APHA's Annual Meeting & Exposition
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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

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-Ree Chen, PhD, PI, Rochester

"Tribal Environmental Health Stories"

- Amanda Bahe, Outreach Assitant
- Gilbert Rivera, 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

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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
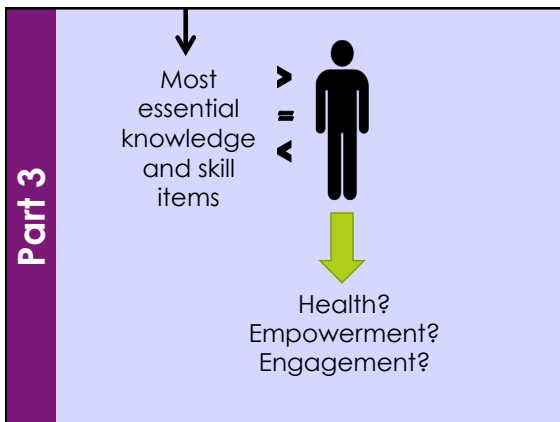
Conducted online survey with RedCap – 275 participants

Part 3

Most essential knowledge and skill items

> = <

Health?
Empowerment?
Engagement?

Results

Knowledge Items

Skill Items

50% agreement of survey participants
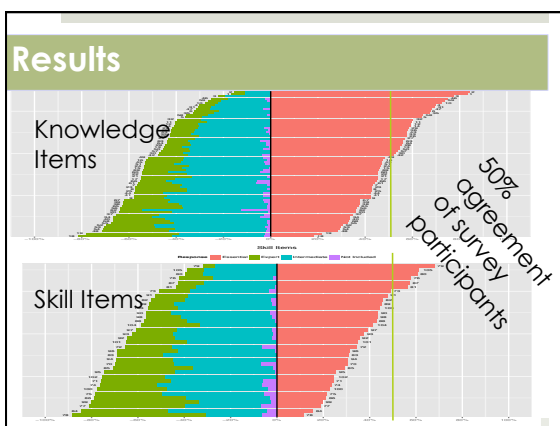
Conclusions

☐ 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**

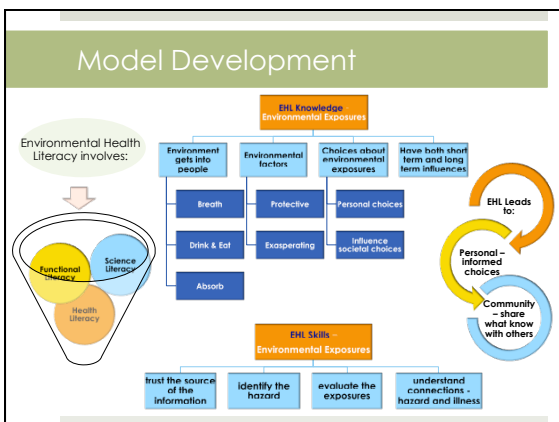## Model Development

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
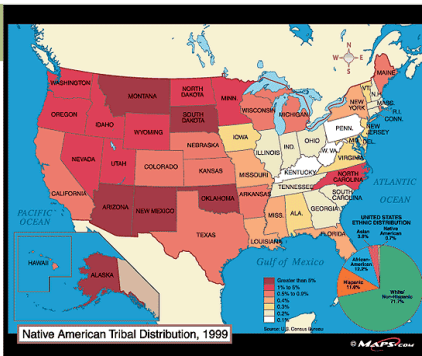 - Which most likely will be stories!

Native American Tribal Distribution, 1999

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.

- Hodge, F.S., Pasqua, A., Marquez, C., Geishirt-cantrell, N. (2002) *Utilizing Traditional Storytelling To Promote Wellness In American Indian Communities*. J Transcult Nurs. Jan 2002; 13(1): 6–11.

11/14/14

Collaborative Materials Development

Their Goals

Our Goals

Collaborative Programs

Suggestions

◻ 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

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Next Steps

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

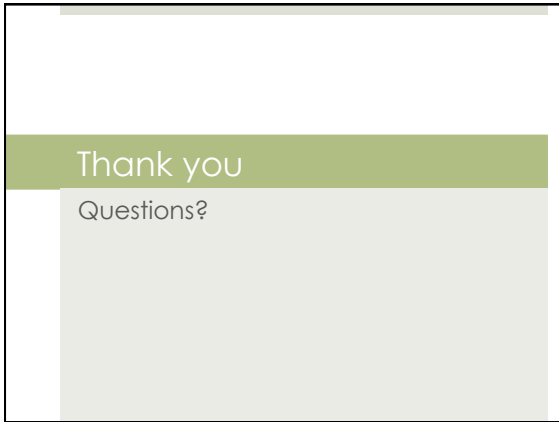◻ Extended to the Environmental Managers of Arizona

◻ EH Science Café's

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Thank you

Questions?