Health literacy for science communication

National Health Council
Health literacy training series #3
October 7, 2021

Why does health literacy matter for science communication?

It can help bridge the communication gap between those who write science or health materials, and the patients and public who read them.

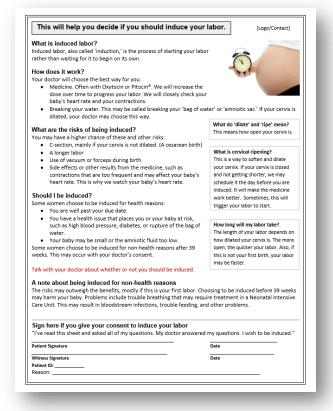## Use health literacy strategies to create clear science materials

- Tailor your message to your purpose and audience
- Make your content easy to navigate
- Use clear, direct language
- Make it actionable
- Use clear design

Before and after of a consent form for pregnant women:

Before: lots of jargon, purpose isn't clear

After: clear language, shows purpose and audience

Help readers understand numbers

Only use numbers that are necessary
- Example: On an informed consent document, "1 in 100 people will bleed after a growth is removed"

Avoid mathematical jargon
- Replace jargon with more common words:
  - Mean > average
  - Increased > higher, went up
  - Range > between x and x

Do the math for your readers
- Calculate or convert numbers – readers are unlikely to do even basic math

Give numbers meaning and context
- Example: Use labels such as "Low," "Normal," and "High" on a blood pressure chart
- Tie large numbers to familiar concepts, such as: "60 million people in the U.S. have allergies – more than twice the number of people living in California"
- When you use a percentage, also give the natural frequency. Example: "30% of people will have cancer during their lifetime, which means 1 out of 3 people have this health issue"

Use visuals to support numbers
- Example: To illustrate 20%, show an icon array that shows 100 people with 20 of them shaded

Clearly present risk

Usual way to present risk:
"The surgery carries a 15 percent risk of complication. This risk increases to 25 percent if the patient smokes or is overweight."

A person with low numeracy may ask:
- What does "percent" mean?
- What does "risk" mean?
- What does "increase in risk" mean?

Health-literate translation:

"We do this surgery enough to know how well it turns out for most patients.

Most patients do well, and the surgery goes as planned, and nothing happens afterwards that we do not want to happen, like bleeding or infection. But some patients do have things happen that are not good, like bleeding and infection.

Out of every 100 patients who have this surgery, 15 patients have one of these problems afterwards. If a patient smokes or is overweight, they are more likely to have bleeding or infection after this surgery than a patient who does not smoke or have too much body weight."

Strategies to communicate uncertainty

Manage expectations
- Be open and honest about what you don't know – this will help establish trust with your audience

Focus on the "need-to-know"
- When there is information overload and changing recommendations, the message needs to narrow
- Ask yourself: "What does my audience really need to know to make decisions that feel safe and healthy for them?"

Focus on the facts
- Clearly state the established facts
- Cite your sources to raise the credibility of your information
- Offer links to learn more

Make it patient- or consumer-focused
- Give real-life examples of how a scientific concept, rule, or guideline might affect people

Simple message that clearly states an established fact

Real-life example of how following this rule will affect people

Offers a link to learn more

Mask use in schools is an important strategy to prevent spread of COVID-19

All students, staff, faculty, and visitors in K-12 schools should:

Wear a mask indoors

Get vaccinated if eligible

Safer schools protect students and staff AND keep schools open

CDC

bit.ly/MMWR_COVID19

MMWR

Use online health literacy resources

- Program for Readability In Science & Medicine (PRISM)
  https://www.kpwashingtonresearch.org/about-us/capabilities/research-communications/prism/
- CDC Understanding Health Literacy & Numeracy
  https://www.cdc.gov/healthliteracy/learn/UnderstandingLiteracy.html
- IconArray.com
  http://iconarray.com/
- Usability.gov
  https://www.usability.gov/
- CDC Health Equity Guiding Principles for Inclusive Communication
  https://www.cdc.gov/healthcommunication/Health_Equity.html
- De Beaumont foundation
  Language to use to improve vaccine acceptance (can be used for positive science communication overall): Poll: The Language of Vaccine Acceptance - de Beaumont Foundation
  https://debeaumont.org/changing-the-covid-conversation/vaccineacceptance/

Use a health literacy or plain language thesaurus

- CDC's Everyday Words for Public Health Communication
  https://www.cdc.gov/other/pdf/everydaywordsforpublichealthcommunication.pdf
- Health Research for Action's Plain Language Word List
  https://multco.us/file/46697/download
- University of Michigan Plain Language Medical Dictionary
  https://www.lib.umich.edu/taubman-health-sciences-library/plain-language-medical-dictionary

Health literacy cheat sheet

Use this cheat sheet to see if your material follows the main principles of health literacy.

Purpose and audience

Make your purpose and intended audience clear at first glance to help build trust with your readers.

Purpose
Think about your purpose. What is your topic? Are you trying to educate, motivate, or change attitudes or behaviors? Describe your purpose as specifically as you can:

_____

_____

Audience
Think about your audience. Keep them in mind as you develop the material: their age, gender, ethnicity, reading level, and cultural beliefs. What questions might they have? Describe your intended audience as specifically as you can:

_____

_____

- ❑ State or imply the purpose in the title.
- ❑ Add a table of contents if material is 4 pages or longer.
- ❑ State or imply the audience in the title.
- ❑ Match visuals to the audience's physical appearance and life experience.
- ❑ Test your material with 3-5 people in your audience to see if it meets their needs.

Structure

Structure your material so readers can easily find what they need.

- ❑ Place the content in this order:
  - o Most important information first – the core message or what patients **need** to know to take action
  - o Supporting info second
  - o Background info last – history or data

- ❑ Include only "need to know" not "nice to know" information, such as prevalence data.
- ❑ Stick to 1 main message supported by 3-5 points that tie directly to your purpose. Write short sentences (15 words or fewer) and paragraphs (3-5 sentences).
- ❑ Delete extra words that muddy sentences, such as "Please be advised…"
- ❑ Place related items together – make sure the same point doesn't appear in multiple places (one exception is action steps, which are okay to summarize or repeat).
- ❑ Use headings that accurately represent the content that follows.
- ❑ Write headings that put the reader in an active role: "Ways to keep your heart healthy" instead of "Cardiovascular health."

Content

- ❑ Make your words and numbers easier to understand by saying what you mean and nothing more.
- ❑ Replace jargon (complex words) with common words when possible.
- ❑ If you need to use a complex word that can't be replaced, define it in the text: "Foot doctor, called a podiatrist."
- ❑ Write sentences in active voice so the subject performs the action: "The boy took his medicine" instead of "The medicine was taken by the boy."
- ❑ Use a conversational style. Try 1st person questions in headings and 2nd person answers in the body text.
- ❑ Use consistent terms rather than varying them. If you choose "doctor," stick with it throughout the material.

Behaviors

- ❑ Clearly tell your readers what you want them to do.
- ❑ Make the desired actions clear by highlighting and concretely explaining behaviors.
- ❑ If actions should be done in a certain order, put them in a numbered list.
- ❑ Engage readers with interactive elements such as a checklist, quiz, or a place where they can write notes

Design

- ❑ Make your material appealing and easy to read through clear layout and graphics.
- ❑ Make it easy to read:
  - o Include 20%-30% white space
  - o Break content into chunks
  - o Make headings distinct from body copy with more space above than below through bolding or using a different font
  - o Left-align the text
  - o Use dark text on a light background
- ❑ Aim for a line length of 3-5 inches.
- ❑ Limit bulleted lists to 2-7 items.

Graphics

- ❑ Choose graphics that are highly related to the purpose and that describe action steps – consider picture-based instructions to describe a process.
- ❑ Use clear graphics:
  - o Simple black and white line drawings
  - o No distracting backgrounds
  - o Explain through captions
- ❑ Use simple tables with around 3 rows and 3 columns.

Fonts

- ❑ Use clear fonts:
  - o Sans serif
  - o 12-point or larger
  - o Use **bold** to highlight an important word or phrase
- ❑ Avoid ALL CAPS, underlining, *italics*, and novelty fonts

Resources

Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. (2013). ***CDC Clear communication index: a tool for developing and assessing CDC public communication products***, http://www.cdc.gov/ccindex/

Doak, C., Doak, L., & Root, J. (1996). ***Teaching patients with low literacy skills*** (2nd ed.). Philadelphia: J.B. Lippincott.