and science literacy and environmental health literacy
- Discuss EHL issues for AI communities
- Emphasize how EHL might contribute to advancement of PEPH

The Problem of Low EHL

- 50% of the US population is not functionally health literate
  - Lacking a good grasp of functional literacy and numeracy
  - With consequences on both personal and public health
- Problems with EHL are indicated by:
  - A mismatch between the public’s misperceptions of risk and the complexity of environmental health information

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Assumptions of Our Work

- EHL is knowledge + skills
- EHL need to:
  - seek out, comprehend, evaluate, and use EH information
  - to make informed choices, reduce health risks, improve quality of life and protect the environment
- EHS professionals messages in plain language
  - About specific hazards
  - In the context of general environmental and health topics

Two recent projects in EHL

- "Defining Environmental Health Literacy"
  - Melissa Valdez, UA, Research Assistant
  - Shaw-Bei Chen, PhD, M. Rochester

- "Tribal Environmental Health Stories"
  - Amanda Sohe, Outreach Assistant
  - Gilbert Rivers, Tribal Liaison

Study to Define EHL

- Was designed to build consensus among the NIEHS community concerning EHL:
  - Knowledge
  - Skills
  - Ranked by importance

- Mixed-Methodology
  - Interviews
  - Survey
  - Grounded Theory
  - Team Categories
  - Model Development
Grounded Theory

- Study perspectives of one (or more) groups concerning substantive area
  - Collect data about substantive area in interviews
  - Coding simultaneously with data collection
  - Continue until core categories are recognized/selected
  - Eventually the core categories and the main concerns become apparent
  - Write theoretical memos about codes and their relationships with other codes
  - To develop a theory or model which offers an explanation about the main concern of the population of your substantive area and how that concern is resolved or processed

Part 1

- Interviews with 28 EH Professionals
  - What skills and knowledge does someone who is “Environmental Health Literate” to develop coded items
- 69 Knowledge Items
- 37 Skill Items
- Notes to Providers

Part 2

- Created Survey asking participants to rank 106 items as:
  - Essential to EHL?
  - Intermediate?
  - For experts?
  - Not included in EHL?
- Piloted the survey among a small diverse group of possible participants
- Conducted online survey with RedCap – 275 participants
Part 3

Most essential knowledge and skill items

Health? Empowerment? Engagement?

Results

Knowledge Items

Skill Items

Conclusions

- EHL requires knowledge
- EHL may or may not include skills
  - Low agreement on the importance of skills may indicate limitations in our approach.
  - It may also indicate a higher value placed on knowledge by EH professionals, despite a general anecdotal consensus that knowledge is not sufficient to produce change. This warrants further study.
Future Studies

- The identification of essential knowledge items will set the stage for further research that includes:
  - developing comprehensive measures of EHL
  - identifying the consequences of low versus high EHL
  - evaluation of methods and materials designed to improve EHL

Discussion

- EHL encompasses several pre-defined types of literacy,
- It also includes some items unique to EHL.
- The focus of EHL is largely on foreseeing the probability or risk that certain health outcomes may follow various exposures.
- EHL goes beyond understanding care and treatment of existing health conditions to understanding the development of disease.
Tribal EHL Project

- Developing and Building on the EHL approach
- Gila River Indian Community:
  - Developed Materials
  - Information Walks
  - Flyers
- Traditional cultures’ knowledge is valuable
- Resist the temptation to be the “experts”
- Seek partners’ understanding of science/environment
  - Which most likely will be stories!

Suggestions to Researchers

- Fund a Native Research Committee appointed by the local community to assess and monitor the research project
- Hire and train Native people to assist in the study
- Include Native viewpoints in the final study design
- Share the benefits of research grants with Native communities and partners – publications and funding
- Give credit to Native resource people
- Report the major findings of the study to the Native Research Committee in a non-technical summary

Storytelling

- Storytelling is a traditional pedagogical method to transmit educational and health messages
- Stories are effective because they present essential ideas and values in a simple, entertaining form.
- Stories illustrate consequences of behaviors and invite listeners to come to their own conclusions after personal reflection.

Reading level can be important
More important are understandable messages
- plain language
- images that tell a story
Listen first
Tribal partners take the lead and to do things in their own time
Be sure to recognize the partners and to respect their wishes

Gain Insight from Public
- In collaboration with partners will survey members of the public
- Gulf Coast
- Tribal Communities
- Tucson Superfund area

In Practice
- Tucson Water Risk Communication Project
- Extended to the Environmental Managers of Arizona
- EH Science Café’s
Thank you
Questions?