

Webinar Series



Health Literacy
Solutions Center





Risk and Safety Communication

Ben Richmond, MPH

Marti Lindsey, PhD

Southwest Environmental Health Sciences
Center

Dan Quintanar

Tucson Water

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www.menti.com Code 98718729

- Using an interactive presentation platform
- Open in another device - a phone works well or a tablet
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About the Speakers

Marti Lindsey, PhD

- Work focuses on environmental health promotion with Tribal communities
- Research focuses on environmental health literacy, risk and safety communication and education.
- Findings from her dissertation did not support the conventional wisdom that people comprehend materials written at a lower reading level, rather that they need to be empowered and motivated to be interested in the content.
- Other research findings indicate that participants, who understand the science, choose the simple materials with clear images.
- Her current research focuses on best practices for empowering Native students to pursue higher education, environmental health literacy, and risk and safety communication.



About the Speaker

Ben Richmond, MPH

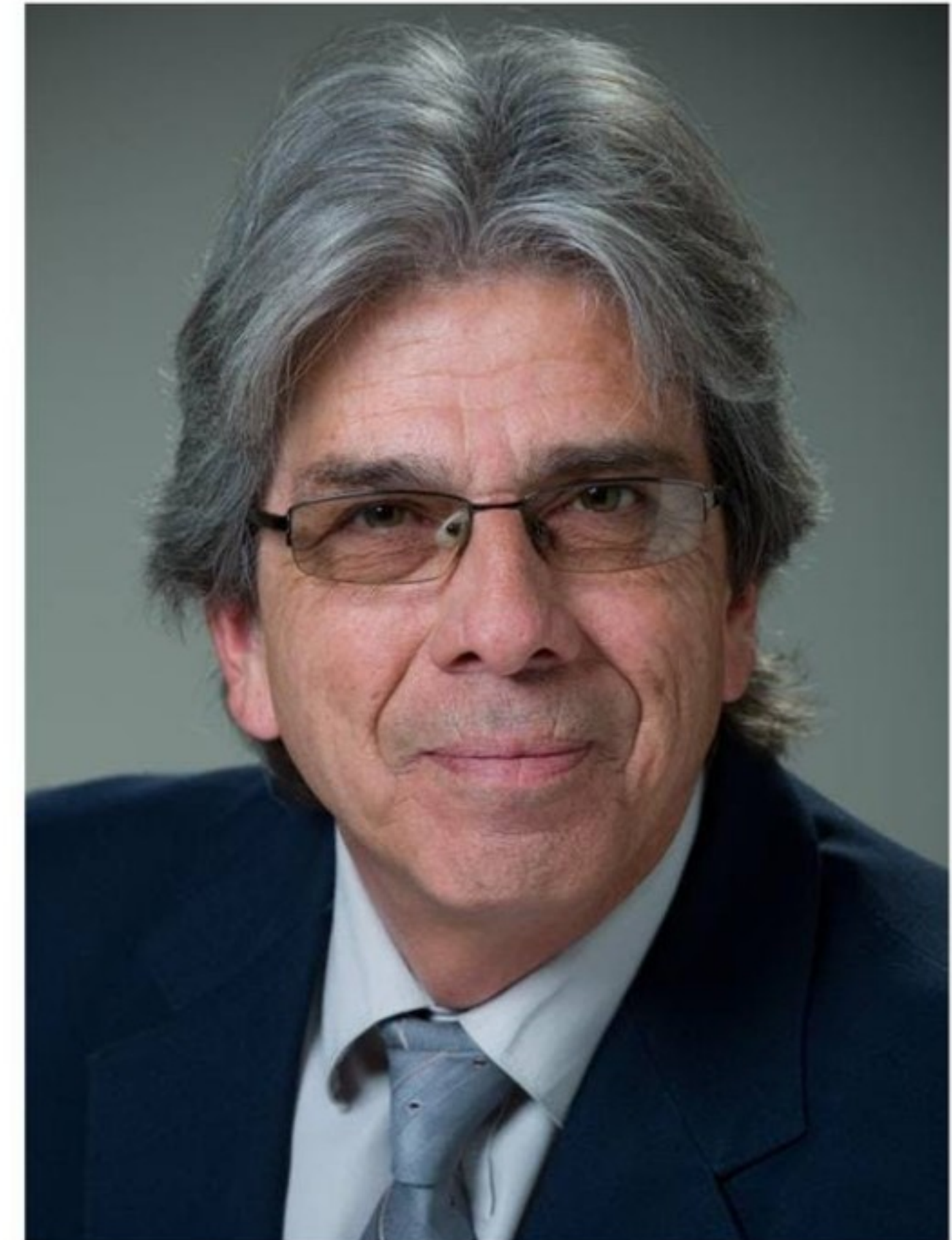
- Assistant Director of the Southwest Environmental Health Sciences Center's Community Engagement Core.
- He has worked on a variety of projects and programs related to environmental health literacy, risk communication, and communicating complex environmental health research to the public.
- Specifically, these research projects aim to learn the ways in which individuals understand how the environment affects their health as well as how individuals best receive information related to environmental health.



About the Speaker

Daniel R. Quintanar

- Project manager for the City of Tucson Water Department for more than 20 years
- Experience developing innovative research programs, process improvement strategies and spearheading new technology and information applications to improve emergency response management, water quality management, customer relationship management, and organizational development.
- Dan chairs the Research Oversight Committee and the Technological Team for the utility



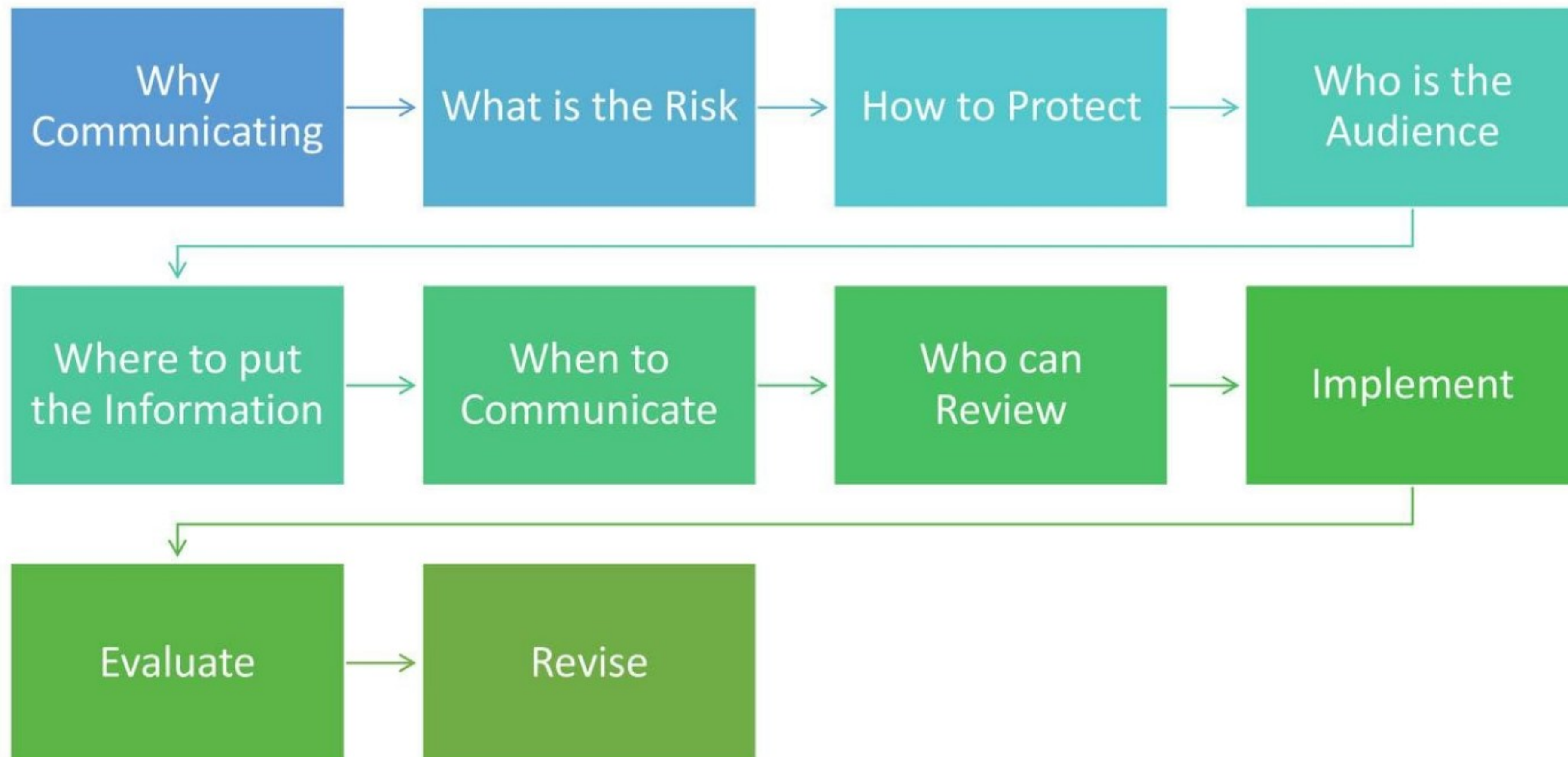


About the Project – Water Talks

Protocol and training for developing messages and materials concerning environmental hazards

The goal is for people to be able to act upon risk and safety messages to protect themselves, their families and their communities

Protocol: answer these questions



Google Classroom

- Risk & Safety Classroom
- <https://classroom.google.com/c/MTc4NjM2ODk4MTY5>





Participants will be able to describe...

- Health Literacy as an essential component of Risk Communication
- The twelve features of environmental health literacy, which promote action on risk communication messages
- Understanding the health literacy levels of your audience
- Applying that understanding to developing messages
- How the issue of risk perception impacts risk communication
- The importance of using Plain Language in creating messages



Foundation

Environmental Health Literacy and Risk Communication

Sub text for section breaker

Environmental Health Literacy (EHL)

Foundations of Risk Communication

- Literacy
- Health Literacy
- Science Literacy
- Information Literacy
- Communication Skills
- Risk Perception
- Numeracy
- Plain Language





GRADE 8 | READING | 2019

ACHIEVEMENT LEVELS - at or above *Basic*

2019



2019 Arizona percentage at or above *Basic*

AZ 70%

19
jurisdictions
↑
performed
significantly higher

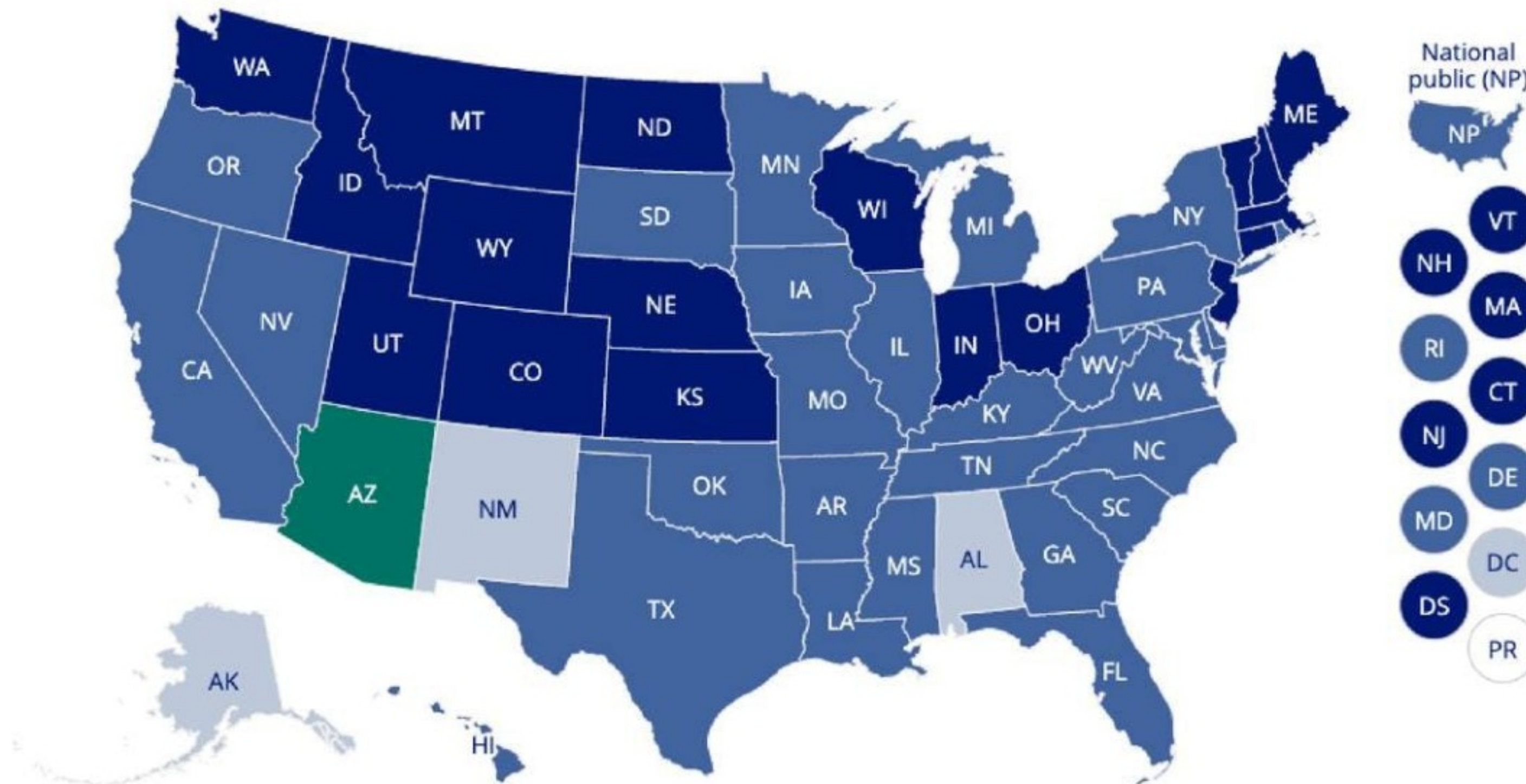
28
jurisdictions
Map
not significantly
different

4
jurisdictions
↓
performed
significantly lower

1
jurisdiction
no assessment /
data not available

Reading, Grade 8

Difference in percentage at or above basic between all jurisdictions and Arizona, for All students [TOTAL], 2019



According to the CDC

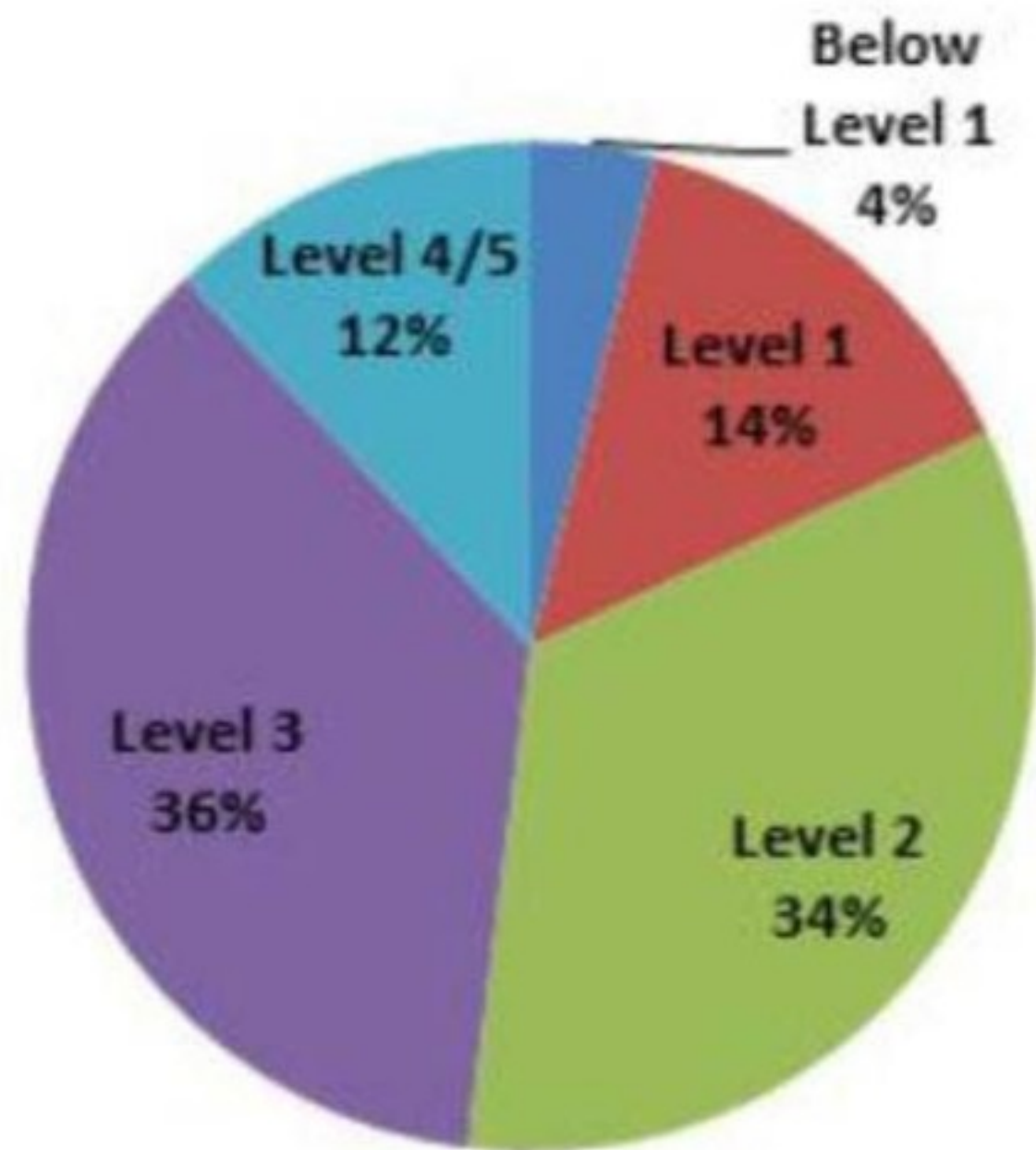
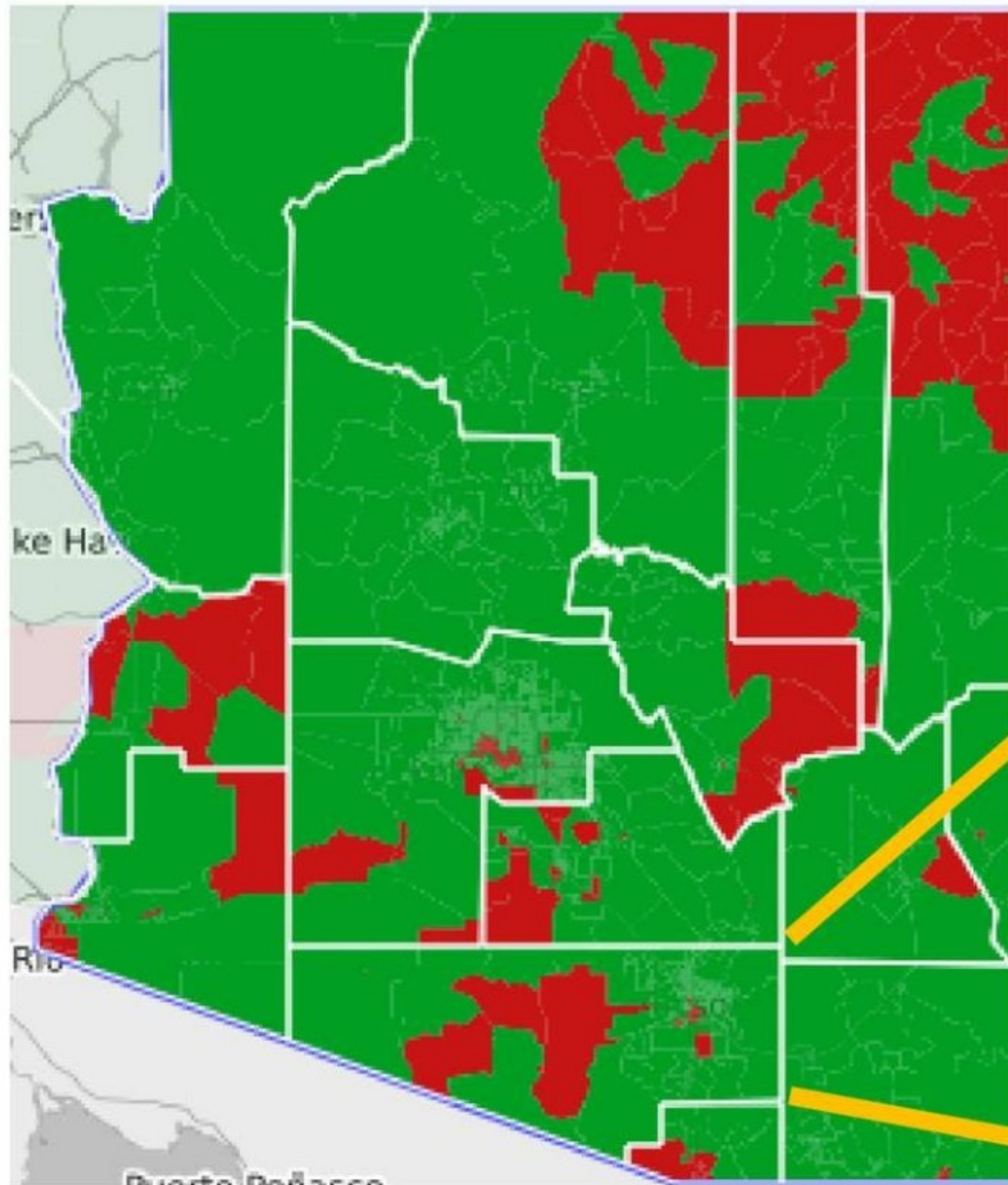


Figure 1: Percentage of U.S. adults age 16 to 65 at each level of proficiency on the PIAAC literacy scale

- These studies found that adults who self-report the worst health also have the most limited literacy, numeracy, and health literacy skills.



<http://healthliteracymap.unc.edu/>



Map Information

Health Literacy Levels

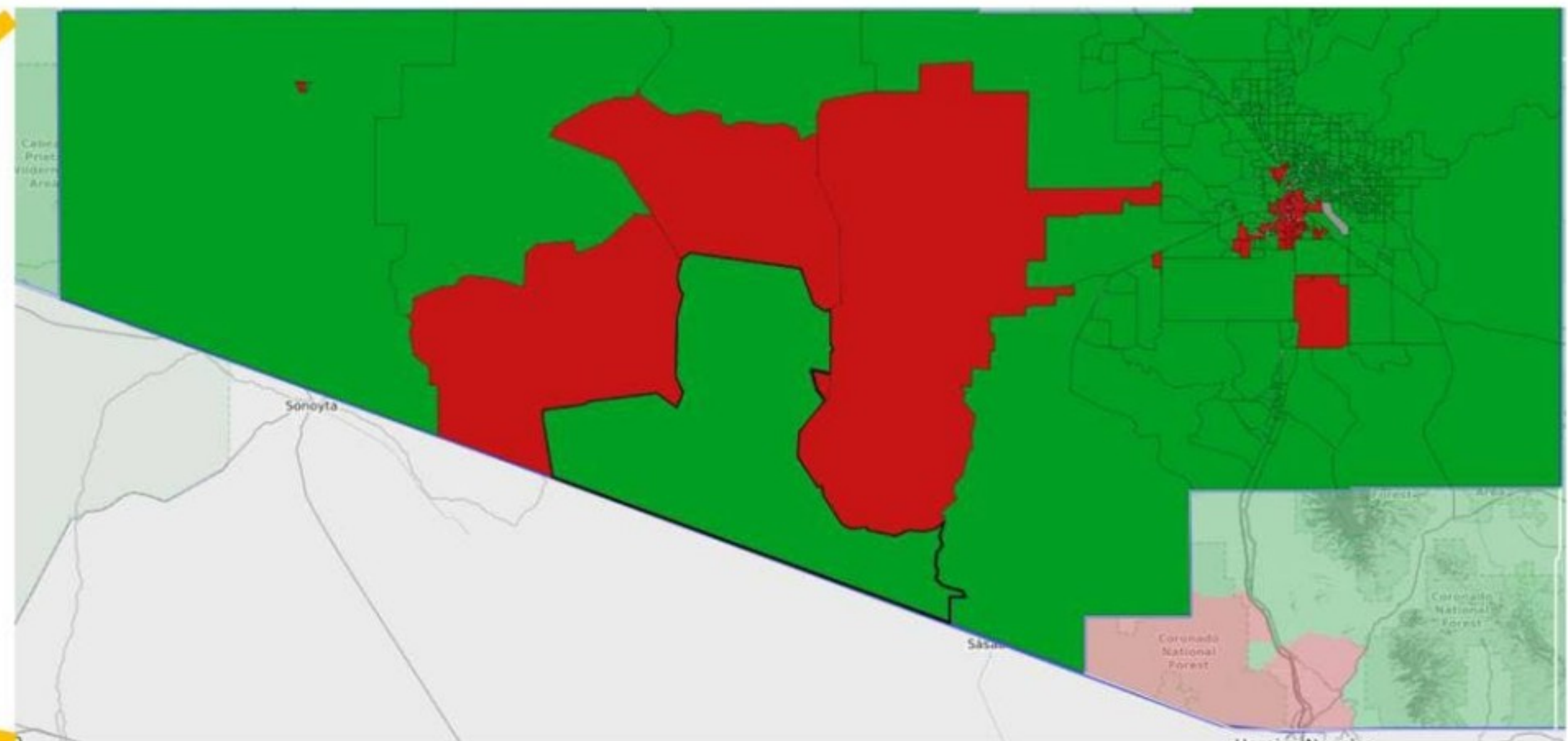
- ☒ Above Basic
- ☒ Below Basic/Basic

[About literacy levels](#)

Display Options

- ☐ Base Map
- ☒ NAAL Categories
- ☐ National Quartile
- ☐ State Quartile

[About Display Options](#)





Impact of less than basic health literacy

- Impacts ability to understand public health messages such as about COVID and local environmental hazards such as PFAS, TCE or 1,4 dioxane

Map Information

Health Literacy Levels

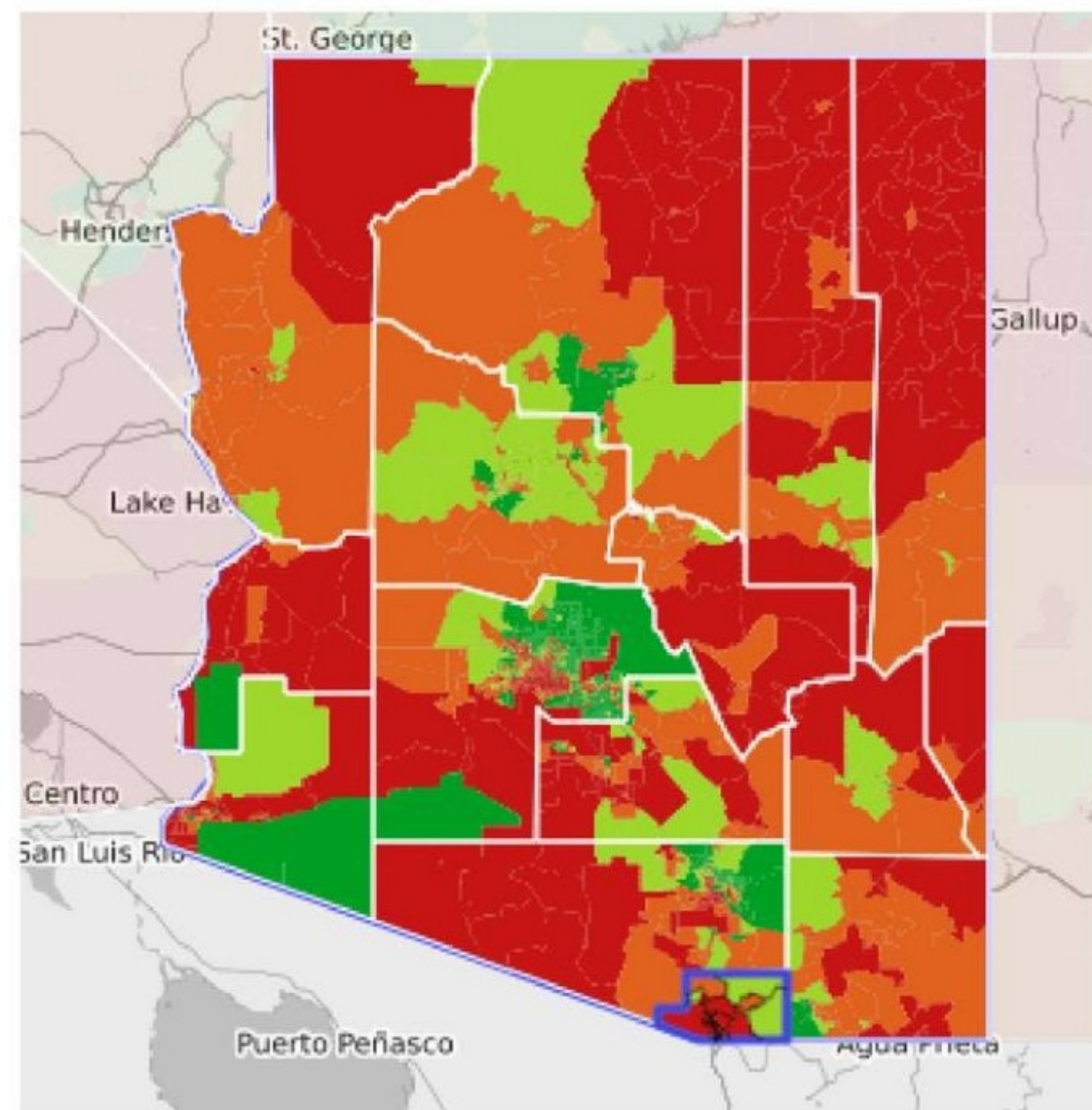
- Quartile 4 (highest)
- Quartile 3
- Quartile 2
- Quartile 1 (lowest)

[About literacy levels](#)

Display Options

- ☐ Base Map
- ☐ NAAL Categories
- ☒ National Quartile
- ☐ State Quartile

[About Display Options](#)



Which State do you reside in?



Environmental Health Literacy

Knowledge

- There is a connection between the environment and health
- How environmental agents get into the body
- Information about harmful environmental agents
- Ways to avoid harmful environmental agents but cannot avoid completely
- Can identify reliable information about the environment
- Research takes a long time

Skills

- Find information explaining how to reduce risks in his/her life
- Convey his/her concerns about environmental risks to others
- Find information about regional/community environmental hazards/issues
- Identify well-known/established hazards in his/her environment
- Judge whether an information source is reliable
- Find information about hazards in his/her microenvironment, such as at home or in the workplace

Science Literacy

- Scientific literacy is defined as,
- **"the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity"**
- Much as older people have lower HL, they also have lower SL

Information Literacy

The information literate person can:



Information

Numeracy

- Numeracy is defined as the **ability to access, use and interpret and communicate mathematical information and ideas**, in order to engage in and manage the mathematical demands of various situations in adult years.
- Literacy and numeracy help people gain the fundamental skills necessary to achieve success in life.

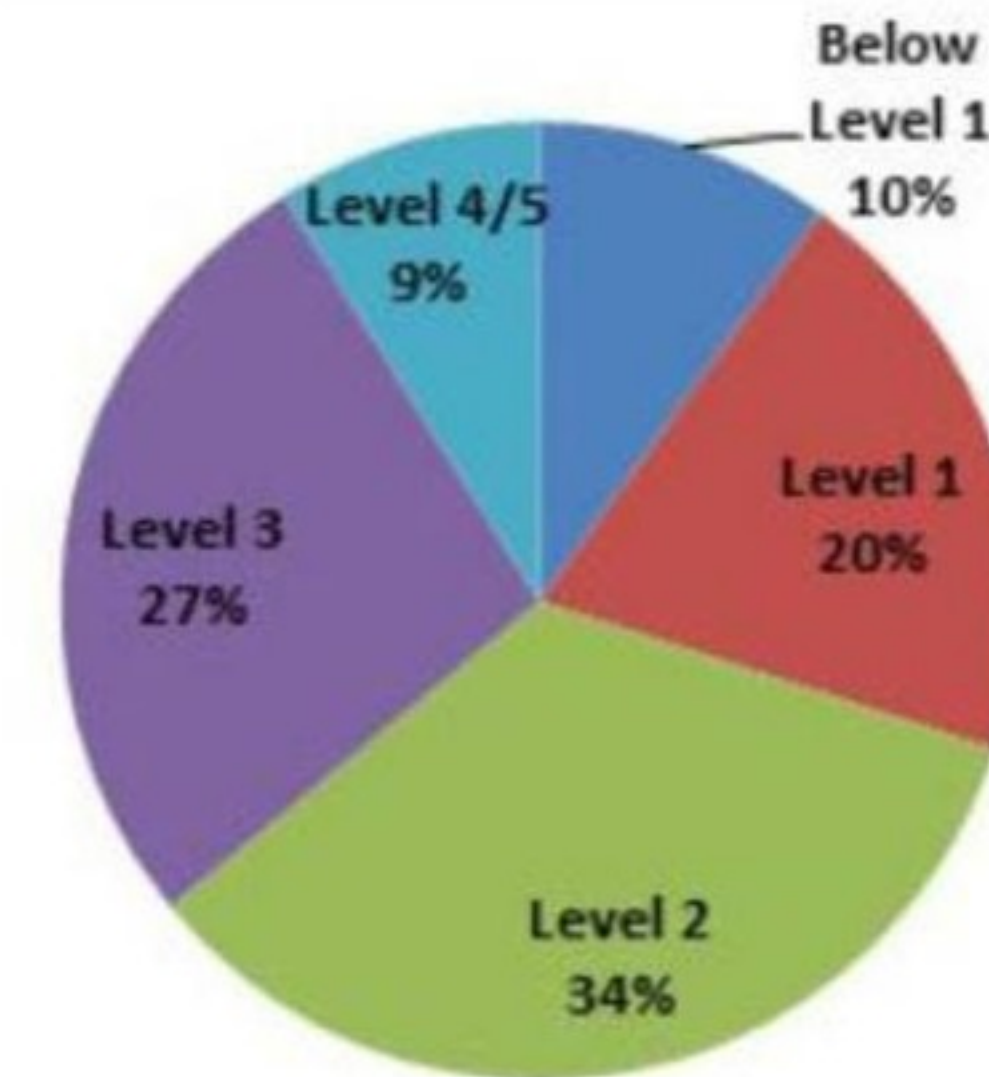


Figure 2: Percentage of U.S. adults age 16 to 65 at each level of proficiency on the PIAAC numeracy scale

10 Communication Skills

Listening

Nonverbal Communication

Clarity and Concision

Friendliness

Confidence

Empathy

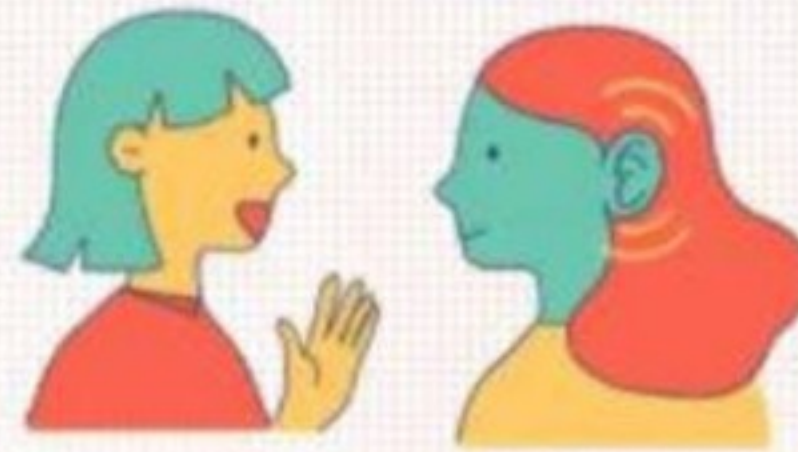
Open-Mindedness

Respect

Feedback

Picking the Right Medium

LISTENING



FRIENDLINESS



Essential Communication Skills for Your Career

FEEDBACK



CONFIDENCE



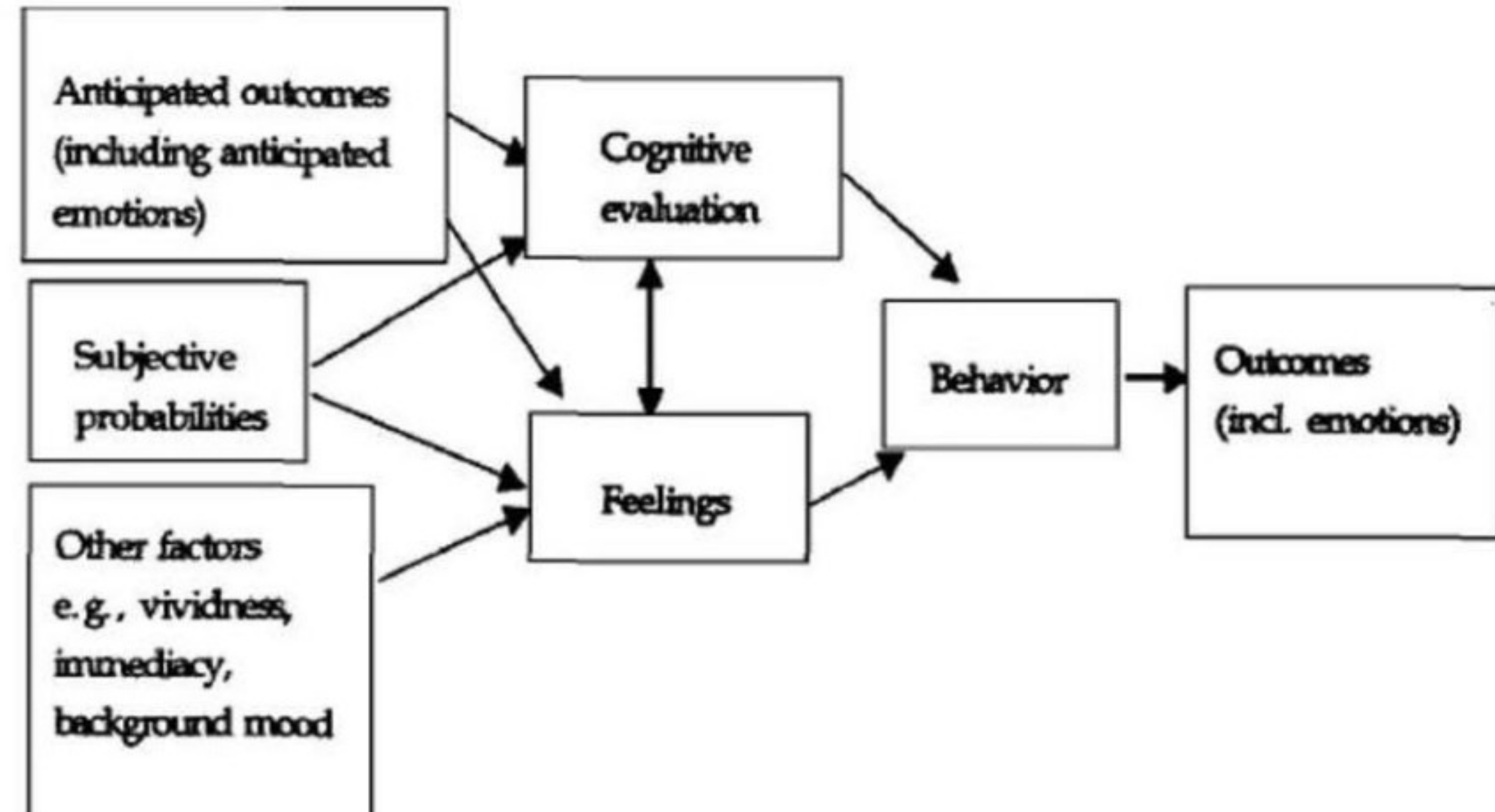
 the balance

Rank the Communication skills

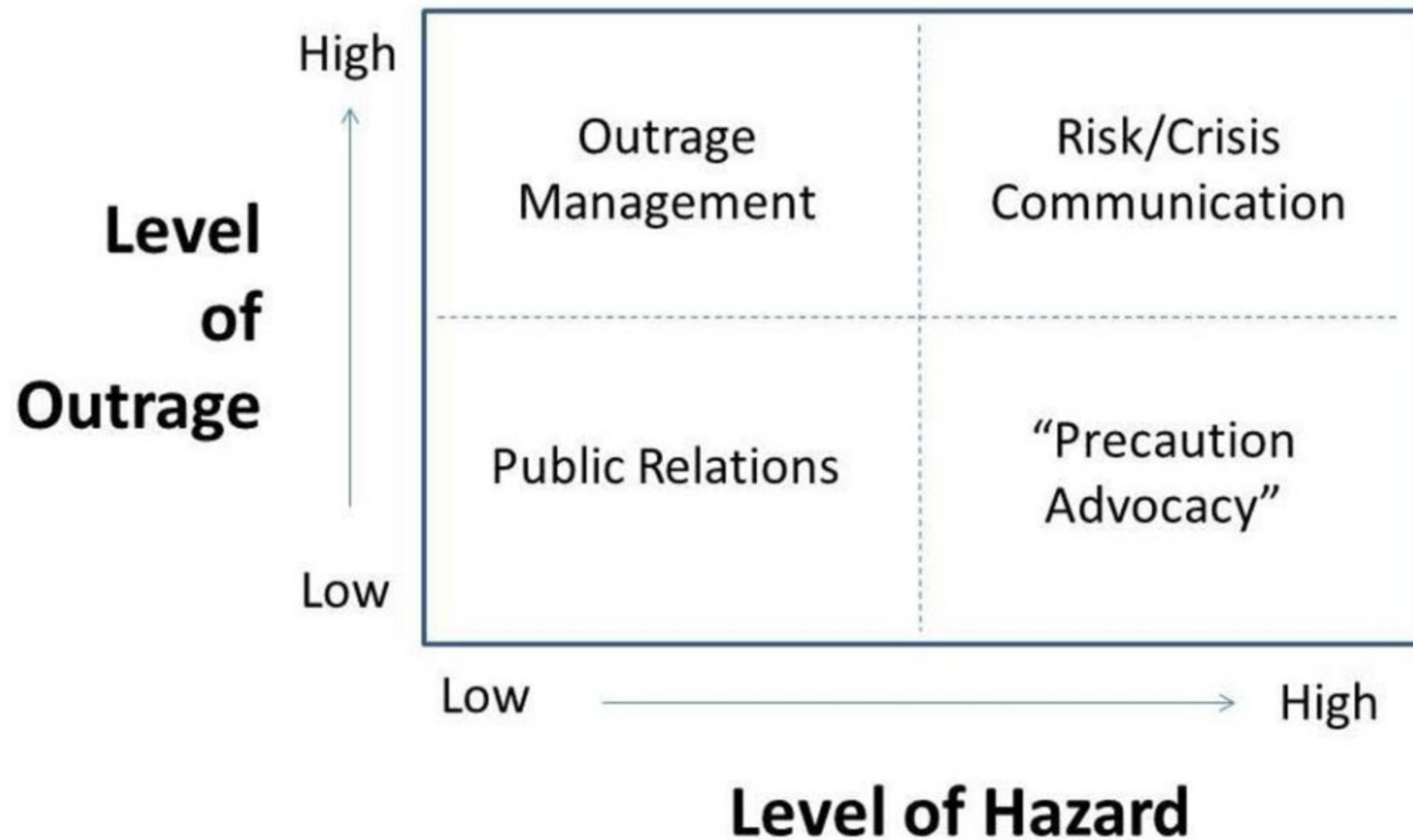


Risk as Feelings

- People think, feel and discuss risk: based on their education, background with risk, science knowledge, information skills and worries about themselves and their families

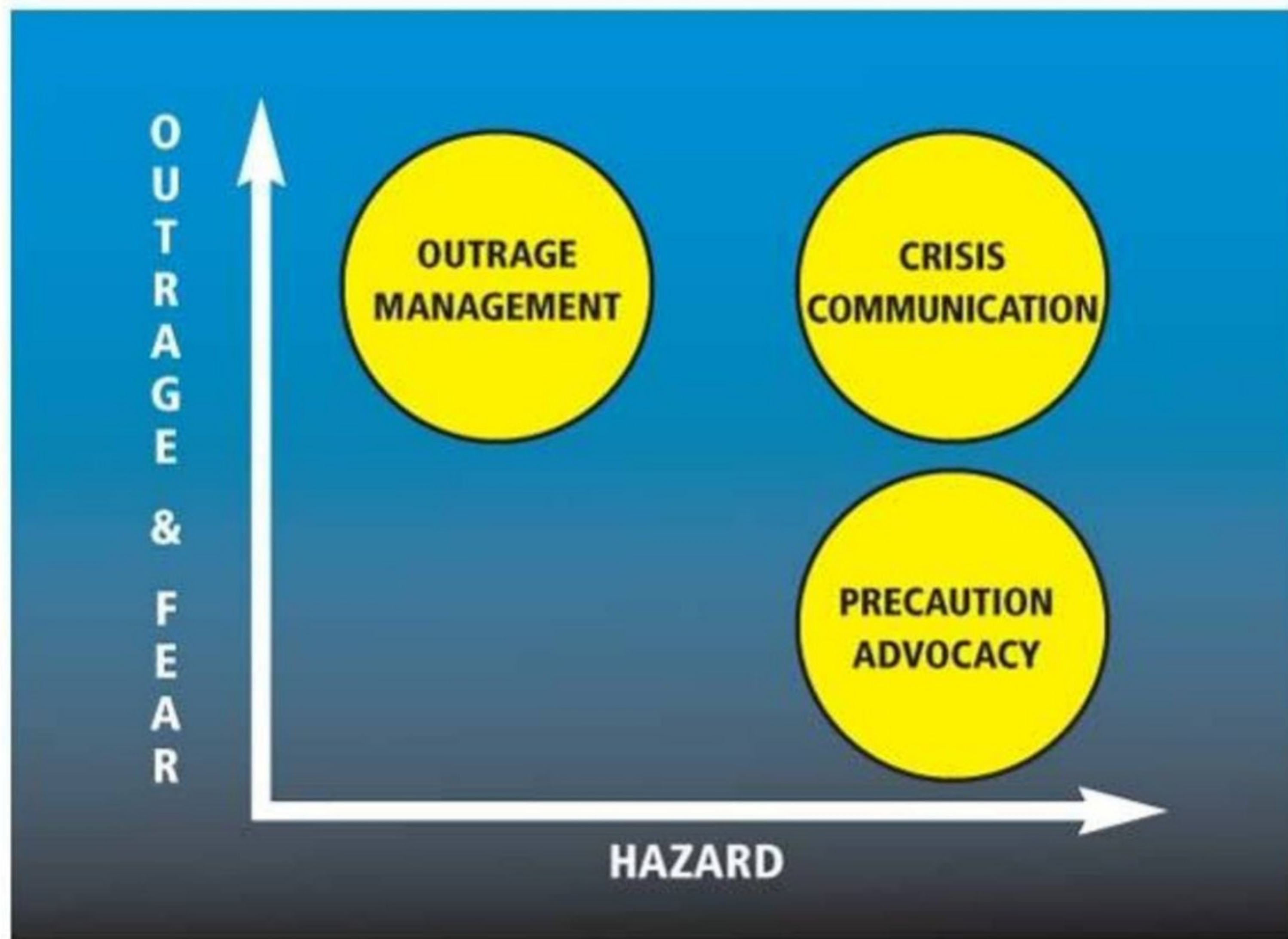


Risk Perception = Hazard + Outrage



Hazard vs. Outrage

- Hazard = “How much harm it’s likely to do”
- Outrage = “How upset it’s likely to make people”
- Prevention vs. addressing outcomes
- Response to hazard only if risk is high
- Mostly focus on outrage



Describe your feelings about the Flint Lead poisoning disaster

Sadness

sad, discouraged

Frustration

Outrage, sadness

Outrage

Disappointment

Corruption

Scary and sadness

Confused and betrayed

Describe your feelings about the Flint Lead poisoning disaster

sadness coupled with anger

outrage anger betrayal distrust

Extremely disappointed

Horrificed

Neglect

shock, sadness, outrage

Outraged.

Frustration

Helpless, frustrated

Describe your feelings about the Flint Lead poisoning disaster

Discouraged, Disappointed

Outrage!

unjust

Racist

outraged

Exhaustion

Unjust

concerned

Disappointment

Describe your feelings about the Flint Lead poisoning disaster

Confusion

sadness, anger

Frustrated and anger

Sadness

Disappointed

injustice

Outrage

Discrimination

discrimination

Describe your feelings about the Flint Lead poisoning disaster

Valuing money over health

It should not have happened. People made decisions based only on monetary cost instead of human cost. Outrage was definitely among my emotions.

Checklist for Plain Language

- written for the average reader
- organized to serve the reader's needs
- has useful headings
- uses “you” and other pronouns to speak to the reader
- uses active voice
- uses short sections and short sentences
- uses the simplest tense possible—simple present is best
- uses base verbs, not hidden verbs
- omits excess words
- uses concrete, familiar words
- uses “must” to express requirements; avoids the ambiguous word “shall”
- places words carefully
 - avoids large gaps between the subject, the verb and the object; puts exceptions last; places modifiers correctly
- uses lists and simple tables to simplify complex material
- uses no more than two or three subordinate levels



Water Talks Project

For Risk and Safety Communication

University of Arizona and Tucson Water, City of Tucson

5 Questions People Ask about Emerging Contaminants



-
1. Who is affected?
 2. Where is it happening?
 3. What is the contaminant?
 4. What is being done about it?
 5. What can I do about it?

Ways to communicate risk and safety

1. ONE IDEA AT A TIME
2. MAKE IT PERSONAL
3. FIND A WAY TO BE POSITIVE
4. USE VISUALS
5. EXPLAIN WHY
6. TELL STORIES
7. SUGGEST ACTION



Purposes of Risk Communication

- raise awareness;
- encourage protective behaviour;
- inform to build up knowledge on hazards and risks;
- inform to promote acceptance of risks and management measure;
- inform on how to behave during events;
- warn of and trigger action to impending and current events;
- reassure the audience (to reduce anxiety or 'manage' outrage);
- improve relationships (build trust, cooperation, networks);
- enable mutual dialogue and understanding;
- involve actors in decision making.

As you interact with the community and prepare your risk communication strategy for the site, remember the *Seven Cardinal Rules of Risk Communication*¹:

1. **Accept and involve the public as a legitimate partner** through early involvement of the community and all other parties that have an interest in the issue.
2. **Plan carefully and evaluate your efforts.** Successful risk communication planning involves having clear objectives, being attentive to the needs and interests of various groups, training staff in communication skills, rehearsing and testing your message, and assessing efforts and lessons learned.
3. **Listen to the public's specific concerns** by taking the time to find out what people know, think, or want, and recognizing their feelings.
4. **Be honest, frank, and open.** Try to share more information with the community, not less; otherwise, people may think you are hiding something.
5. **Coordinate and collaborate with other credible sources.** Take the time to coordinate with other organizations and credible sources and jointly communicate the issue.
6. **Meet the needs of the media** by being open with and accessible to reporters. Establish long-term relationships of trust with specific editors and reporters.
7. **Speak clearly and with compassion.** Communicate on a personal level by using vivid, concrete images or examples and anecdotes that make technical risk data come alive. Acknowledge and respond with the words and emotions that people express—anxiety, fear, anger, outrage, and helplessness.

Rank the Risk Communication Rules



Protocol Development

- Research conducted over three years
- Focus groups
 - age groups
- Analyzed the transcripts
 - Developed list of principles
 - Developed the
- Developed test materials
 - Focus groups to evaluate
- Developed protocol



Focus Groups



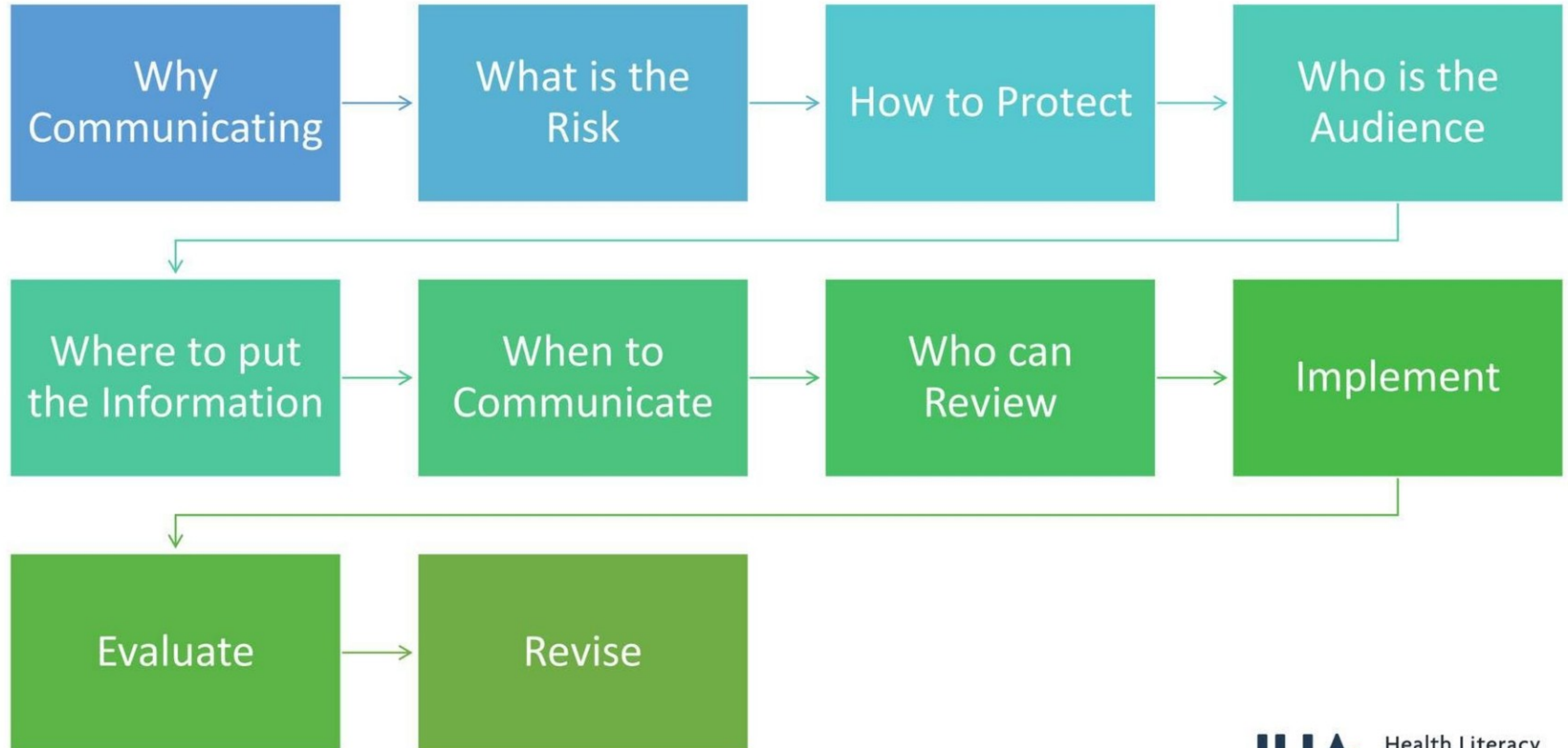
Process / Protocol

Steps in using the 9 Principles

To answer the questions people have about risks

9 Principles of Risk & Safety Communication

- **Process components**
 - Build trust needed for excellent communication
 - Prepare for a specific audience
- **Content-related**
 - Actual vs. Perceived risk
 - Accommodate for differences among people
 - Address reason for communication
 - Suggest actions in case of risk
 - Answer basic questions with clarity, continuity, and consistency
 - Images match content
- **Testing**
 - Test and improve messages and materials



Protocol Steps – determine the information and the basic messages

- Clearly define why choosing to communicate the topic at this time
 - New laws or rules
 - New information discovered
 - Media or public questions
- Clearly write about the risk being communicated – iteratively until in plain language
- Research ways the general public can protect themselves – write in plain language



Protocol Steps – determine who needs the information

- Determine the audiences
- Ages, socioeconomic level, education, language, culture, past history with environmental hazards
- Primary or first audience
- Secondary audiences
- Adults and Adolescents

Protocol Steps – communication design

- Where to communicate
 - Different age groups seek information from different sources
 - Considering the past, which sources are most receptive
 - How to reach difficult sources
- When to communicate
 - During the crisis
 - After the crisis but while people are still upset or concerned or do not feel they have been listened to
 - After the crisis to assess the effectiveness of the messages, materials or media
 - Ongoing, especially with chronic problems
- Images that match the communication

Protocol Steps - make sure you are saying what you think you are saying

- Choose an audience to test the materials
 - Assure the science is accurate
 - Assure the audience(s) you are approaching comprehends – may require multiple tests
- Evaluation methods
 - Focus groups
 - Surveys
 - Interviews

Protocol Steps – implement and keep improving

- Implement the information campaign
 - May have to implement sequentially depending on the topic and the audiences
 - May have to implement all the campaign components at the same time – need to assure staffing and ability to follow up
- Evaluate the campaign, the information, the materials
- Revise as needed from the evaluation
 - Revise as new information needs to be presented
 - Remind audiences of the changing nature of scientific discovery

Google Classroom

- Risk & Safety Classroom
- <https://classroom.google.com/c/MTc4NjM2ODk4MTY5>



About the Risk & Safety Communication Course

- Self paced
- Self ordered
- Developed and tested with university students
- Need a gmail address to be registered
- Two self check quizzes
- Alternative assignments to use the protocol to build materials or messages
- Send your gmail address and you will be invited to the course

Modules of the Risk & Safety Classroom

Introduction

Basic Risk
Communication

Risk Perception

Overview of the
Protocol for
developing
communication tools

Plain Language

Media for
Communication

Evaluating Risk &
Safety
Communication

Quizzes

Assignment to create
materials



Contact Ben Richmond to take the classroom

Richmond@pharmacy.arizona.edu



What questions do you have?

Please type your questions in the Q&A box.



Thank you for Attending

You will receive an email containing a link to a brief online evaluation. If you requested CEUs when you registered, you must submit an evaluation in order to receive your certificate.

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