

CDC Clear Communication Index

A Tool for Developing and Assessing
CDC Public Communication Products

User Guide

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Clear Communication and Plain Language at CDC

The Clear Communication Index (Index) provides a set of research-based criteria to develop and assess public communication products. The Index supports the efforts of the Centers for Disease Control and Prevention (CDC) to comply with the Plain Writing Act of 2010 and achieve goals set forth in the [National Action Plan to Improve Health Literacy](#) and the [CDC Action Plan to Improve Health Literacy](#).

The 20 items in the Index build on and expand plain language techniques described in the Federal Plain Language Guidelines. The research that supports the use of the 20 Index items is in Appendix A.

The Index at a Glance

Why Was the Index Developed?

The Index was developed to:

1. Identify the most important communication characteristics that enhance clarity and aid understanding of public messages and materials.
2. Provide a research-based tool for staff to develop and assess communication products for CDC's audiences, no matter the format or distribution channel.

Who Should Use the Index?

The Index is for:

- CDC staff who write, edit, design, and review communication products for the public
- Contractors who produce materials for CDC

How Does the Index Work?

The Index contains 20 items, each with a numerical score of zero or one. The individual scores are converted to an overall score on a scale of 100. Although 100 is an ideal score, 90 or higher is passing.

The Index assesses materials in these 7 areas:

1. Main Message and Call to Action
2. Language
3. Information Design
4. State of the Science
5. Behavioral Recommendations
6. Numbers
7. Risk

Estimated time required to complete the Index: 15 minutes

What Makes the Index Different from Other Communication Guidelines and Readability Formulas?

You may have tried communication checklists and readability formulas before. The Office of the Associate Director for Communication (OADC) reviewed the most well-known communication checklists and found that many lack references and supporting documentation. And most checklists are long, making them less easy to use.

Readability formulas are inadequate to assess communication effectiveness. These formulas are a mechanical “count” of syllables and sentences; they don’t consider audience, purpose, or the majority of communication characteristics that contribute to clarity and comprehension. Short words and sentences affect some aspects of cognitive processing, but they are not sufficient for ensuring that communication is clear and effective.

CDC’s Index goes beyond checklists and readability formulas by:

- Focusing on the most important research-based items that enhance clarity and aid understanding
- Providing a numerical score so that you can objectively assess and improve materials based on the best available science

How to Use the Index

The Index is designed to help you communicate clearly with your intended audience(s). You can use the Index in several ways:

1. To inform the design and development of a new communication product
2. To assess the clarity of a communication product prior to public release
3. To foster discussion and collaboration between writers and reviewers before or during the clearance process as you work to attain scientific accuracy *and* clarity of content
4. To quickly assess the clarity and ease of use of an already released communication product

Remember:

The Index is not a substitute for the *Federal Plain Language Guidelines*. When you develop a public communication product, be sure to follow the *Guidelines* – they’re the law.

Developing Effective Communication Products (Quick Check)

Are You on Track to Know Your Audience?

No matter how you use the Index, remember it's just one step in the process of developing effective communication products. It cannot take the place of formative research or pretesting with your intended audience. See Appendix B for an annotated version of this list and related resources.

- 1. Did you identify your intended audience(s)?**
Always consider the audience and what they need and want.
- 2. Did you conduct audience research?**
Get to know your audience – don't guess or assume. Review existing data or gather new data through formative research.
- 3. Did you identify your behavioral objective(s) and key messages?**
What do you want your intended audience to do? Define the behavioral objective(s) of the material based on behavioral and communication theory.
- 4. Did you determine how your material will be formatted and distributed so that it reaches your audience?**
Consider how your audience will find, receive and use the material. Choose the best format for your audience and the message (written, visual, audio, video). Identify dissemination channels, such as social media, community organizations, websites, and activities that match the audience.
- 5. Did you build in time and resources to pretest the material with your intended audience and revise based on feedback?**
This step can be done multiple times, if needed. Remember, even the most robust communication guidelines cannot substitute for pretesting with your intended audience.

Anatomy of a Material

The following example illustrates how multiple Index items work together to make a material easier to understand and use.

Main message is at the top of the page

Visual supports the text

Unfamiliar terms are explained

Uses headings and chunked text

Vaccine Safety

Vaccine Safety Basics
Addressing Common Concerns
2009 H1N1 Flu
Adjuvants
Autism
CDC Statement on Pandemrix
Fainting (Syncope)
Febrile Seizures
GMS
IDM Report on Adverse Effects of Vaccines
Pregnancy and Influenza Vaccine Safety
Sudden Infant Death Syndrome (SIDS)
Thimerosal

Vaccines & Immunoglobins & Risk of Autism
Infant & Environmental Exposures to Thimerosal

Thimerosal: Questions and Answers

Timeline: Thimerosal in Vaccines (1999-2010)
Publications
FAQs about Hep B and Multiple Sclerosis (MS)
FAQs about Multiple Vaccines and the Immune System
FAQs about Vaccine Recalls
FAQs about Vaccine Safety
Vaccine Monitoring
Activities
Special Populations
Resource Library

Vaccine Safety > Addressing Common Concerns > Thimerosal

Recommended 106 | Tweet 9 | Share

Thimerosal: You asked. We answered.

Some parents have questions about the safety of ingredients – like thimerosal (“THY-mayn-uh-sal”) – in children’s shots (vaccines).

We want you to know that thimerosal is no longer used in children’s shots, except the flu shot. You can ask for a flu shot without thimerosal.



Check out these answers to common questions about thimerosal.

What is thimerosal?

Thimerosal is added to some shots to prevent germs (like bacteria and fungi) from growing in them.

If germs grow in vaccines, they can cause illness — or even death.

Why do some people worry about thimerosal in vaccines?

You may have heard that thimerosal has mercury in it. Not all types of mercury are the same. Some types of mercury, like mercury in some kinds of fish, can stay in the human body and make us sick. Thimerosal is a different type of mercury. It doesn’t stay in the body, and is unlikely to make us sick.

Is thimerosal safe?

Yes. Thimerosal has been used safely in vaccines for a long time (since the 1930s). Scientists have been studying the use of thimerosal in vaccines for many years. They haven’t found any evidence that thimerosal causes harm.

Is thimerosal still used in vaccines for children?

No. Thimerosal hasn’t been used in vaccines for children since 2001.

However, thimerosal is still used in some flu vaccines. The flu vaccine is recommended for all children. If you are worried about thimerosal, ask for a flu vaccine without it.

Description and Examples of Index Items

This section contains descriptions and examples of how to apply each of the 20 items in the Index.

Part A: Core Items (applicable to all materials)

Main Message and Call to Action

1. Does the material contain one main message?

Make sure the material has one obvious main message. The main message should reflect the purpose and most important information in the material.

A message is the information you are trying to communicate to another person or group of people. Messages can be written, spoken or visual, such as a photo, icon or human gesture.

Example:

The image shows a flyer from the '10 tips Nutrition Education Series'. The central focus is a callout box with a purple border containing the text: 'be a healthy role model for children' and '10 tips for setting good examples'. To the right of this box, a purple arrow points from a purple text box that says 'One obvious main message'. Below the callout box, the flyer text reads: 'You are the most important influence on your child. You can do many things to help your children develop healthy eating habits for life. Offering a variety of foods helps children get the nutrients they need from every food group. They will also be more likely to try new foods and to like more foods. When children develop a taste for many types of foods, it's easier to plan family meals. Cook together, eat together, talk together, and make mealtime a family time!' Below this are three numbered tips: 1. show by example, 2. go food shopping together, 6. focus on each other at the table, and 7. listen to your child. The flyer also features the 'Choose MyPlate.gov' logo.

Image Source: <http://www.choosemyplate.gov/foodgroups/downloads/TenTips/DGTipsheet12BeAHealthyRoleModel.pdf>

2. Is the main message at the top, beginning, or front of the material?

People look for the most important information at the top, beginning, or front of a material. When you put the main message first, people can find it more easily and quickly. For example, a main message belongs at the top of a web page or poster and on the front page of a folded brochure.

When scoring a single print page material, the main message should be in the top fourth of the page. If the material is for the web, the main message should be visible without scrolling.

Example:

The example shows a layout for a brochure titled "Keeping Your Hands Clean on a Cruise". At the top, in a purple box, is the main message: "To stay healthy and clean, wash your hands with warm water and soap." A purple callout box with an arrow points to this message, stating "Main message is at the top of the first page". Below the main message are two columns of text. The left column, titled "When to wash your hands:", lists "Before:" and "After:" activities. The right column, titled "How to wash your hands:", lists six steps. At the bottom right of the right column is a photograph of hands being washed under a faucet.

Keeping Your Hands Clean on a Cruise

To stay healthy and clean, wash your hands with warm water and soap.

When to wash your hands:

Before:

- Touching your hand to your mouth, including
 - » Eating,
 - » Drinking, and
 - » Brushing your teeth.
- Helping a sick person.

After:

- Going to the bathroom.
- Changing diapers.
- Touching high-hand contact surfaces such as
 - » Door knobs,
 - » Elevator buttons, and
 - » Railings.
- Returning to your cabin.
- Helping a sick person.
- Blowing your nose.

How to wash your hands:

1. Wet your hands with warm water.
2. Apply a generous amount of soap.
3. Rub your hands together for 20 seconds.
4. Rinse your hands.
5. Dry your hands with a paper towel.
6. Use the paper towel to turn off the faucet and open the door.




Image Source: http://www.cdc.gov/nceh/lead/tools/Know_the_Facts.pdf

- ✓ **Supporting Plain Language Guideline:** Identify and write for your audience. (<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/orgAud.cfm>)
- ✓ **Supporting Plain Language Guideline:** Organize to meet your readers' needs. (<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/audId.cfm>)

3. Is the main message emphasized with visual cues?

Visual cues draw attention to parts of a material. Use visual cues to draw attention to the main message. People perceive differences in size, shape and color as meaningful. When you draw attention to the main message, people will more easily and quickly recognize it.

To make visual cues compatible with web accessibility guidelines, include descriptive alternative text, such as “The main message is...,” for the screen reader.

Examples of visual cues are

- Boldface
- Color
- Shapes
- Lines and arrows
- Font type, size, alignment, and spacing
- Heading, such as “What you need to know”

Example:

The screenshot shows the CDC website page for "Seasonal Flu Vaccine: Questions and Answers". The main heading is "Seasonal Flu Vaccine: Questions and Answers". Below the heading, there is a purple box highlighting the main message: "The best way to protect yourself from the flu is to get the flu vaccine (the shot or a nose spray) every year." To the right of this text is an image of a doctor examining a child. A purple callout box with an arrow points to the highlighted text, containing the text "Main message is emphasized with a box". Below the highlighted text, there is a section titled "Who should get the flu vaccine?" with a question mark icon. This section contains the text: "Everyone age 6 months and older needs to get the flu vaccine every year. The seasonal flu vaccine is the best way to protect yourself and others from the flu." Below this, there is a section titled "Talk to a doctor before getting the flu vaccine if you:" with a list of bullet points: "• Have an allergy to chicken eggs", "• Have had a severe reaction to the flu vaccine in the past", "• Are sick with a fever", and "• Have a history of Guillain-Barré Syndrome (also called GBS)". At the bottom of the page, there is a "Contact Us" section with the CDC logo and contact information.

4. Does the material contain at least one visual that conveys or supports the main message?

Make sure the words and visuals in the material convey the same message and reinforce each other. People expect words and visuals that appear close to each other to be about the same information. When the words and visuals are unrelated, unclear, or contradictory, people can get confused or distracted. Remember, don't overload visuals with too much information.

Government rules about information accessibility on the web mean that all visuals need to have labels and captions. Labels and captions will help audiences easily and quickly get the gist of a visual and reduce chances of misinterpretation.

Photographs, graphs, and infographics are visuals. When they are clearly designed and not overloaded with information, they can help people easily and quickly grasp information.

Example 1:



Image Source: <http://www.cdc.gov/niosh/docs/2007-131/pdfs/2007-131.pdf>

Example 2:

How can older adults prevent falls?

- Exercise regularly. Focus on increasing leg strength and improving balance.
- Try exercises that get more challenging over time. Tai Chi is a good choice.



Benefits of visuals: They

- provide an alternative to text to get the main message
- break up blocks of words
- make materials appear easier to read

✓ **Supported by the CDC Style Guide:** A visual can convey ideas in a way words cannot.

5. Does the material include one or more calls to action for the primary audience?

Tell the primary audience what you want them to do with the information you've given them. The action can be a specific behavior, a prompt to get more information, a request to share information with someone else, or a broad call for program or policy change. Even when your purpose is to inform an audience, think about why they need this information, and use this insight to create a call to action.

Example 1:

If you have questions about your relationship, call 1-800-799-SAFE (1-800-799-7233). If you are in danger right now, call 911. [Find out more about getting help.](#)

Example 2:

If you plan to go to work after pregnancy, a lactation counselor can help you plan to keep providing breast milk for your baby while you are away.

Get more information about:

- [Pumping and storing your breast milk](#)
- [Your rights at work](#)

Example 3:

Science must continue to guide global HIV treatment and prevention efforts. Public health professionals should select HIV treatment and prevention strategies that are evidence based.

Language

6. Do both the main message and the call to action use the active voice?

Use active voice and allow the subject of the sentence to perform the action. Active voice is used most often in conversation.

Example 1:

Active Voice: Wash fruits and vegetables before you cut or peel them.

Passive Voice: Fruits and vegetables should be washed before they are cut or peeled.

Example 2:

<p>Before (passive voice): The draft guidance was made available for public comment through publication in the <i>Federal Register</i>. Comments received were considered and, when appropriate, incorporated into the document.</p>	<p>After (active voice): CDC published the draft guidelines in the <i>Federal Register</i> for public comment. We carefully reviewed the comments and, when it was appropriate, we incorporated them into the guidelines.</p>
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- ✓ **Supporting Plain Language Guideline:** Use active voice.
(<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeActive.cfm>)
- ✓ **Supported by the CDC Style Guide:** As a rule, use the active voice because it is more accurate, direct, precise, and interesting.

7. Does the material always use language the primary audience would use?

Choose the most common or frequently used words or terms for the primary audience, that is, words they use every day. When you use the language the audience uses, they will more easily and quickly process information in the material. Be careful, though, not to use slang, colloquial, metaphorical or offensive language that confuses or upsets the audience or violates their expectations of you as an information source. Pilot testing the material can tell you if you have used the language that will resonate with the primary audience.

When you need to use an unfamiliar term, explain it where you use it – in the same sentence or immediately after.

Some acronyms and abbreviations may be familiar to the primary audience, and others may not. Pilot testing the material with the audience will tell you which acronyms and abbreviations make sense to them. The general rule is to use acronyms and abbreviations sparingly, and when you do use them, spell them out and explain what they refer to. If people don't need to know the full word or phrase, use alternative phrasing.

Example 1:

Color Me Safe is a coloring book for children ages 4 to 7. In the book, the Safe Family takes simple steps to prevent injuries, like using child safety seats and wearing helmets when riding bikes. Coloring the pictures and reading about the Safe Family is a fun way to learn about safety with your child.

Example 2:

The best way to prevent cervical cancer is to get regular Pap tests. A **Pap test** (sometimes called a Pap smear) is a screening test for cervical cancer. It's done in a doctor's office or clinic. While you lie on the exam table, the doctor or nurse will put a medical tool (called a **speculum**) into your vagina, opening it to see your cervix. The cervix connects the uterus (or **womb**) to the vagina.

Example 3:

Choose a bug spray with DEET (a common ingredient that protects against tick bites).

Example 4:

Physical activity can help lower your LDL (“bad”) cholesterol and raise your HDL (“good”) cholesterol.

The CDC Style Guide Says...

Replace jargon words with their plain language alternatives. For **example:**

<u>Avoid:</u>	<u>Use:</u>
acquired	get
detrimental	harmful
following	after
frequently	often
in the event of	if
initial	first
regarding	about
sufficient	enough

Refer to the list of jargon words and their alternatives on page 73 of the [CDC Style Guide](#) for more examples.

- ✓ **Supporting Plain Language Guidelines:** Use short, simple words.
(<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeShort.cfm>)
- ✓ **Supporting Plain Language Guideline:** Minimize abbreviations.
(<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeNoAbbrev.cfm>)

Information Design

8. Does the material use bulleted or numbered lists?

Use lists to break up text in the body of the material and make information easier to scan and read. Lists with more than seven items must be broken into sub-lists.

Example 1:

<p>Before: There are many factors that put you at risk for developing type 2 diabetes. Being overweight or obese is one of the major risk factors. Having a family member, like a parent, brother, or sister with diabetes is also a risk factor. If you are African American, American Indian, Asian American, Pacific Islander, or Hispanic/Latino American you may be at greater risk.</p>	<p>After: Am I at risk for diabetes? You may be at risk for type 2 diabetes if you:</p> <ul style="list-style-type: none">• Are overweight or obese• Have a parent, brother, or sister with diabetes• Are African American, American Indian, Asian American, Pacific Islander, or Hispanic/Latino American
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Example 2:

The screenshot shows a webpage titled "Benefits of Quitting" with a sub-header "Many people who quit smoking are surprised by how good they feel!". Under the sub-header "They feel in charge", there is a bulleted list: "• They don't need to smoke", "• They don't have to find places to smoke", and "• They don't have to worry about their smoke bothering others". A purple callout box with an arrow points to this list, containing the text "Uses bulleted lists". Other sections on the page include "They smell good", "They feel more relaxed", "They look and feel better", and "The reality of quitting".

Image Source: <http://smokefree.gov/topic-benefits.aspx>

- ✓ **Supporting Plain Language Guideline:** Use lists. (<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeLists.cfm>)

9. Is the material organized in chunks with headings?

Break text into chunks to help the audience remember and group similar information. Chunked information also looks less dense and overwhelming to read.

A “chunk” is the amount of words or numbers that people can hold in their short-term memory and group with other words or numbers. A chunk should be only one idea that people can connect to other, related ideas.

Use headings to organize and label chunks. Headings are sometimes referred to as “advance organizers.” Consider information flow in the material when creating headings and chunks. Headings must accurately reflect the information that follows, or they can distract or confuse the audience.

Headings are visually distinct (in font style, size, and with spacing) from the body text of the document. Leave more space above a heading than below.

Example 1:

Before:

Measles is highly contagious, and it easily spreads to unvaccinated people. About 90% of unvaccinated people will get measles if they are exposed to an infected person. Measles spreads through the air when an infected person breathes, coughs, or sneezes. So, you can get measles if you are in the same room or place as an infected person and even after they leave. Measles virus can stay in the air for up to 2 hours.

While traveling, you could be exposed to infected people almost anywhere, including airports, airplanes, buses, hotels, restaurants, and stadiums. Infected people can spread measles even if they do not have the measles rash yet. So, you never know when you might be exposed to someone infected with measles virus.

After:

How contagious is measles?

Measles is highly contagious. This means that it spreads easily from person to person. Most people (about 90%) who have not gotten the measles shot will catch measles if they are around an infected person.

How does measles spread?

Measles spreads through the air when an infected person breathes, coughs, or sneezes. So, you can get measles if you are in the same room or place as an infected person and even after they leave. Measles virus can stay in the air for up to 2 hours.

While traveling, you could be around infected people almost anywhere, including airports, airplanes, buses, hotels, restaurants, and stadiums.

How can I tell if someone has measles?

You can't tell. Infected people can spread measles even if they do not have the measles rash yet. So, you never know when you might be near someone infected with measles virus.

Adapted from: <http://www.cdc.gov/Features/MeaslesOlympics/>

Example 2:

Prevention Tips

Gear up.

If your child is active in sports, make sure he uses the right protective gear for his activity, like a helmet, wrist guards, or knee or elbow pads.

Use the right stuff.

Be sure that protective sports gear is in good condition and worn correctly at all times. For example, avoid missing or broken buckles or worn-out padding.

Practice makes perfect.

Have your child learn and practice the skills she needs for her activity. For example, if she plays football, knowing how to tackle safely is important in preventing injuries. Be sure to safely and slowly increase your child's activities so she can improve her physical fitness. This can protect your child from getting hurt.

Adapted from: http://www.cdc.gov/safechild/Sports_Injuries/index.html

- ✓ **Supporting Plain Language Guideline:** Write short sentences.
(<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeShortSect.cfm>)
- ✓ **Supporting Plain Language Guideline:** Write short paragraphs.
(<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/writeShortPara.cfm>)

10. Is the most important information the primary audience needs summarized in the first paragraph or section?

Present information so that the amount doesn't overwhelm the audience. You don't need to provide all the information you have in one material. Instead, include only the most important information for the main message you've selected. You can provide the audience ways to get additional or related information if they want it.

Examples of types of information that may be important include:

- Basics I need to know (Understanding)
- I would like to learn more (Assessment)
- I can do this (Overcoming Barriers)
- How will this help me? (Motivators)
- Ways I can take action (Strategies)
- Where can I go for help? (Community Resources)

Source: <http://www.health.gov/healthliteracyonline/content.htm#p1>

Example:

Cervical Cancer Screening

Cervical cancer is the easiest female cancer to prevent, with regular screening tests and follow-up. Two screening tests can help prevent cervical cancer or find it early—

- The Pap test (or Pap smear) looks for precancers, cell changes on the cervix that might become cervical cancer if they are not treated appropriately.
- The HPV test looks for the virus ([human papillomavirus](#)) that can cause these cell changes.

On This Page

- When to Get Screened
- How to Prepare for Your Pap Test
- Pap Test Results
- Screening Guidelines

Most important information summarized in the first paragraph

Image Source: http://www.cdc.gov/cancer/cervical/basic_info/screening.htm

- ✓ **Supporting Plain Language Guideline:** Organize to meet your readers' needs. (<http://www.plainlanguage.gov/howto/guidelines/FederalPLGuidelines/audId.cfm>)

State of the Science

11. Does the material explain what authoritative sources, such as subject matter experts and agency spokespersons, know and don't know about the topic?

Acknowledge uncertainty about data, findings, recommendations, guidance and action steps. Public health science continuously evolves, especially in emergency and crisis situations. What we know today may not be complete or fully accurate. And what we know today may not be sufficient to answer all of the public's questions.

Acknowledging uncertainty helps the public understand how the scientific process works and introduces the idea that CDC findings and recommendations may change over time. In other words, by acknowledging uncertainty, we can contribute to the public's science literacy.

Example 1:

Post-treatment Lyme disease syndrome

We don't know the exact cause of post-treatment Lyme disease syndrome (PTLDS). Most scientists think the signs and symptoms of PTLDS, like muscle pain and feeling tired, are caused by the damage to the body from the infection. But some medical experts think these signs and symptoms mean the body is still infected. Scientists are still doing research to find out what causes PTLDS.

Adapted from <http://www.cdc.gov/lyme/postLDS/>

Example 2:

CDC is working with public health officials in many states to investigate an outbreak of foodborne illness. The investigation typically takes a few weeks. As soon as a source (the cause of the outbreak) is identified, we will warn the public and conduct food recalls if appropriate.

Adapted from <http://www.cdc.gov/salmonella/typhimurium/archive/010809.html>

Example 3:

Some medicines are known to be harmful to pregnant women. Many medicines have not been tested on pregnant women – so doctors are not sure if they are safe or not. If you are pregnant or planning on getting pregnant:

- Write down what medicines you take
- Keep track of how much medicine you take
- Ask your doctor if it is safe for you to take your medicine during pregnancy

Adapted from http://www.cdc.gov/ncbddd/pregnancy_gateway/meds/index.html

Part B: Behavioral Recommendations

(may not apply to all materials)

12. Does the material include one or more behavioral recommendations for the primary audience?

Tell people upfront what they can do to protect and promote their health. Behavioral recommendations are specific actions people can take to protect their health or the health of others. When you create health or safety messages, focus on behavior rather than medical facts or statistics.

Example 1:

If you are pregnant, getting a flu shot is the best way to protect yourself from the flu. Here are some other steps you can take to keep yourself and your family healthy this flu season:

- Make sure everyone 6 months of age and older gets the flu shot or nasal spray.
- Wash your hands often to prevent the spread of germs.

If you have been near someone with the flu, talk to your doctor about taking medicine (called antiviral medicine). Antiviral medicine can prevent you from getting sick.

Example 2:

4 Steps to Get Ready for a Healthy Pregnancy:

1. Take 400 micrograms (mcg) of folic acid every day for at least 1 month before getting pregnant to help prevent birth defects.
2. Stop smoking and drinking alcohol.
3. If you have a medical condition, be sure it's under control. Some conditions include asthma, diabetes, oral health, or obesity. Also be sure that your vaccinations are up-to-date.
4. Talk to a health care professional about any over-the-counter and prescription medicines you are taking. These include dietary or herbal supplements.

Adapted from: http://www.cdc.gov/ncbddd/pregnancy_gateway/before.html

13. Does the material explain why the behavioral recommendation(s) is important?

Give the primary audience reasons why they should or shouldn't do health behaviors and tell them possible consequences of doing or not doing the behaviors. Provide enough information so they can easily and quickly grasp why the behaviors are important. You will help people make informed decisions.

Example 1:

If you are a woman age 65 or older, schedule a bone density test. A bone density test measures how strong your bones are. The test will tell you if you are at risk for osteoporosis.

Osteoporosis is a disease of the bones. It means your bones are weak and more likely to break. There are no signs or symptoms of osteoporosis. You might not know you have the disease until you break a bone. That's why it's so important to get a bone density test to measure your bone strength.

Example 2:

Stand up slowly. Getting up too quickly can cause your blood pressure to drop. That can make you feel wobbly.

Example 3:

The 2010 Dietary Guidelines for Americans recommend limiting sodium (salt). Eating a lot of salt can raise your blood pressure, and high blood pressure is a major risk factor for heart disease and stroke. Even if you do not have high blood pressure, the lower your blood pressure in general, the lower the risk of heart disease and stroke.

14. Does the behavioral recommendation(s) include specific directions about how to perform the behavior?

In addition to recommending behaviors, be sure to tell the audience *how* to do the behaviors. Describe the steps involved in performing the behaviors. Be as specific as possible about how often or how long a behavior needs to be performed. New or complex behaviors may require more detailed directions, but remember, don't overwhelm the audience with too much information.

Breaking behavior down into specific action steps can increase people's confidence in their ability to perform the behavior, known as self-efficacy, which is an important predictor of health behavior.

Example 1:

1. Wet your hands with clean running water and lather with soap.
2. Rub your hands together for at least 30 seconds.
3. Rinse your hands with clean running water.

Example 2:

Lift things with your legs, not your back. Keep your back straight and bend at the knees or at the hips. Get help if the load is too heavy for you to lift alone.

Example 3:

CDC urges women to take **400 mcg** of folic acid **every day**, starting **at least one month before getting pregnant**, to help prevent major birth defects of the baby's brain and spine.

Part C: Numbers
(may not apply to all materials)

15. Does the material always present numbers the primary audience uses?

Express numbers in common terms. Most people find it challenging to make meaning from percentages, decimals, fractions and other numbers commonly used in research. For example, many people have difficulty with very large and very small numbers and measurement units such as milligrams.

During formative research, always ask audience members about their understanding of numbers used in the material. If you don't have formative research findings, use numbers most often used by non-experts, such as whole numbers

Note: There are some instances in which decimals are commonly used, such as human body temperature (98.6 degrees).

Example:

Before: Eighty-one percent of children ages 6 months to 6 years watch TV or videos for about 1.96 hours a day .	After: 8 out of 10 children ages 6 months to 6 years watch TV or videos for about 2 hours a day .
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16. Does the material always explain what the numbers mean?

Provide reasons why the numbers in the material are important to the main message and the audience’s understanding of the information. As with words, numbers can mean different things to different people. Some numbers may seem significant and worrisome to one group of people and insignificant to another group. Many people –even health professionals – have difficulty interpreting and extracting a meaningful “bottom line” from numbers.

To help people make sense of numbers, present them in context. Is the number high or low for this type of health issue or higher or lower than expected? Is the number important for an individual to know about and act on or a number describing a health outcome in a large group of people?

CDC often shares “case counts” for many different diseases. This epidemiologic information often shows the place and time for “cases,” meaning a person who got sick from a particular disease or met a particular definition of a disease or condition. There should always be a description of what these numbers mean to individual or population health.

- **MORE OR LESS:** For example, one case of a rare infectious disease might be cause for alarm and immediate public health action while many cases of a common infectious disease may not be alarming.
- **EXPECTED OR NOT:** For example, a disease appears in an unexpected place versus a place where the disease may be common. Sometimes, a disease can occur at a time of the year that is different than what has happened in the past, such as flu season starting early.

Avoid using qualitative descriptors, such as high and low or large and small, by themselves. When you use qualitative descriptors, you must also provide the number and explain the meaning.

Example 1:

The amount of meat recommended as part of a healthy meal is 3 to 4 ounces – it will look about the same size as a deck of cards.

Example 2:

Radon is a poisonous gas. Testing your home is the only way to know if you have a radon problem. If your home has a radon level of 4 or higher, you will need to make a plan to fix your home. This much radon is unhealthy for you and your family. If radon levels are between 2 and 4, you may want to fix your home. No level of radon is safe.

Example 3:

About 1 in 8 women in the United States will get breast cancer in her lifetime. That’s a very high number of women. In fact, after skin cancer, breast cancer is the most common type of cancer in women.

17. Does the audience have to conduct mathematical calculations?

Be sure to do the math rather than expect the audience to calculate. Provide calculations and conversions so that the audience isn't distracted, confused or intimidated by the numbers and formulas or misinformed by errors in their calculations. Few people are likely to take the time or able to conduct even basic mathematical calculations such as addition and subtraction. Research shows health professionals and trained statisticians can make wrong assumptions and calculation errors, depending on the context and type of calculations involved.

Example 1:

Adult BMI Calculator: English

This calculator provides BMI and the corresponding BMI weight status category. Use this calculator for adults, 20 years old and older. For children and teens, 2 through 19 years old, use the BMI Calculator for Children and Teens.

Calculate Your BMI English | Metric

1. Height:
 feet
 inch(es)

2. Weight:
 pounds
(Note: 8 ounces = 0.5 pounds)

Calculate

Calculates BMI

Note: this calculator uses JavaScript. If you have JavaScript turned off or have problems using the calculator, use the formula for calculating BMI on About BMI for Adults.

Image Source: http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/english_bmi_calculator/bmi_calculator.html

Example 2:

How much money did you spend on alcohol last year?

If you had 3 alcoholic drinks a day and each drink cost \$4, then you spent \$4,380 last year on alcoholic drinks. What else could you do with \$4,380 this year?

Adapted from: <http://www.cdc.gov/ncbddd/fasd/documents/counselormanual.pdf> (page 54)

Part D: Risk

(may not apply to all materials)

According to the Public Health Foundation's [epidemiology glossary](#), “risk” is the probability that an event will occur and affect a person within a specific time or age span. However, CDC materials often use “risk” in several different ways. Risk can refer to the

- threat or harm to an individual or group of people (**example:** Drinking contaminated water is a risk to human health.)
- outcome of a threat or harm (**example:** Many people don't know they are at risk for heart disease even though heart disease is the leading cause of death.)
- factors that make threat or harm more likely, that is risk factors (**example:** Binge drinking is a risk factor for alcohol-related car crashes and unintentional injuries.)
- likelihood that a threat or harm will happen (**example:** Workers who make, use or work near flavoring chemicals have an increased risk of lung disease.)

When you write, talk about or show images to convey risk, be sure the meaning of risk you intend is clear from the context and topic of the material. You should not use only qualitative descriptors, such as high and low or large and small, by themselves to describe risk because people may not interpret these words the same way. A large risk to one person may be a small risk to someone else.

18. Does the material explain the nature of the risk?

Tell audiences what the actual threat or harm is and how they will be affected. State the cause and effect connection between the risk and the effects of being at risk. Provide enough information so that audiences can evaluate what the risk means to them and how they might be affected. For example,

- will they experience a minor, temporary inconvenience or a life-changing event or long-term effects?
- what will happen if they don't take the recommended actions or perform behaviors to protect or promote their health?
- could they get sick or die as a result of not taking the recommended action or performing the behavior?
- do they have the same likelihood of experiencing harm if they do a risky behavior once versus doing the behavior repeatedly over their lifetime?

Example 1:

Some women have a higher chance of having a child with a birth defect, including women over the age of 35. This means that if you are pregnant and over age 35, you are more likely to have a baby with a birth defect than a woman age 35 or younger.

Example 2:

Raw milk can carry harmful bacteria and other germs that can make you very sick or kill you if you drink it.

Getting sick from drinking raw milk can mean many days of diarrhea, stomach cramping, and vomiting. Less commonly, it can mean kidney failure, paralysis, chronic disorders, and even death.

19. Does the material address both the risks and benefits of the recommended behaviors?

Recognize that non-expert audiences may perceive risks and benefits differently than public health or clinical professionals or statisticians. To make informed decisions, people need to understand the risks (perceived and actual) and benefits (perceived and actual) of behaviors, treatments, and preventive measures.

Example 1:

The following message addresses both perceived benefits and actual risks.

You may feel like smoking helps you relax and reduces stress. But smoking hurts you and the people in your life. In fact, smoking harms nearly every organ in your body.

Example 2:

Should I Get Screened for Prostate Cancer?

Not all medical experts agree that screening for prostate cancer will save lives. Currently, there is not enough evidence to decide if the potential benefits of prostate cancer screening outweigh the potential risks.

Potential benefits of prostate cancer screening include—

- Screening can detect cancers early.
- Treatment for prostate cancer may be more effective when it is found early.

Potential risks of prostate cancer screening include—

- False positive test results (indicating that you have prostate cancer when in fact you do not) that lead to further tests and can cause anxiety.
- Treatment of some prostate cancers that may have never affected a man's health even if left untreated.
- Treatment may lead to serious side effects such as impotence (inability to keep an erection) and incontinence (inability to control the flow of urine, resulting in leakage).

CDC and other federal agencies follow the prostate cancer screening guidelines set forth by the [U.S. Preventive Services Task Force](#), which state that there is insufficient evidence to recommend for or against routine screening for prostate cancer using PSA or DRE.

Image Source: http://www.cdc.gov/cancer/prostate/basic_info/screening.htm

20. If the material uses numeric probability to describe risk, is the probability also explained with words or a visual?

A numeric probability is a statement in numbers about the likelihood of an event, such as heart disease causes 1 in 4 deaths, or a patient has a 5% chance of a side effect from a medication.

CDC materials may use numeric probability statements to convey risk from exposures, behaviors or hereditary characteristics. Risk statements that solely rely on numbers may be difficult for audiences to understand. Combine numbers, words and visuals to explain risk statements. People better understand probabilities when they are presented with words and visuals that match and reinforce the meaning of the numbers than when numbers are presented alone.

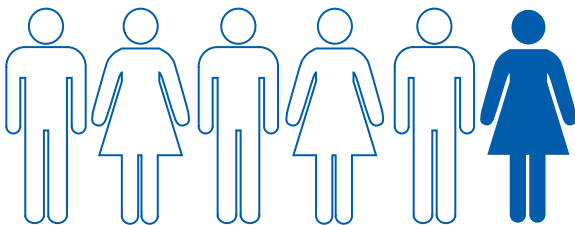
Generally, people more easily understand

- natural frequency expressions (1 in 4) than percentages (25%).
- absolute risk (6% chance of a disease) than relative risk (50% less chance of a disease) or number needed to treat (number of people who need a preventive treatment to prevent one case of a disease).

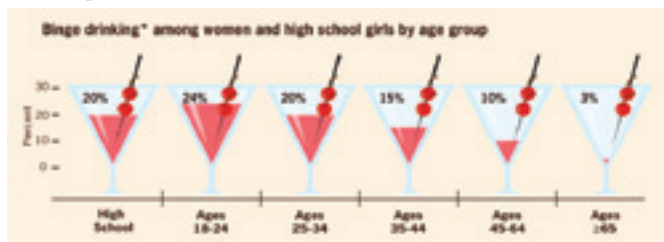
For more definitions and explanations of risk terms, see the [Public Health Foundation's Glossary of Epidemiology Terms](#) on the CDC web site.

Example 1:

Foodborne illness, sometimes called food poisoning, is common. Each year, about 1 in 6 Americans (or 48 million people) gets sick.



Example 2:



- ✓ **Supported by the CDC Style Guide:** Visuals are often the most effective way to display large sets of numbers or data.

Appendix A: Supporting References for Items

Corresponding item numbers are bracketed in bold.

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Appendix B: Developing Effective Communication Products (Annotated Version)

Are You on Track to Know Your Audience?

No matter how you use the Index, remember that it's just one step in the process of developing effective communication products. It cannot take the place of formative research or pretesting with your intended audience. To ensure that your communication effort is a success, consider the audience, message, and channel.

1. Did you identify your intended audience(s)?

Always consider the audience and what they need or want. Explore these resources to help you define the audience for a communication product.

- **CDCynergy: 3.3 Finalize Intended Audiences**
(<http://www.orau.gov/cdcynergy/web/BA/Content/phase3/phase3mainframeset.htm>)
- **Pink Book—Making Health Communication Programs Work**
(<http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook/page5#3>)
- **Health Literacy Online: Learn about Your Users and Their Goals**
(<http://www.health.gov/healthliteracyonline/usersgoals.htm#basics>)

2. Did you conduct audience research?

Get to know your audience – don't guess or assume. Review existing data or gather new data through formative research. During this phase, explore your intended audience's knowledge and attitudes about the health topic.

Start with the following tools from CDC's Gateway to Health Communication and Social Marketing Practice.

- **Audience Insights**
(<http://www.cdc.gov/healthcommunication/Audience/index.html>)
- **Research and Evaluation Tools** (including HINTS and Census data)
(<http://www.cdc.gov/healthcommunication/Research/index.html>)
- **Market Research Databases**
The OADC Strategic and Proactive Communication Branch provides access to market research databases. Contact the branch or submit a request through Create-it for access to the databases.

Explore these resources for more information on formative research methods.

- **CDCynergy: 3.6 Undertake Formative Research**
(<http://www.orau.gov/cdcynergy/web/BA/Content/phase3/phase3mainframeset.htm>)
- **Pink Book—Making Health Communication Programs Work: Communication Research Methods**
(<http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook/page9>)

3. Did you identify your behavioral objective(s) and key messages?

What do you want your intended audience to *do*? Define the behavioral objective(s) of the material based on behavioral and communication theory

(see **CDCynergy: 3.5 Examine and Decide on Communication-Relevant Theories and Models** <http://www.orau.gov/cdcynergy/web/BA/Content/phase3/phase3mainframeset.htm>).

- Address barriers and motivators to change
- Determine the key information the reader needs to achieve the behavioral objective(s)

4. Did you determine how your material will be formatted and distributed so that it reaches your audience?

If the audience isn't exposed to the material or isn't familiar with or doesn't use the format you've chosen, then you've missed the mark. Choose the best format for your audience and the message (written, visual, audio, video). If the material will be available online, follow usability guidelines.

Identify dissemination channels, such as social media, community organizations, websites, and activities that match the audience.

5. Did you build in time and resources to pretest the material with your intended audience and revise based on feedback?

This step can be done multiple times, if needed. Remember, even the most robust communication guidelines cannot substitute for pretesting with your intended audience.

Decide how many people you need to pretest the materials with. Depending on the audience and material, you may be able to test with less than 9 individuals, which does not require Office of Management and Budget (OMB) approval.

If you need to pretest with 10 or more individuals, the OADC Strategic and Proactive Communication Branch has a generic clearance, the Health Message Testing System.

You can also apply for a "fast-track" clearance if you are testing customer satisfaction. If you plan on doing many rounds of pretesting and other formative research, you may want to apply for your own OMB clearance. Contact your CIO's clearance officer for more information on fast-track and other OMB clearance options.

Explore these resources.

- **Pink Book—Making Health Communication Programs Work: Steps in Developing and Pretesting Messages and Materials**
(<http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook/page6#3>)
- **Health Literacy Online: Iterative Design and Testing Methods**
(<http://www.health.gov/healthliteracyonline/intro.htm>)

Appendix C: List of Common CDC Audiences

- Adolescents and young adults
- Caregivers (people, such as family and friends, who care for others)
- Clinicians (doctors, dentists, nurses, pharmacists, physician assistants, hygienists, and any affiliated staff)
- Community health workers, such as navigators and *promotoras*
- Community leaders
- Employees
- Employers
- Epidemiologists
- Health plans, health insurance brokers, and advisors
- Laboratory professionals
- Laypeople looking for health information
- News professionals, including all online sources and social media
- Parents
- Policymakers
- Public health department staff (anyone not an epidemiologist or laboratory professional)
- Public health partners, such as APHL, ASTHO, and CSTE
- Researchers
- Teachers

