

Risk Communication Strategies for Preparing to Speak with the Public with a Focus on Emerging Contaminants

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NEWMOA

February 13, 2024

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BY SAUL ELBEIN AND SHARON UDASIN - 01/24/24 4:56 PM ET



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LOCAL

**Human poop, toxic infestation prompt
Lake Norman health alerts. Avoid these
areas.**

STATE

**EPA: Cancer-causing chemicals
found in soil at Louisiana apartment
complex**

The latest round of testing occurred after the EPA found elevated levels of dioxins in a drainage ditch not far from the complex in June.

BLACK HISTORY MONTH

**Study: Toxins in blood of Brunswick
residents who live near factories**

As cleanup at some of coastal Georgia toxic sites progresses, Emory research team is investigating pollution exposure in the city

Risk communication -- the exchange of real-time information, advice and opinions between experts and people facing threats to their health, economic or social well-being.

Basic considerations for a successful presentation include:

- Begin with a purpose and objective to ensure that your team will start on the same page and know what the meaning of success looks like
- Consider first the communicator – their confidence in the issue and their values, how will the audience perceive the speaker?
- Tackle the complexities of science to get to your message and then back it up into an understandable key message that the general population can follow and perhaps embrace
- Risk communication must be a dialog with the goal of building consensus, you won't get there with a monolog

(Lundgren, Regina E and McMakin Andrea H, 2018)

Emerging Contaminant Challenges



- Rapidly changing Science, yielding uncertainty in results (knowledge changes with time), protective levels change
- Exposure is perceived as involuntary
- Lack of federal standards and consensus among regulatory agencies- not uniform
- Frequently the focus of what "you hear" is on toxicity or hazard (the health effects of chemical x), and does not provide the balancing information of the likelihood and/ or magnitude of exposure in daily activities – tying to ***risk assessment concepts*** if there is little or no exposure then there is little to no possibility of harm
- Keep in mind that research that didn't find any health risks is likely underreported

Key Messages & Objectives - Share Early & Often



The goal of defining key messages is to Ease Public Concern via statements specifically about the risk, what is being done, and to give guidance on how to respond and take precautions, if necessary.

When developing key messages:

- Think freely and jot down all pieces of information you wish to communicate
- Identify the most important ideas. Repeat the process until your list is down to three items
- Keep them simple and straightforward in presentation but not in content
- Deliver with brevity and clarity
- State your conclusions first, then provide supporting data
- Stick to the facts of what has, is, and will be done

Key Messages & Objectives-Share Early & Often



- Scientific information will be more useful to the audience if the information provided is easily understood
 - A discussion of statistical probabilities and how they translate into a “relatively minimal-risk scenario for the average citizen” might be fine for scientists, but for the general public such a discussion will only confuse the issue and fail to meet the goals of informing and easing concerns.
- If the risk is low, say, “the risk to the public is low”
- Stay on message, repeat your key messages throughout the discussion
- Raise your points often enough that your audience leaves with a clear understanding of the message you wanted them to hear --not word by word but say the same message in a variety of ways
- **The key messages are points you want your public to have in mind after the meeting.**



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Dangerous chemicals found in recycled plastics, making them unsafe for use. Experts explain the hazards

Story by Bethanie Carney Almroth, Eric Carmona Martinez • 3w



More concerning than the nanoplastics in water bottles are the chemicals on them

Key Messages & Objectives – Emerging Contaminant Examples

- The fish advisory will prevent exposure to methylmercury, people are exposed when they eat fish and shellfish that contain it.
- 1,4-Dioxane levels in groundwater that is used for drinking, food preparation and irrigation of food crops has been confirmed to be at concentration levels which do not pose threat to public health.
- The detection methods for 1,2,3-trichloropropane (1,2,3-TCP) have improved, and recent results indicate that groundwater wells in the area are impacted above the protective levels.

Importance of Key Messages



Roane County soccer fields are open again after tests show they're free of coal ash

Jamie Satterfield, Knoxville News Sentinel Published 11:00 p.m. ET Sept. 29, 2019 | Updated 8:36 a.m. ET Sept. 30, 2019

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There is no coal ash in the top three inches of dirt under children's feet at soccer fields in the Swan Pond community, a report reveals.

Pittsburg Landfill Won't Be Tested For Radioactive Waste; Report Shows '95% Confidence' None Exists

December 16, 2020 at 2:09 pm Filed Under: Hunters Point Naval Shipyard, Keller Canyon Landfill, Pittsburg, radioactive waste, San Francisco, Tetra Tech, TRC Solutions

trccompanies.com



Firemen's Clayhole reopens after additional testing shows it's safe for recreation

Alex Chhith Jul 11, 2019



Children play on the Firemen's Clayhole swimming dock.

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Trending Now in Chaska

TOP STORY EDITOR'S PICK

Lead poisoning in loons forces community to step up

ALEX PORTAL Feb 6, 2024 0

1 of 2



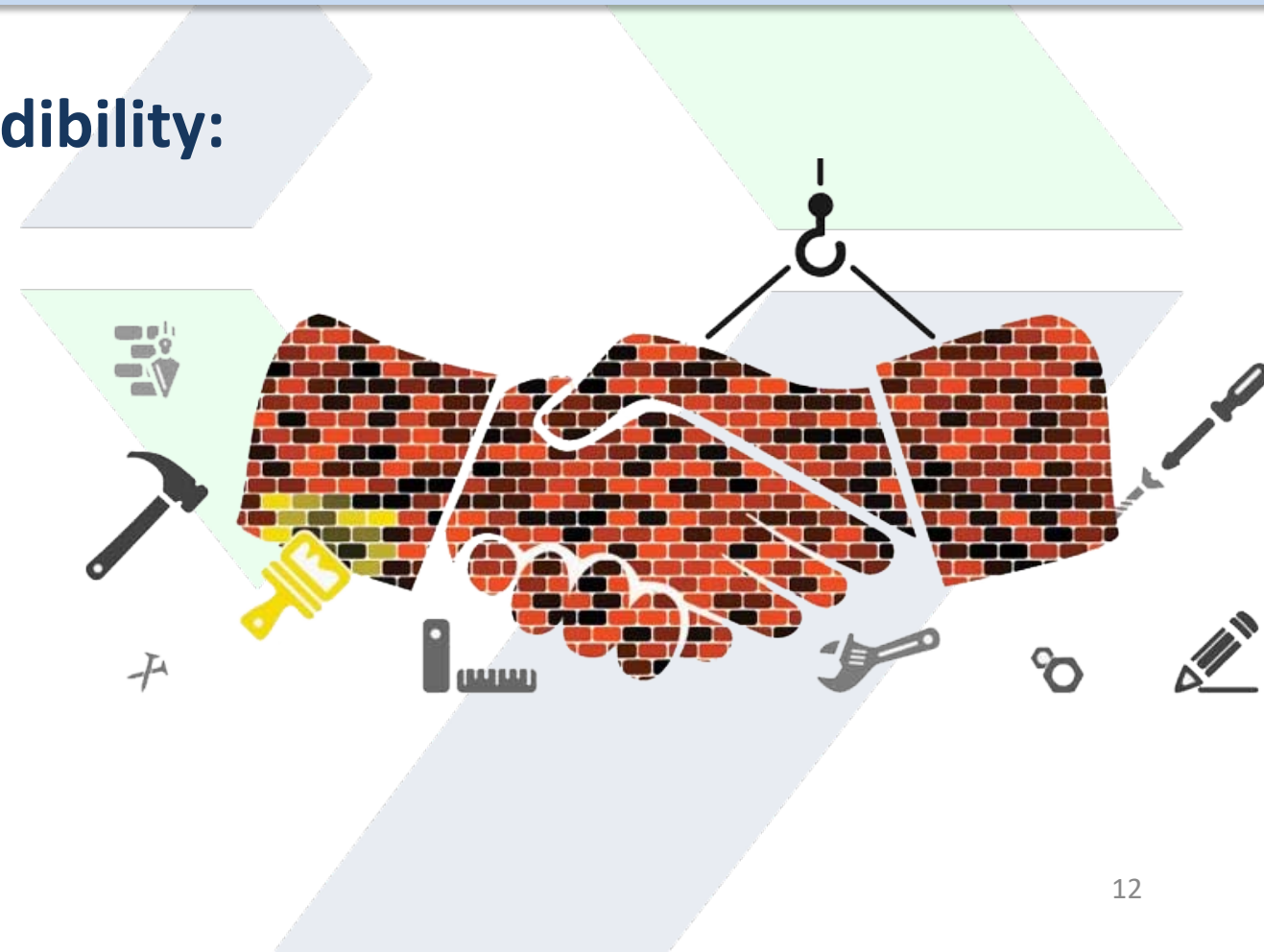
Relationship Building to Earn & Gain Trust



In risk communication, trust is the currency of transaction. Trust is the “assured reliance on the character, ability, strength, or truth of someone or something” (*Websters, 2019*).

Five Rules for Building Trust and Credibility:

- 1) Accept and involve the public as a partner
- 2) Appreciate the public’s specific concerns
- 3) Be honest and open. Once lost, trust and credibility are almost impossible to regain
- 4) Work with other credible sources
- 5) Meet the needs of the media



Relationship Building to Earn & Gain Trust



- **Tools to establish this trust include communicating early often and fully**, don't plan to just show up once and either not meet the key community leaders prior to your presentation or to not follow up
- **Always know how information was gathered** and conclusions reached
- **Building knowledge on emerging contaminants** as information becomes available is common as the science is often rapidly changing
- **Therefore, a balance of timing** (getting information out before perception rules) and ensuring accuracy is critical

Credible Technical Expertise



- Don't shy away from being the expert however, don't give the impression that you, alone, are the authority on the issues being raised or the sole decision-maker.
- Speak the truth, practice your key messages so that the community understands your sincerity and conviction to the issue, without repeating yourself over and over.
- While sharing your expertise is critical to your credibility, make sure to define all technical terms and acronyms. Don't use language that may not be understood by even a portion of your audience.



Credible Technical Expertise



Focus on the benefits to be derived, not on the costs entailed. If costs are an issue, voice respect for the need for responsible stewardship of public funds.

Work hard to identify the best subject matter expert with sufficient empathy, commitment, competence and honesty to engender trust. Just as important is the have the audience view the channel for information – (website, news, journal) as similarly trustworthy.

Dupont C8 Science Panel - Mid-Ohio Valley



*“The settlement also established that **a group of public health scientists** would assess whether or not there is a probable link between C8 exposure and disease in the community. We were **chosen as members of the Science Panel jointly by the lawyers for the community and DuPont.** The panel was made up of: Dr. Tony Fletcher of the London School of Hygiene and Tropical Medicine, Dr. David Savitz of Brown University in Providence, and Dr. Kyle Steenland of Emory University in Atlanta. We were chosen because of our long experience in designing and carrying out environmental health studies and the view of the parties in the settlement that **we would be able to objectively generate and evaluate the evidence.***

*We came to this project as independent epidemiologists - scientists trained in gathering information to evaluate whether environmental factors may or may not be causing disease in groups of people; **and remained independent and neutral throughout. The settlement paid for our work but the parties to that case did not direct what we did or how we did it.** We had no belief ahead of time that C8 does or doesn't affect human health.”*

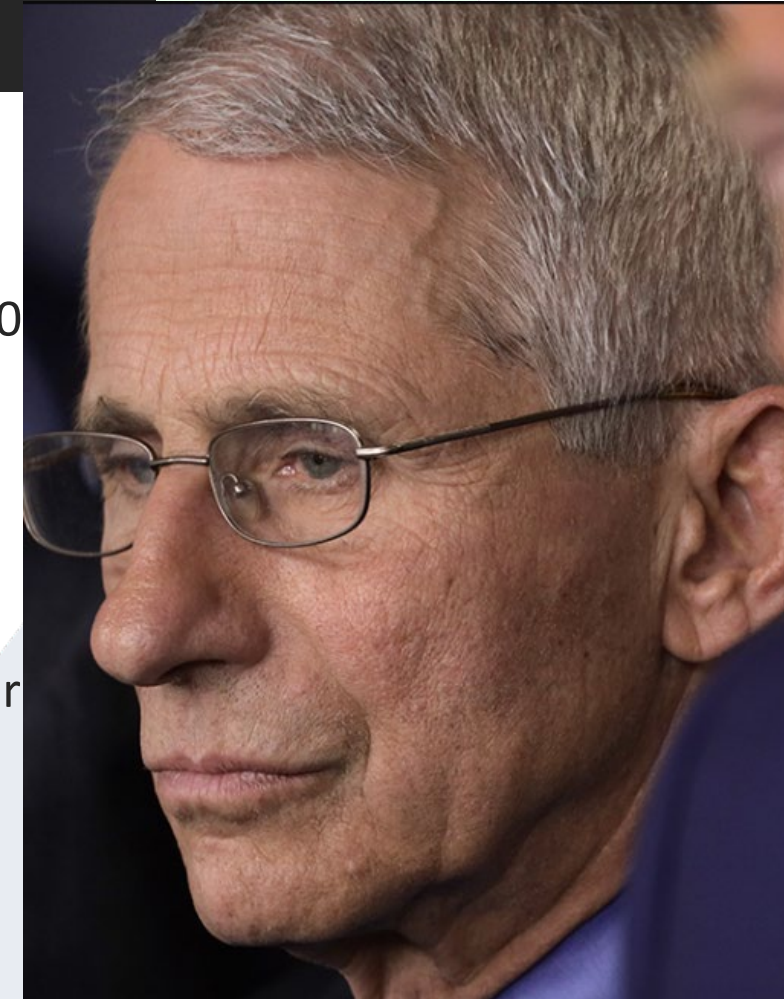
Meet Anthony Fauci, the epidemic expert trying to shape the White House's coronavirus response

The veteran government scientist has advised presidents for decades, but will the Trump administration listen to him now?

14 MAR 2020 • BY [JOHN TRAVIS](#)



- Director of the National Institute of Allergy and Infectious Diseases (NIAID)
- Public service for 5 decades
- Veteran HIV/AIDS researcher, involved with every epidemic over the past 40 years
- **A doctor, scientist and infectious disease expert**
- Advised several presidents
- A rational voice of science and a public figure
- Among the most highly cited medical researchers of all time, a listed author on 1300+ scientific publications



Do the Work - Understand the Target Audience and Their Point of View



- Risk Communication is not effective unless you acknowledge the public perspectives and try to understand how they understand the issue
 - *Detection of an emerging contaminant in the water supply*
 - *There will be different understanding of what has been communicated.*
- You may have understood that the health department has released written information for example to all residents, however, many residents will have not received or will not have the same understanding of the information
- Recognize that when people perceive themselves at risk, their ability to hear and process information decreases dramatically, estimated to be 80% less retention than normal



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A year after a toxic train derailment, cleanup continues and trauma lingers in a divided community

Story by By Brenda Goodman, CNN • 1w



HuffPost

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1 Year After The Toxic Train Disaster In Ohio, Distrust And Fear Loom Large

Story by Chris D'Angelo • 1w

STATE AND REGIONAL

Here's what you need to know a year after the toxic train derailment in East Palestine



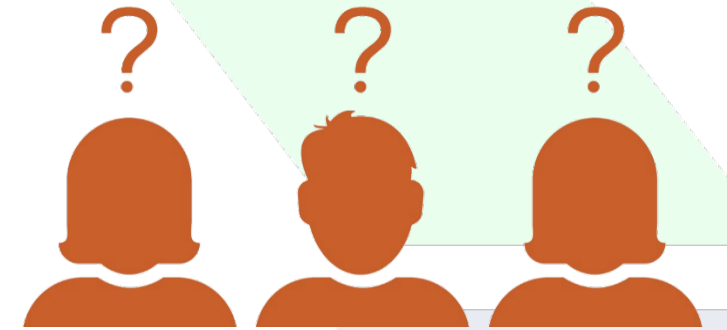
By WHIO Staff

February 03, 2024 at 7:36 am EST



Do the Work - Understand the Target Audience and Their Point of View

- **Knowing your audience also takes some basic understanding of**
 - Who they are, where are they from?
 - What are their interests and concerns?
 - What are their likely perceptions and biases?
 - Will they be receptive or resistant or even hostile ?
- Give the audience something to take away, use of key messages helps the audience to remember the important points



Salmon survival rates improve, despite Covid and algal challenges



HARMFUL ALGAL BLOOMS

WELFARE

HUSBANDRY



by The Fish Site
8 January 2021, at 12:32pm

THE CANADIAN PRESS | The Canadian Press

Cafe, croissant, worms? EU agency says worms safe to eat



Wed., January 13, 2021, 11:49 a.m. MST · 1 min read

Investigation into Lake George harmful algal bloom ongoing, final results still months away

Chad Arnold Dec 15, 2020 3

lowans can get free testing to gauge lead levels in their drinking water

Understand the Target Audience – Flint, MI



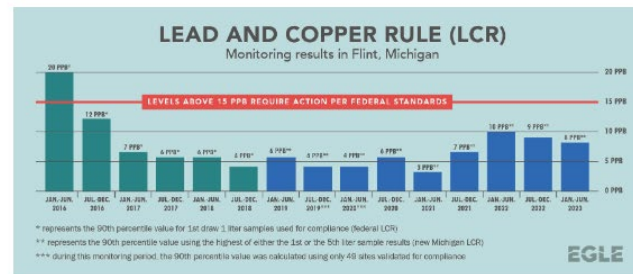
Taking Action on Flint Water



The State of Michigan remains committed to supporting the City of Flint as it continues to recover and rebuild. The state provided more than \$350 million to Flint, in addition to the \$100 million from the federal government - all of which is helping with water quality improvements, pipe replacement, healthcare, food resources, educational resources, job training and creation, and more.

Flint Water Quality Update

Since July 2016, the city of Flint's water system has met state and federal standards for lead in drinking water for 13 consecutive monitoring periods. The latest six-month round of monitoring shows Flint's 90th percentile at 9 parts per billion (ppb), below the requirement of 15 ppb. Flint has conducted excavations to determine



Lead and Copper Rule (LCR) Monitoring results in Flint, Michigan

Dear Parent,

To help make sure the children of Flint are safe from lead exposure, the Genesee County Health Department and the Michigan Department of Health and Human Services are providing answers to the following questions:

- Where does lead come from?
- What can I do to protect my family?
- Should I get my child tested for lead?
- Where can I find more information about lead?

Lakebed dust is a worry in Utah. For California's Salton Sea, it's a full-blown problem

By Saige Miller, KUER | Posted - Feb. 11, 2024 at 9:06 p.m.

UTAH ENVIRONMENT OUTDOORS

Will dust from the Great Salt Lake become a full-blown problem in Utah?

Lakebed dust is a worry in Utah. For California's Salton Sea, it's a full-blown problem

By Saige Miller, KUER 90.1 | Feb 9, 2024, 7:06pm MST

Be Open About What You Know & What You Don't Know



Remember Perception is Reality

- If done properly, risk communication ideally educates and informs. Crucial to this success is giving people the chance to express their concerns and ask questions.
- Scientific uncertainty adds complication to providing reliable and meaningful information for many hazards and risks
- The public often believes that scientific findings are or should be precise, repeatable, and reliable.
- An audience question such as, “If you’re not certain, how can we know we’re being protected?” is not a question about data, it’s about personal and family safety. That is the issue to be addressed.



Be Open About What You Know & What You Don't Know



- Risk communication should derive from a science based, coherent, relevant, respect and lawful basis
- There is a need to channel the right message to the right person at the right moment. Consumers are not idiots and they do understand.
- Often actions are being taken due to regulatory requirements
- Openness and transparency is needed. Everyone can get information using sources like the internet, but communicating risk should be done in an advanced way



Vapor Intrusion – ITRC Public Outreach



Situation- Several Uncertainties

- ❑ VI is complex topic the general public is unfamiliar with
- ❑ If there are chemical exceedances the public rightly is upset – they can't control their exposure
- ❑ Explaining Screening Levels is difficult and standards vary and are often very low
- ❑ Background indoor air sources can interfere with sampling
- ❑ Mitigation may be long term causing concerns

Strategies to Consider

- ✓ Identify the issues that need to be focused on
- ✓ Establish community contacts early and often to gain insight and facilitate the dialogue
- ✓ Plan to talk with affected community more than once and follow up
- ✓ Put the results into context, spending some time on background input to results
- ✓ Explain how mitigation works in simple terms and bring graphics
- ✓ LISTEN, ASK, LISTEN, ASK

Logistics and Considerations



- Determine the goal of the communication –
 - then the right type – door to door, public meeting, flyers
- Be open with sampling plans and VI process – to build trust
- Define team roles – who will speak to what
- Door- to- door
 - Sometimes visiting a home multiple times is necessary to make contact, as well as to build needed trust. Consistency and persistence are key.
 - It is rare that building occupants, managers, or owners know anything about VI, which is inherently a complex, technical subject
 - Timing is important. It is essential to make an effort to directly connect with occupants prior to a media announcement.
 - Address cultural language barriers by making sure fact sheets and other sources of information are in languages spoken by the community.
 - Address technical barriers by creating fact sheets in layman's language keeping in mind that illustrations are very helpful for understanding what a mitigation system does

Drinking Water Example



Prior to Sampling for PFAS

- ☐ Explain that PFAS are found through the environment, in people, and in animals and fish.
- ☐ Sampling of groundwater that is used for drinking water source is being planned.
- ☐ Your home falls into the area where we are planning to test for the presence or absence of PFAS.
- ☐ Ask for Questions
- ☐ The results will be compared to ____ standard or guideline.
- ☐ This value comes from ____
- ☐ Share the schedule and when you will be back in touch
- ☐ Ask for Questions

Sharing Results of PFAS Sampling

- ✓ Call with results - have a script
- ✓ Prepare for most obvious questions
- ✓ LISTEN
- ✓ State simply what was done, who the other stakeholders are and what the levels of comparison are for the results
- ✓ The detected level of PFAS in your water is ____.
- ✓ Provide specific guidance for results below the comparison level and above.
- ✓ Tell them what is next.
- ✓ Ask for questions

Special Considerations for Emerging Contaminants / Summary



Keep in mind the importance of knowing your communication limits, experts believe that public outrage is greater when hazards are: (Gamhewage G., 2014)

- Unfamiliar and/or new
- Involuntary
- Affects future generations
- Cannot be seen or otherwise sensed
- Catastrophic in consequence
- Unfair in the distribution of harm and benefits
- Potentially fatal

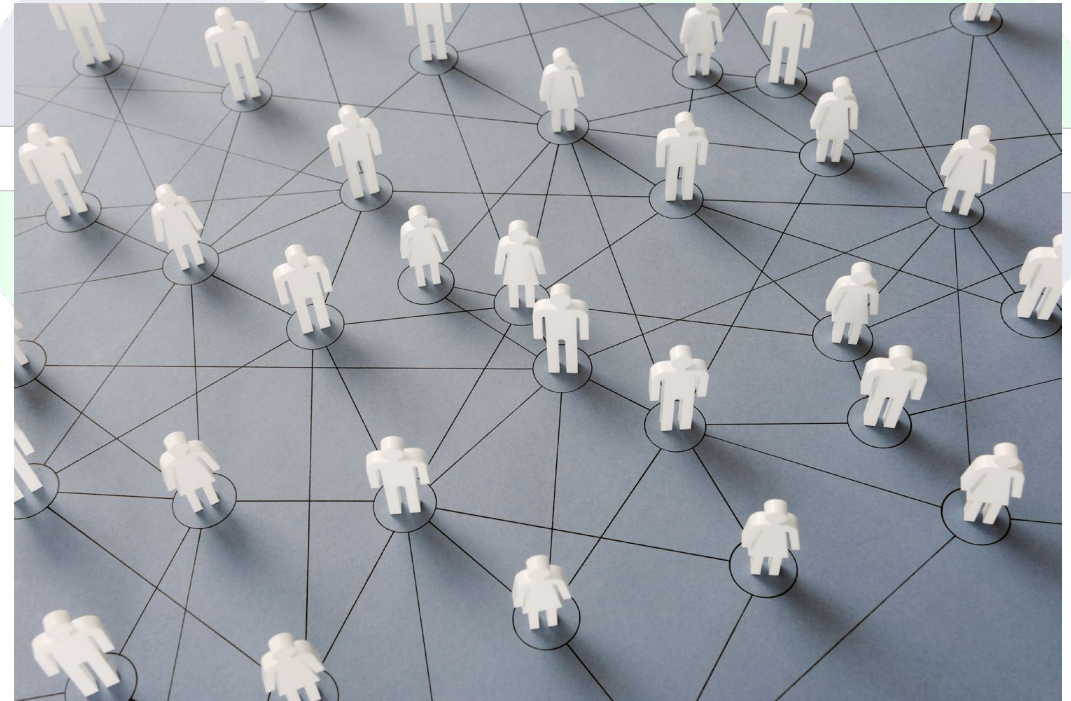
With Emerging Contaminants, many of these factors may come into play.

People do 3 things – take in, process and act on information differently.

USEPA's Risk Communication in Action: The Risk Communication Workbook ([USEPA 2007](#))



The overall purpose of risk communication is *to assist affected communities [to] **understand** the processes of risk assessment and management, to **form** [scientifically valid] **perceptions** of the likely hazards, and to **participate** in making decisions about how risk should be managed.* Risk is the relationship between the probability of harm associated with an activity and vulnerability of exposed elements.



Thank you

Questions?

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