

# Health literacy for science communication

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### 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

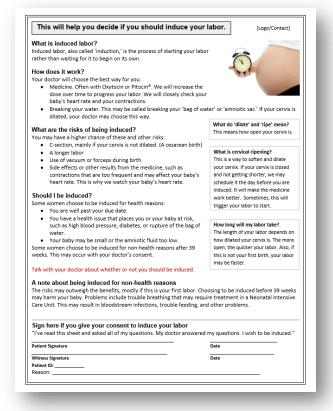
- Tailor your message to your purpose and Make it actionable audience
- Make your content easy to navigate
- Use clear, direct language

- Use clear design

#### Before and after of a consent form for pregnant women:

Inducti	on Consent form	Patient ID
Medica	al Center logo	
Addres	5	
Depart	ment	
	YOUR LABOR INDUCTION	
start the medical or "ripe	nduction is usually done with a medication called Oxytocin or Pitocin' ne medication as a standard dose and increase it over time to achi- tion, we will closely monitor the baby's heart rate and your contraction? "Your cervix is at the start of the induction. In general the more dilat- ir first birth, labor may be faster for you.	eve labor progress. While you are getting ns. The length of labor depends on how di
closed begin t	cervix is already fairly dilated, your practitioner may start your induction and not shortening, we may schedule cervical ripening the day before of dilate your cervix. Ripening will make the Oxytocin more effective where the onset of your labor. I	your induction. This procedure will soften
will trig	ger the onset of your labor.   WHY ARE LABOR INDUCTIONS PERFO	DRMED?
Labor i	nductions are performed for many reasons. Clearly, some reasons are	more urgent than others. Here are just a fe
exampl	es:	•
٠	A woman is well past her due date.	
۰	A woman is experiencing medical problems that place her or her baby	at risk, such as high blood pressure, diabet
	rupture of the bag of water, etc.	
	The baby or babies may be small or the amniotic fluid too low	
۰	Though less common, elective labor induction may be done after 39 v provider.	veeks gestation with approval from your
	WHAT ARE THE POTENTIAL RISKS AND BENEFI	TS OF LABOR INDUCTION?
It is alw	vays important to consider the potential benefits and risks of any proce	
the foll	owing:	
٠	Labor inductions may carry a greater risk of cesarean birth delivery th with an "unripe" cervix.	an do labors that start on their own, especi
٠	Induction usually results in longer labors and may lead to a higher cha	nce of vacuum or forceps delivery.
۰	All medications have possible side effects or unintended adverse reac	tions. For example, it is possible to cause
	contractions that are too frequent and may affect the baby's heart ra	te. This is why careful monitoring of your b
	heart rate is necessary during labor induction.	
	re considering an elective induction, the risks may outweigh the possib	
	f elective induction prior to 39 weeks gestation may include complication	
	ing that may require treatment in a Neonatal Intensive Care Unit, and n	nay result in bloodstream infections, trouble
feeding	, and other complications.	
	CONSENT FOR LABOR INDUCTION	ON
Indicat	ion for induction	
	ead the above information and I have had the chance to ask my practit ed to my satisfaction. I wish to proceed with the induction.	ioner questions. All of my questions have b
Patient S	ignature	Date

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 • What does "risk" mean? if the patient smokes or is overweight."

### A person with low numeracy may ask:

- What does "percent" 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"

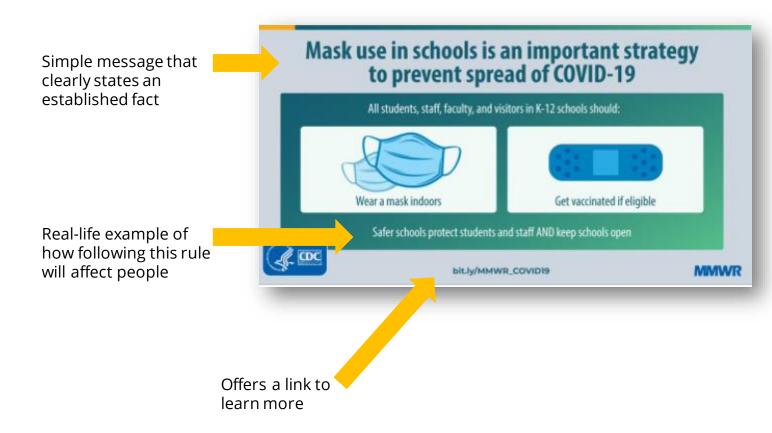
- When there is information overload and changing recommendations, the message needs to narrow
- Ask yourself: "What does my audience really need to know to make decisions that feel safe and healthy for them?"

#### 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



### Resources

### Use online health literacy resources

- Program for Readability In Science & Medicine (PRISM)
  <a href="https://www.kpwashingtonresearch.org/about-us/capabilities/research-communications/prism/">https://www.kpwashingtonresearch.org/about-us/capabilities/research-communications/prism/</a>
- CDC Understanding Health Literacy & Numeracy <a href="https://www.cdc.gov/healthliteracy/learn/UnderstandingLiteracy.html">https://www.cdc.gov/healthliteracy/learn/UnderstandingLiteracy.html</a>
- IconArray.com http://iconarray.com/
- Usability.gov <u>https://www.usability.gov/</u>
- CDC Health Equity Guiding Principles for Inclusive Communication <a href="https://www.cdc.gov/healthcommunication/Health\_Equity.html">https://www.cdc.gov/healthcommunication/Health\_Equity.html</a>
- 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 <a href="https://debeaumont.org/changing-the-covid-conversation/vaccineacceptance/">https://debeaumont.org/changing-the-covid-conversation/vaccineacceptance/</a>

# 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 <a href="https://www.lib.umich.edu/taubman-health-sciences-library/plain-language-medical-dictionary">https://www.lib.umich.edu/taubman-health-sciences-library/plain-language-medical-dictionary</a>

# 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:
  - Most important information first the core message or what patients need to know to take action
  - Supporting info second
  - o Background info last history or data

Ц	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

- 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 1<sup>st</sup> person questions in headings and 2<sup>nd</sup> 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
  - Break content into chunks
  - Make headings distinct from body copy with more space above than below through bolding or using a different font
  - o Left-align the text
  - 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
  - No distracting backgrounds
  - Explain through captions
- ☐ Use simple tables with around 3 rows and 3 columns.

#### **Fonts**

- ☐ Use clear fonts:
  - o Sans serif
  - 12-point or larger
  - Use **bold** to highlight an important word or phrase
- □ Avoid ALL CAPS, <u>underlining</u>, *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* (2<sup>nd</sup> ed.). Philadelphia: J.B. Lippincott.