Environmental Health and Land Reuse Certificate

Module 3: Communicating Environment and Health Risks

**Agency for Toxic Substances and Disease Registry
(Created 2020)**

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ATSDR

# Step Three

Communicating Environmental and Health Risks

3

Course Objectives

❑ Describe at least **two of Covello's rules to communicate technical findings in plain language.**

❑ Describe **message mapping/key messages.**

❑ Explain how to create **message maps from a template.**

❑ Explain the **role, responsibilities, and scope of practice of a development community team member**

Course Details

- ❑ **Pre-test**

- ❑ **Post-test:** **70% or higher to receive a certificate**
  - Create a 4-digit number to put on your pre- and post-tests
  - Memorize the number or keep a written copy
  - Use the same number on both the pre- and post-test
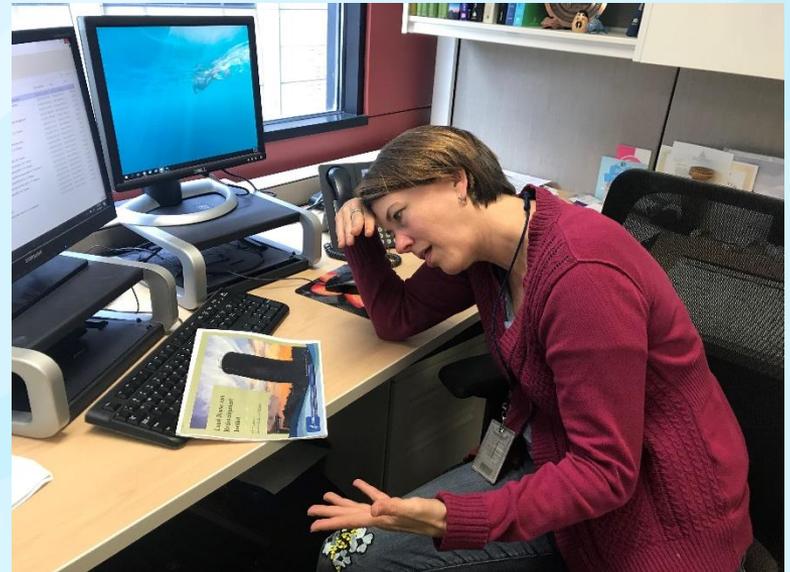
An ATSDR Regional Representative taking a test. ATSDR, 2019.

Pre-test

- **Pre-test Module 3**
- **Put your 4-digit number on the top right corner of your pre-test**

Risk Communication Definition

❑ **A science-based approach for communicating effectively**

❑ **How we talk to the public about**

   ▪ Substances or behaviors that can be harmful

   ▪ Potential hazards

   ▪ The nature and level of risks

Risk Communication

- ❑ **Enhance understanding and knowledge**
- ❑ **Build trust and credibility**
  - ▪ Local health departments
  - ▪ Environmental professionals

Sauk County Health Department staff facilitating a community health event as part of a redevelopment plan (ATSDR Image, 2008)

Understand Your Audience

❑ **Demographics**

- Education
- Income level
- Age
- Languages spoken and read
- Religious beliefs

❑ **Cultural background norms and values**

Understand Your Audience continued…

❑ **Points to consider about your audience:**

- Geographic location
- Knowledge of environmental contamination
- How close do they live to brownfields sites?
  - Are they concerned about these sites?
  - Ask your audience

Communicating Environmental and Health Risks

❑ **Seven Cardinal Rules of Risk Communication**
  ▪ Developed by Dr. Vincent T. Covello for US Environmental Protection Agency
  ▪ Adapted and updated for current applicability
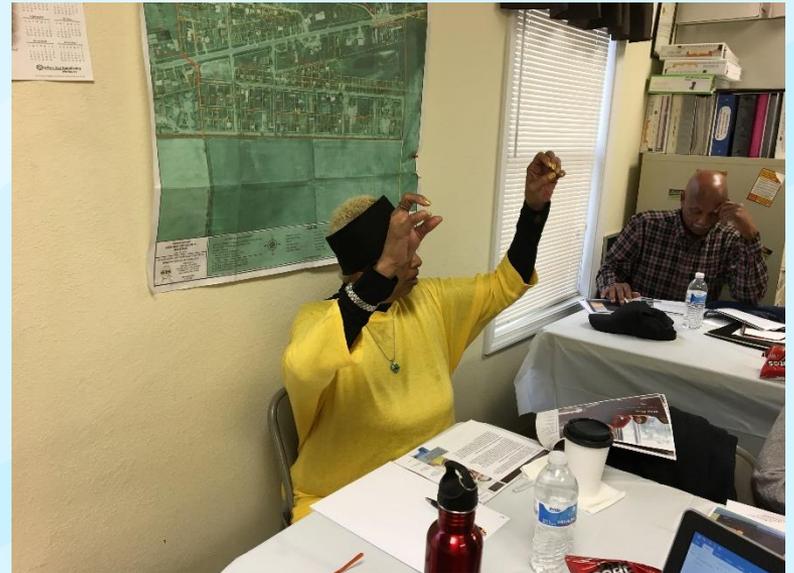

Image of community member discussing environmental concerns. ATSDR, 2017.

Rule 1

- **Accept and involve the public as a legitimate partner.**
  - Involve the public early.
  - Recognize that people hold you accountable.
  - Recognize rights of people and communities to participate in decisions that affect their lives, property, and things they value.

Rule 2

- ❑ **Listen to the audience.**
    - ▪ Don't assume you know what people know, think, or want.
    - ▪ Ask people what they are thinking:
        - • Interviews
        - • Discussion groups
        - • Surveys
        - • Toll-free numbers
- ❑ **Identify with your audience and** *try to put yourself in their place.*

Rule 3

- ❑ **Be honest, frank and open.**
- ❑ **State your credentials.**
    - ▪ Don't ask or expect to be trusted by the public.
- ❑ **If you don't know the answer to a question, say so.**
    - ▪ Offer to find out.
- ❑ **Share more information, rather than less.**
    - ▪ Ensures people don't think you are hiding anything.

A community leader discussing contamination and exposure with community members. Lloyd DeGrane, 2018.

Rule 4

❑ **Coordinate and collaborate with other credible sources.**

❑ **Issue joint communications with trustworthy sources.**

▪ Local universities

▪ Citizen advisory groups

▪ Local officials.

Environmental professionals, planners, and Chapter official coordinating to discuss site concerns. ATSDR, 2019.

Rule 5

❑ **Meet the needs of the media.**

- Be open with and accessible to reporters.

- Respect deadlines.

- Stay on topic.

- Prepare a limited number of factual key messages.

  - Repeat these messages
  - Say only what you are willing to have repeated.

Remember, everything you say in an interview is on the record!

Rule 6

- **Speak clearly and with compassion.**
  - Use plain language.
  - Be sensitive to local norms, such as speech and dress.
  - Use images to clarify messages.
  - Personalize risk data through stories, examples, and anecdotes.
  - Acknowledge and respond to emotions that people often express
    - Anxiety
    - Fear
    - Anger
    - Outrage
    - Helplessness
- **Tell people what you can and cannot do.**

Rule 7

❑ **Plan carefully and evaluate performance.**

   ▪ Have clear objectives

      • Providing information

      • Providing reassurance

      • Involving stakeholders in joint problem solving

   ▪ Evaluate your efforts and learn from mistakes

❑ **Train staff in communication skills**

❑ **Pre-test messages**

   ▪ Different audiences may need different risk communication strategies.

Knowledge Check #1

A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, property, and things they value.

a) True
b) False

Knowledge Check #2
Which are true? Select all that apply.

a) Train all staff in communication skills.

b) Only talk to the subgroup that you feel will listen to the message.

c) Avoid thinking of your audience as "the public" or using this term. Understand the concept of different "audiences," each with its own interests, needs, concerns, priorities, preferences, and organizations.

d) Begin with clear, explicit risk communication objectives – such as providing information to the public, motivating individuals to act, stimulating response to emergencies, or contributing to the resolution of conflict.

e) Recruit spokespeople who are very technical so they can get all the minute details correct.

f) Pretest messages whenever possible.

g) Evaluate efforts carefully and learn from mistakes.

Knowledge Check #3

Select all that apply:

When listening your audience's concerns, remember to

a) Let all parties with an interest or stake in the issue be heard.

b) Let people know that what they say is understood, addressing their concerns as well as yours.

c) Recognize the "hidden agendas," symbolic meanings, and broader economic or political considerations that often underlie and complicate the task of risk communication.

Knowledge Check #4

Select all that apply:

What strategies will help build trust and credibility in the community?

a) Be honest if an answer is unknown or uncertain.

b) Disclose risk information as soon as possible (emphasizing any reservation about reliability).

c) Never disclose data uncertainties.

d) Get back to people with answers.

e) Emphasize worst-case scenarios, just in case.

f) Never admit mistakes.

Knowledge Check #5

Conflicts or public disagreements with other credible sources have no effect on risk communication.

a) True
b) False

Knowledge Check #6

Select the best answer:

Meet the needs of the media by

a) Telling them only what they need to know

b) Telling them where to find their own background information

c) Providing risk information tailored to the needs of each type of media (e.g., graphics and other visual aids for television).

d) Ignoring their deadlines and only worrying about the project deliverables

Knowledge Check #7

Select all that apply:

When communicating risk to the public, speak clearly and with compassion. Remember to

a) Avoid distant, abstract, unfeeling language about deaths, injuries, and illnesses

b) Never include a discussion of actions that are under way or can be taken

c) Use technical language and jargon

d) Be sensitive to local norms, such as speech and dress

e) Use risk comparisons to help put risks in perspective, but avoid comparisons that ignore distinctions people consider important

f) Use vivid, concrete images that communicate on a personal level

Summary Risk Communication Pointers

❑ Include your audience early in the process.

❑ Assure them that you are their partner, working in collaboration with them.

❑ Listen and ask questions for clarification.

❑ Use plain, clear language.

❑ Don't promise more than you can deliver.

❑ Be honest.
  ▪ You can say "I don't know but I will try to find an answer for you"

❑ Follow up promptly to maintain trust.

The Role of an Environmental or Heath Professional in Risk Communication

- ❑ **Engage community members to understand their needs for redevelopment.**
  - ▪ You may be seen as a reliable source of accurate information about contaminants, risks, exposures, and site development techniques.

- ❑ **Conduct environmental cleanup of site.**

- ❑ **Conduct community health analysis.**
  - ▪ You can assess exposure pathways and who is exposed.

Messaging

How do we get the message to our community about environmental risks?

❑ **Messages can be**
- Written
- Spoken
- Visual

❑ **Messages are generally simple, one-sentence statements.**
- Reduce, reuse, recycle
- Make sure your child has these three tests before age 3 (for blood lead screening)
- Boil water
- Think Green
- Shop local

Message Map Template

Stakeholder question or concern:		
Key Message 1 9 words on average	Key Message 2 9 words on average	Key Message 3 9 words on average
Supporting message 1a	Supporting message 2a	Supporting message 3a
Supporting message 1b	Supporting message 2b	Supporting message 3b
Supporting message 1c	Supporting message 2c	Supporting message 3c

Message map source Covello, 2007

Message Map

To determine your 3 key messages, ask yourself these 3 questions:

❑ **Key message #1:**

- What is most important for people to <u>know</u>?

❑ **Key message #2:**

- How can this impact people's health?

❑ **Key message #3:**

- What conclusions can be drawn related to risk and exposure?

A **Message Map** is a detailed, visual description of organized answers to anticipated questions and concerns from key community stakeholders.

Reviewing project progress. Source: Getty Images, 2017.

Message Map Exercise
My Daycare, Shiprock, Navajo Nation (mock)

❑ **Sinco, Inc. redeveloped into a daycare**
  - Plastic safety net manufacturer
  - Soil contaminated with arsenic and other contaminants
  - Most of site cleaned up.

❑ **Playground soil never sampled**

❑ **Chapter officials and Tribal environmental professional worked with owner and daycare operator to test playground soil**
  - Surface and subsurface soil contaminated with elevated levels of arsenic
  - Worked with property owner to develop plan to prevent exposure to contaminated soil

❑ **Community concerns: Parents and daycare staff concerned about**
  - Soil contamination and remediation plans
  - Possible exposure for children in the past, and harm to their health

Message Map Exercise
Risk Communication Activities

Chapter officials and Tribal environmental professionals conducted the following risk communication activities:

- Prepared a fact sheet
- Held a public meeting to provide information
- Answered questions

Overview of Case Study

- **Environmental health concern:** Arsenic in soil at the daycare center
- **Risk:** Much of the site has been cleaned up but soil was never sampled
- **Outcome:** Chapter officials and Tribal environmental professional helped get the soil tested
    - Test revealed soil contaminated with arsenic
    - Remediation plan put in place to prevent exposure
- **Results:** Chapter worked with property owner to cover the soil with wood chips to prevent exposure

Message Map Template

Stakeholder question or concern: Are the children going to be sick from exposure to arsenic?		
Chapter has worked with operator to ensure arsenic in the soil will be covered with wood chips to prevent exposures	Children attending the daycare will not have direct contact with the residual arsenic contamination in the soil.	Children were not likely exposed, as the daycare center has been open less than a year and children were not using the playground during winter.
Limited soil removal will take place in areas with highest arsenic levels.	A layer of woodchips covers the soil on the playground.	A child would need to play directly in the soil on a daily basis for several years to be harmed by arsenic
Cleanup plan may include additional layers across the entire playground.	Operator will add additional soil covering such as heavy landscaping fabric, crushed limestone, and woodchips.	
After additional layers are added, children will not be able to come into contact with the soil.		

Case Study: Asbestos Mine

- **The ABC site in Keweenaw Peninsula (mock)**
  - Active asbestos mine from early 1900s to 1993
  - Chrysotile mined
  - Tons of waste rock and mine tailings
- **Contaminated runoff from the mine tailings**
  - Surface water, stream, and sediment contamination
  - Downstream wetland areas contaminated
    - Source of airborne asbestos
    - Recreational area for activities such as hiking on tailings piles.

Case Study: Asbestos Exposure

❑ **Asbestos exposure** results from **breathing in asbestos fibers.**

- Asbestos fibers released into the air when rocks, soil or products containing asbestos are disturbed
- Fibers breathed into the lungs could remain there for a lifetime

❑ **Asbestos exposure** is not a problem if **asbestos is left alone and not disturbed**

Case Study: Exposure Factors

❑ **Exposure to asbestos doesn't mean you will definitely develop health problems**

❑ **Factors that affect whether your health will be harmed:**

- How long and how frequently you were exposed
- How long since your exposure began
- How much you were exposed to
- Whether you are a smoker (Cigarette smoking increases chances of getting lung cancer from asbestos exposure.)
- What type and size of asbestos you were exposed to
- Whether you have pre-existing lung conditions that can exacerbate or accelerate exposure risk

Case Study: Recommendations and Messages for Regulatory and Health Agencies

- **Restrict access** to the **ABC mine property**
    - Prohibit and discourage recreational use of site to minimize exposure
- **Prevent and prohibit** the **removal and reuse of tailings** and all other **material beyond the ABC property**
- **Don't use wetlands** located downstream for **camping** or other **recreational activities.**

Message Map Template:
List Some Key Messages

Stakeholder question or concern:		
Key Message 1 9 words on average	Key Message 2 9 words on average	Key Message 3 9 words on average
Supporting message 1a	Supporting message 2a	Supporting message 3a
Supporting message 1b	Supporting message 2b	Supporting message 3b
Supporting message 1c	Supporting message 2c	Supporting message 3c

Message Map Template

Stakeholder question or concern: **I hiked on the mine tailings and camped there. Will I get sick?**		
Being exposed to asbestos does not mean you will develop health problems.	People with some existing health conditions are more likely to develop health problems.	Lower your exposure to asbestos.
Several factors affect whether you will develop health effects.	Pre-existing lung conditions can exacerbate or accelerate exposure risk	Stay off mine property.
Factors include how long, how often, and how much you were exposed to.	Cigarette smoking added to asbestos exposure increases your chances of getting lung cancer.	Do not camp or recreate in wetlands within one mile of the facility.
The size and type of asbestos fibers you were exposed to is another factor.		

Case Study: Asbestos Mine - Outcome

❑ **Education and awareness campaign** developed
  ▪ Federal, state, environmental and health agencies
❑ Campaign informed residents about **asbestos exposures** and encouraged residents to minimize exposure by **staying off the mine property**
❑ Site identified as a **hazardous** place where recreation can be **dangerous to people's health.**

Additional Resources

- **ATSDR Communication Toolkit**
  - Community Concern Assessment Tool
- **CDC/Federal Plain Language Guidelines**
- **Risk communication resources**

Community Concern Assessment Tool

Community Concern Assessment Tool

Table 2: Communication Strategies for Different Levels of Community Concern

Segment	High Concern, High Risk	High Concern, Low Risk	Low Concern, High Risk
Description	In this case, you will likely need to guide people through serious hazards when they are appropriately upset. Acknowledge people's level of concern and provide clear information and expectations.	The high level of concern may originate from any number of factors. But the concern is real and needs to be addressed, even if the risk is low.	In this case, you will need to alert people to serious hazards when they are seemingly unconcerned.
Tone	• Express empathy and compassion. • Express your understanding that the community feels threatened. • Messages that might evoke fear should describe the situation in a moderate way. They should also provide the community with ideas and methods for how to control or remove the risk or danger. • Express the following qualities in person and in messages: listening, caring, empathy, honesty, openness, competence, and expertise. • Move quickly to a dialogue instead of a one-way communication strategy. Dialogue gives communities a chance to be and feel heard.	• Be patient, listen, and be attentive to people's concerns. • Messages that might evoke fear should describe the situation in a moderate way. They should also provide the community with ideas and methods for how to control or remove the risk or danger. • Express the following qualities in person and in messages: listening, caring, empathy, honesty, openness, competence, and expertise. • Move quickly to a dialogue instead of a one-way communication strategy. Dialogue gives communities a chance to be and feel heard.	• Messages that might evoke fear should describe the situation in a moderate way. They should provide the community with ideas and methods for how to control or remove the risk or danger. • A slightly more concerned tone than with the other two segments may help to increase involvement and interest.

CDC/Federal Plain Language Guidelines

Plain Writing Act of 2010

❑ An act to enhance citizen access to government information and services (as well as for other purposes) by establishing that government documents issued to the public must be written clearly.

❑ Find Guidelines at **https://www.plainlanguage.gov/guidelines/**

Federal Plain Language Guidelines

"Plain Language Action and Information Network (PLAIN) is a community of federal employees dedicated to the idea that citizens deserve clear communications from government."

Plain Language Guidelines

Download the manual for free

https://www.plainlanguage.gov/media/FederalPLGuidelines.pdf

Risk Communication Resources

❑ ATSDR provides links to Risk Communication publications on this website: **https://www.atsdr.cdc.gov/publications_risk_comm.html**.

❑ **A Primer on Health Risk Communication** (**https://www.atsdr.cdc.gov/risk/riskprimer/index.html**) is no longer maintained by ATSDR, but much of the basic information may still be useful for communicating with the public.

Risk Communication Resources

Resources

CDC provides an online training in Crisis and Emergency Risk Communication (CERC) Training, available at: http://emergency.cdc.gov/cerc/cerconline/training/index.html (CDC, 2014). This comprehensive training is focused on how to communicate in a crisis or emergency. The principles covered, however, may be useful for general risk communication practice. The CERC training will take about 2.5 hours. The participant will gain a thorough understanding of risk communication in a crisis, including several of the key concepts of risk communication.

CDC Crisis and Emergency Risk Communication, available at:
https://emergency.cdc.gov/cerc/resources/pdf/cerc_2014edition.pdf

Risk Communication Resources

❑ *Risk Communication in Action: The Risk Communication Workbook* (EPA/625/R-05/003). August 2007. (Authors: Christine Reckelhoff-Dangel, M.S.,ASPH/EPA Fellow and Dan Petersen, Ph.D., DABT)

❑ *Risk Communication in Action: Message Mapping* (EPA/625/R-06/012). August 2007. (Authors: Ivy Lin, M.S., ASPH/ EPA Fellow and Dan D. Petersen, Ph.D., DABT, USEPA)

Risk Communication Resources

Links to Peter Sandman's materials, website, and videos:

http://www.psandman.com/index-CC.htm

http://www.psandman.com/media.htm

Excerpt #1
RISK = HAZARD + OUTRAGE
DURATION: 09:37

BY PETER M SANDMAN (WITH JODY LANARD)

This is one of four short excerpts from a two-day outrage management seminar presented to the Rio Tinto mining company in Brisbane, Australia, September 16-17, 2010.

Video: Risk = Hazard + Outrage

Peter Sandman has been a leader in risk communication for over 35 years. His work, provided in the website, includes risk communication on Ebola, terrorism, disease outbreaks, to name just a few. Also included are tutorials on special issues in risk communication.

Post-test

- ❑ Place your **4-digit number on the top** of your test
- ❑ You can **retake** the test **multiple times**
- ❑ Test is **open book**
- ❑ Passing **score of** 70% is **required**
- ❑ Bring your test in **tomorrow** for grading

Thank you!

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