Pfizer Principles for Clear Health Communication

2nd Edition

For External Use

A Handbook for Creating Patient Education Materials That

- Enhance Understanding
- Promote Health Outcomes

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Formerly called the Pfizer Health Literacy Principles

1. The Health Literacy Problem

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Introduction

Health literacy refers to the ability to read and understand health information and use it effectively. Because health information can be complex and scientific, people often have difficulty reading and understanding written materials such as prescriptions, medication instructions, informational brochures about diseases and treatments, insurance applications, and consent forms. This is true for Americans of all literacy levels, but particularly so for those with marginal reading skills. Marginal reading skills are defined as reading abilities below the 8th grade reading level.

In the United States, there is a significant gap between the reading abilities of the adult population and the reading levels of most written health care materials. Pfizer can help address this problem by creating consumer materials that are accessible and understandable by a broad consumer audience.

Scope of Problem

There is evidence to suggest that most consumers prefer health materials that are written clearly and presented in a simple, easy-to-read format.[1] But for the millions of Americans who have marginal reading skills, easy-to-read health care materials are **essential**.

The following statistics suggest the extent of the health literacy problem in the U.S.:

- One in 5 adults reads at or below the 5th grade reading level.[2]*
- Nearly 2 out of 5 older Americans (65 and older) and minorities[2] read at or below the 5th grade reading level.*
- On average, adult Americans read between the 8th and 9th grade reading levels.[2]*
- Most health materials are written at the 10th grade level or above.[3,4]

The issue of health literacy is broader than literacy. Americans of all reading levels experience difficulties comprehending health information and navigating the complex health care system. But it is the millions of Americans with marginal reading skills who are most affected.

*These grade level statistics are interpretations of the National Adult Literacy Survey (NALS) results.

1.

Effect on Outcomes

According to a February 1999 report published in the *Journal of the American Medical Association*, the ability to read is a stronger indication of health status than other sociodemographic variables, including race, age, and education level.[5] While research in this area is limited, there is evidence of some of the adverse outcomes associated with low literacy.

Studies have shown that chronically ill patients with marginal literacy skills have less knowledge about the diseases that affect them and their treatment plans than literate patients.[6] Studies also show that people with low literacy skills are at higher risk for hospitalization than people with adequate literacy skills.[7]

Furthermore, there is data to suggest that people with marginal literacy skills:

- Make more medication or treatment errors[8,9]
- Are less able to comply with treatments[8]
- Fail to seek preventive care
- Lack the self-empowerment needed to successfully negotiate today's health care system[9,10]

Effect on Costs

As people with low literacy skills are at higher risk for hospitalization and are less able to manage their health, they tend to incur higher health care costs. A conservative estimate places excess health care costs due to low literacy at tens of billions of dollars a year.[11] Furthermore, a study of Medicaid participants found that those reading at grade levels 0 to 2 had mean annual health care costs of $12,974 in comparison to $2,969 for the total population studied.[10,5]

Implications for Pfizer

By making consumer communication easy to read, we hope a greater number of consumers will be able to understand and act upon the information they are given, ultimately leading to better overall health outcomes.

Pfizer's Response to the Health Literacy Problem

The extent of the literacy problem in America—and specifically its impact on health care outcomes and costs—demands attention. The *Pfizer Principles for Clear Health Communication* is one component of a multitiered response to this issue. We have identified several principles that will help make health communications more accessible to a broad consumer audience (see chapter 4 for details). In addition to improving its materials, Pfizer supports programs to build the health literacy research base, to provide training on health literacy issues, and to raise awareness of the issue. Some of Pfizer's clear health communication efforts include:

- Sponsoring a national meeting
- Partnering with national and community-level organizations
- Awarding research grants
- Participating in The Partnership for Clear Health Communication

The need for these activities is underscored not only by the scope of the problem but also by recent response to the literacy issue from the Federal Government, the private sector, and the health care community at large.

Within the past ten years, key agencies of the Department of Health and Human Services, such as the Centers for Medicare and Medicaid Services, the Food and Drug Administration, and the National Institutes of Health, have taken steps to promote clear health communication. The Federal Government's 1998 Plain Language Initiative has served to intensify these efforts (see **www.plainlanguage.gov**).

The Initiative directed all agencies of the Executive Branch of the Federal Government to simplify bureaucratic language. Nongovernment groups, including the Joint Commission for Accreditation of Health Care Organizations and the American Medical Association, have also begun efforts to advance clear health communication.

1.

Pfizer believes its efforts and those of others can make a significant difference in the quality of health care for all individuals, but especially for those with limited literacy skills. For more information on clear health communication, visit:

- www.clearhealthcommunication.org.
- www.askme3.org

2. Understanding Reading Skills and Barriers to Health Literacy

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Introduction

Reading, writing, and even comprehension are skills. People with limited literacy have not developed these skills and, therefore, do not function at the same level as good readers. The capability is usually present; it is the skill that is not developed.

Why does illiteracy carry such a stigma? There is a widespread **misconception that communication skills equate with intelligence**. Some of the characteristics of low-literacy behavior, such as reading one word at a time or using incorrect grammar, lead many people to make mistaken judgments about a person's intelligence. The fact is, the lack of literacy skills does not indicate lack of intelligence.

Understanding the Characteristics of Poor Readers

For printed health care materials to be as effective as possible, the specific characteristics of poor readers should influence their content and design. Addressing these characteristics will help to result in materials that more people can read and understand.

Typically, poor readers[12]:

- Take words literally
- Read slowly, missing meaning
- Skip over hard words
- Miss the context
- Tire quickly

Literacy affects not only how we read text but also how we respond to visuals. Poor readers[12]:

- Interpret visuals literally
- Have difficulty because their eyes wander without finding a central focus
- Skip principal features
- Get lost in details rather than main features

The Principles present clear techniques for addressing all of these issues in printed health care materials.

Cultural Suitability Barrier

The cultural suitability of health care materials—or the lack of suitability—will impact their overall effectiveness.[13] For the broadest possible appeal, the images, symbols, and languages in materials need to communicate with the majority of readers. Since there is no "one size fits all" model for even one culture, the challenge is to be as inclusive as possible without showing bias or prejudice.

It is important to examine all materials for potential bias or exclusivity. Do the materials show a bias for middle- or upper-class readers? Do they show ethnic or racial preferences? Are they biased in terms of gender or age? Subtle preferences can slip into materials, often without the author's being aware of it.

Age Barrier

Age can be a barrier to the reading and understanding of health materials. Vision problems may make it more difficult for older people to read materials. For example, the glare produced by glossy paper can interfere with easy reading. The same is true of reverse print, ghosted images, and poor contrast between ink and paper. Notice the difference in readability in Figures 1 and 2.

Who Gets Heart Disease?

Certain risk factors can increase your chances of getting heart disease. Luckily, most of them are things you can do something about. By living a healthy lifestyle—and following a treatment plan your doctor recommends—you can often lower your chances of heart problems.

Figure 1.
Good contrast makes this text easy to read.

Pfizer Inc. *Keeping Your Heart Healthy for Life: Information for Women*.1998

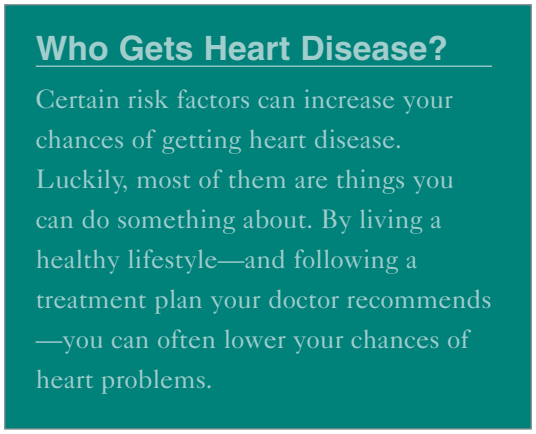


Figure 2.
Lack of color contrast can make text hard to read.

Other factors also may affect the reading abilities of older people. They may lose reading skills through lack of use. In addition, seniors' literacy may be affected by cognitive impairment, medical conditions, and the use of various medications.[14] For these reasons, older people may not attempt to read materials that are hard or that simply look too hard to read. The Principles show some ways to make materials more approachable for seniors.

3. Planning Consumer Pieces to Meet Goals of Clear Health Communication

3. Planning Consumer Pieces to Meet Goals of Clear Health Communication

Introduction

Health communication materials benefit from thoughtful planning and consideration of purpose, audience, and objectives. This planning process becomes particularly important in developing consumer materials designed to be accessible to the majority of adults in the United States. This section of the *Pfizer Principles for Clear Health Communication* provides a review of the basic steps in planning consumer communication and focuses on specific planning strategies and tools for materials designed to comply with the *Pfizer Principles for Clear Health Communication*. It describes five key components in planning effective consumer health care materials:

1. Define the purpose of the piece.
2. Identify the audience and its demographic characteristics through research and field testing.
3. Identify how, when, and where the communication will be used.
4. Define the scope and content of the piece.
5. Field test the piece.

Define the Purpose of the Piece

Defining the purpose—and the need—for a piece is critical for successful communication. There are four aspects to defining purpose:

- Clearly define the problem or issue that needs to be addressed.

  Is there a problem with compliance? Is there a need to demonstrate how to achieve a behavior or lifestyle change?

- Determine what the piece needs to accomplish.

  Does it need to inform? persuade? encourage? motivate?

- Define the desired audience response.

  This goes hand in hand with determining what the piece must accomplish. After reading the piece, what should the consumer do?

- Identify how to motivate the desired behavior.

  The Principles provide examples of ways to positively model the behavior change. They also suggest ways to make the piece interactive.

3.

Identify the Audience and Its Demographic Characteristics

Audience research is a tool widely used by people in the business of communicating. Although these tools are appropriate for developing materials according to the Principles, it may be necessary to refine how those tools are used when writing health communications to meet the needs of special populations. There are also specific tools, like the National Adult Literacy Survey (More information on NALS on page 12), that provide information to help ensure a clearer understanding of the needs of the targeted audience.

- Use research to understand the patients' perspective. Don't rely on the traditional "medical model."

  Health care communications often follow a medical model, discussing the condition or disease, its symptoms, and treatments. For health care professionals, this approach is appropriate. But effectively reaching the general population requires using a patient perspective. Research provides feedback on what patients want to know and how they want to learn it.

  For the research to provide the information you need, it is important to ensure that your target audience is fully represented in the research and that you are asking them questions that will elicit the patient perspective. Research should be designed to gather information about patients' lifestyles and cultural beliefs, which can strongly influence their receptivity to messages.

- Conduct target audience research.

  Traditional research tools can provide the patient perspective if the appropriate topics are addressed. This checklist may be useful when planning research on consumer pieces:

  - Demographics, such as age, gender, and ethnicity
  - Literacy and language barriers and abilities
  - Health status
  - Attitude toward the message (Are there, for example, emotional barriers such as fear of information and treatment?)

- Cultural beliefs about the topic
- Cultural and religious practices
- Experience with and knowledge of the topic or health issue (What are the patients' typical questions and concerns about the topic?)
- Experience with the health care system (How knowledgeable are patients about navigating the system? How have past experiences, positive or negative, influenced their attitudes?)
- Habits and lifestyles
- Situation-related characteristics (Will the patients' environments support their efforts to apply new information or behavior, or make it more difficult?)

- Integrate limited-literacy populations into traditional methodologies.

  To develop materials that will best reach a general audience, limited-literacy individuals need to be included in research. The following tips for some key research methods may help to elicit more useful information from limited-literacy adults:

  - Focus Groups: People with lower educational levels may be reluctant to speak out honestly in front of more educated people. Bringing together people with similar educational backgrounds can help overcome this problem.
  - Individual Interviews: This is a good way to get useful information from people with limited education. Interviews limit the amount of reading and relieve the discomfort of a person's having to speak out in front of more educated people.

Listen to Language

Focus groups and interviews provide an opportunity to learn how the audience speaks about a topic. Writers and artists can take their cues from

- ➤ How the audience describes the problem or issue
- ➤ The vocabulary they use in talking about the subject

This information can help ensure that discussions of a health issue reflect the vocabulary and general tone of the audience.

Figure 3.
Written materials can reflect how the audience talks about a subject.

- Advisory Boards: If you have consumer advisory boards to provide a patient perspective, it is important to include people with low literacy levels in these groups. As with focus groups, people with lower educational levels may be reluctant to speak out candidly.

- Surveys: Although surveys are often a tool of choice, they present barriers to people for whom reading is a challenge. Most surveys are written at the college level. The working memory of less able readers may be completely absorbed with the reading process. This means the readers may not be able to deal with the cognitive processes of completing the survey correctly. Surveys, which require people to read, can be a challenge not only for limited-literacy adults but also for seniors who often have reduced cognitive function as a result of age.

- Use the National Adult Literacy Survey (NALS).

  Using NALS, it is possible to determine the percentage of an audience functioning at any literacy level. Information about NALS can be found at **www.nces.ed.gov/naal**. The Survey gives information about literacy levels for the general public and for these subgroups:

  - Seniors
  - People living in poverty
  - People in various ethnic groups
  - People with health problems

Identify How, When, and Where the Document Will Be Used

Knowing how, when, and where the piece will be used will help writers and artists to develop an approach that will be appropriate to the time the reader receives or must use the information. In addition to issues such as format and graphic style, thinking about the following questions may help make the piece appropriate for the time and place it will be used.

- When will the reader receive the piece?

  Will it be at the time of diagnosis? well into the treatment plan? right before or after surgery? What will the timing mean for patients' questions, feelings, and ability to take in and retain information? How does this information affect how the piece should be developed?

- Will the health care provider teach from it first or will the reader use it on his own?

  When someone reviews the information with the recipient beforehand, the reader is given cues about the piece, and reading it is easier. It is harder to read something "cold." Therefore, if a piece is for readers to use independently, it needs to be as user-friendly as possible.

- What tone speaks best to your target audience?

  Research should give a sense of the tone to use. The appropriateness of the tone can be checked in field testing.

3.

Define the Scope and Content of the Piece

A successful piece will blend accurate, sharply delimited content with an approach that recognizes the patients' perspective and considers patients' questions and concerns. Defining the scope and content is essentially a three-step process:

- **Step 1.** Remember: patient-based, not disease-based.

  Consumer materials need to focus on the patients' concerns, questions, and emotions. In determining scope and content, members of the creative team must put themselves in the patients' shoes.

- **Step 2.** Clearly describe the desired reader behavior.

  A specific behavioral objective will help to focus the piece and make it easier to determine exactly what information must be included. A well-written behavioral objective:

  - Describes the desired behavior
  - Describes the conditions under which the behavior takes place
  - Defines, if possible, the degree of accuracy or completeness that would be acceptable

Following are 2 examples of behavioral objectives:

- After reading a pamphlet on Alzheimer's disease, the spouse or family members of a person with symptoms will make an appointment with their physician to learn more.
- After being given blood pressure medicine and a patient education sheet describing the dosage, the patient will take the medicine properly as prescribed.

Figure 4.
Clear behavioral objectives can provide focus for written materials.

- **Step 3.** Create a tight focus—choose three to five main points that the patient needs most.

  A piece should include only the information necessary to achieve a desired patient behavior. People may not read a piece that is too long, either because they're too busy or because the length is intimidating. Even the most simple-to-read, clear health communication is useless if patients fail to open it. The following tips can be used to help focus the piece:

  - Use the behavioral objective as a guide. A well-written behavioral objective can serve as a guide to what information should be included in the piece.

- Imagine walking in the patient's shoes. Attempting to understand a patient's thoughts and feelings will help assure that the content includes what the patient wants and needs to know. What questions might come to mind when an otherwise healthy person is diagnosed with Alzheimer's disease? What might a person with hypertension want to know when his medication is changed?

- Follow a process to focus on key points. Figure 5 shows one approach.

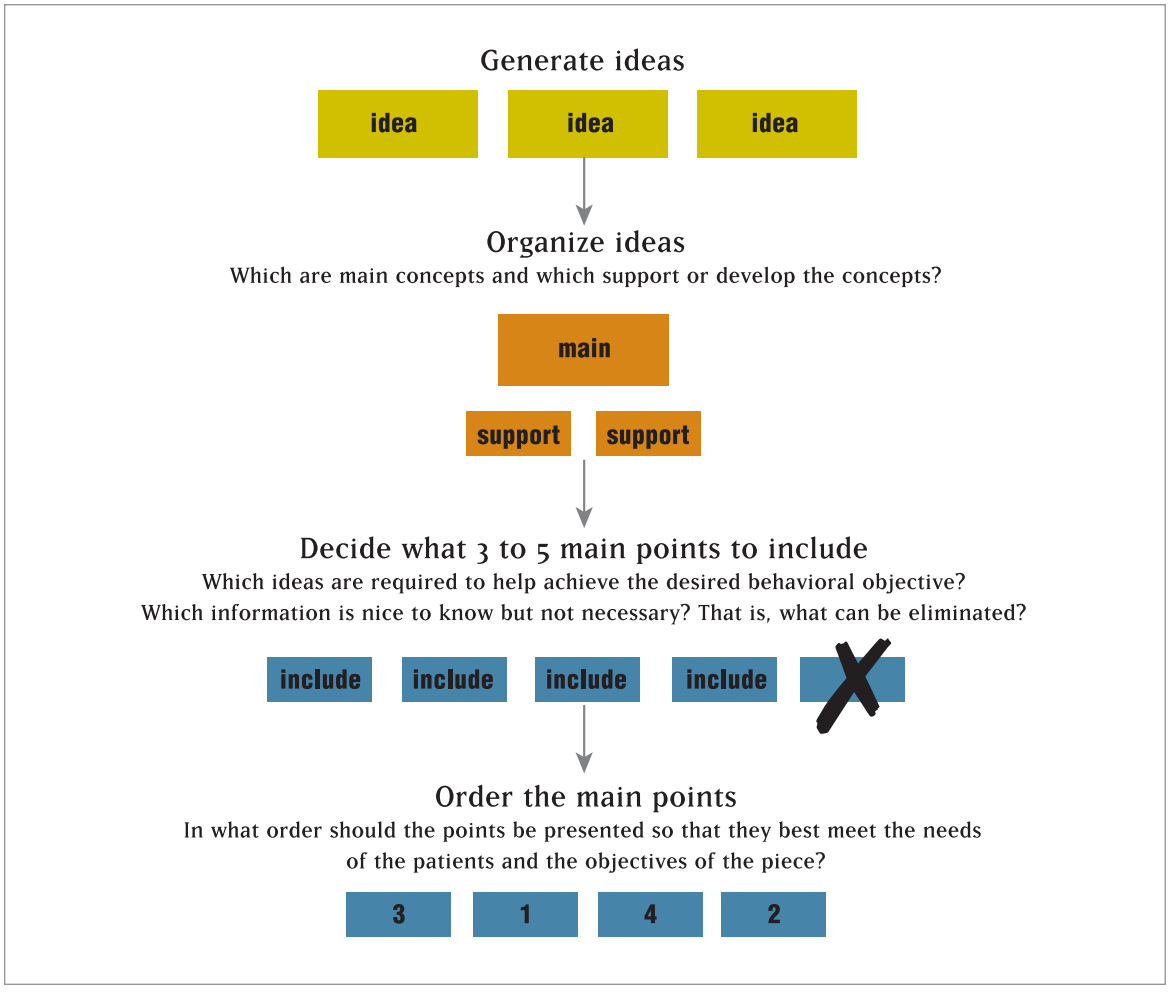


Figure 5.
This schematic shows a general, step-by-step approach to focusing content of a consumer communication.

3.

Field Test the Piece

Once a piece is written and designed, it needs to be field tested with an audience of people who reflect the population that will use the piece. Field testing is a method of getting feedback from members of your target audience about the material's overall appeal; ease or difficulty of reading; cultural, age, and gender appropriateness; personal relevance; and persuasiveness. It helps ensure that you have used the Principles effectively to create meaningful, relevant, and understandable material.

The complexities of the material and the unique characteristics of education, economics, and culture of the audience make a field test a critical component of the materials development process, particularly for limited-literacy consumers. Although this may involve a comprehensive set of focus groups, field testing can also be done in a much simpler and straightforward way. You may be able to conduct individual interviews with members of local literacy, senior, and ethnic organizations.

For more information on field testing, check out the following resources:

- McGee J. *Writing and Designing Print Materials for Beneficiaries: A Guide for State Medicaid Agencies*. CMS, 1999.
- National Cancer Institute. *Making Health Communications Programs Work: A Planner's Guide*. NCI, 1992.
- Doak L, Doak C, Root J. *Teaching Patients with Low Literacy Skills*. 1996.
- Krueger and Casey. *Focus Groups: A Practical Guide for Applied Research (3rd Edition)*. 2000.
- Zimmerman et al. *Developing Health and Family Planning Print Materials for Low-Literate Audiences: A Guide*. PATH, 1996.

4. The Principles

- 4.1 Explain the Purpose and Limit the Content
- 4.2 Involve the Reader
- 4.3 Make It Easy to Read
- 4.4 Make It Look Easy to Read
- 4.5 Select Visuals That Clarify and Motivate
- Words to Watch

4. The Principles for Easy-to-Read Health Care Materials

Introduction

Pfizer's mission is to help people live longer, healthier, and more productive lives. As part of that mission, Pfizer is committed to help its consumers participate actively in their health care. One way to do that is to provide patients with useful health care information. Producing materials at a **6th grade readability level** with the appropriate layouts and visuals will help make our materials more effective.

Pfizer has developed the following five Principles as tools to help writers and designers create materials that are both easy to read and easy to understand.

Principle 1: Explain the purpose and limit the content.

- Explain purpose and benefits from patients' viewpoints.
- Use objectives to limit content.
- Leave out unnecessary content.
- Plan sequence of topics.
- Review key points.

Principle 2: Involve the reader.

- Create interaction with reader.
- Emphasize desired patient actions and behaviors.
- Spell out useful, realistic action steps for the reader.
- Make document culture, age, and gender suitable.

Principle 3: Make it easy to read.

- Use conversational style with active voice, common words.
- Provide examples for difficult words and concepts.
- Put context first.
- Break up complex topics.

- Present each topic in an uninterrupted layout.
- Do not use vertical text.
- Use "road signs" and "chunking."
- Keep paragraphs short and focused on a single topic.
- Avoid sentences that are long and complex.

Principle 4: Make it look easy to read.

- Allow lots of white space; no dense text.
- Use cueing to direct reader's attention to key points.
- Avoid reverse type, all caps, and italics.
- Provide sharp contrast and large type.

Principle 5: Select visuals that clarify and motivate.

- Select realistic visuals; omit distracting details.
- Use graphics that contribute to your message.
- Use action captions.
- Explain any list, chart, or diary. Give examples.

Using Chapter 3: Planning Consumer Pieces, following the Principles, and field testing draft materials will make it more likely that material will be suitable for all readers, including those with limited literacy skills.

While application of the Principles will change both the content and the appearance of the piece, it will not restrict creativity. In fact, the writing and design challenge remains essentially the same: to produce high-quality, appealing materials that effectively communicate important health information. Specific examples included here are not templates but serve as illustrations to enhance understanding of the Principles.

4.1 Explain the Purpose and Limit the Content

4.1 Principle 1: Explain the Purpose and Limit the Content

Explain the Purpose and Benefits From the Patients' Viewpoints

Use a patient-centered approach to explain the purpose and benefits of the piece. Patients need an explanation of purpose so they can see the personal relevance of written materials. Relevance and clearly stated benefits help motivate a patient to read the material.

Application

- Place the purpose and benefits near the start of the material.

  A good example of patient viewpoints is shown in Figure 6.

"The more I know about my body, the more I can do to stay healthy."

Some women don't have a gynecologic (GYN) exam because it makes them nervous or uncomfortable. The purpose of this booklet is to let you know just what to expect during the exam. Then you can feel more comfortable and make the exam part of your regular health care routine.

Figure 6.
The opening paragraph explains the purpose of the booklet from the patient's point of view.

Pfizer Inc. *Woman to Woman: How to get the most from your first (or next) GYN exam*. 2001.

- Use a separate section or a separate document if statistics or a minicourse on the progression of the disease must be included.

Use the Objectives to Limit the Content

As noted in Chapter 3: Planning Consumer Pieces, use the behavioral objectives to guide what information you include. Starting with a written objective and a list of three to five main points provides both focus and boundaries for writers and illustrators. It helps clear out clutter.

Application

- Nonessential text can creep in easily, even in otherwise easy-to-read material. Figure 7 shows the opening paragraph of the information sheet *You Can Take Control of Your Diabetes… Today*. The sheet was written before *Pfizer's Principles for Clear Health Communication* were in place. The information in the first paragraph is nice to know, but it doesn't say anything about diabetes. If the information sheet were rewritten with the *Principles for Clear Health Communication* in mind, the objective would be used to limit the content.

The first paragraph would be eliminated, and the piece could easily begin with the second paragraph.

You Can Take Control Of Your Diabetes...Today

Many common health problems can put you at rfor heart disease.

Having a healthy future means taking charge of your health. Unfortunately, there are many common health problems that can put you at risk for developing heart attacks, strokes, and other forms of heart and blood vessel diseases. Some of these risk factors are:

- ❍ Diabetes
- ❍ High blood pressure
- ❍ High cholesterol
- ❍ Smoking
- ❍ A family history of heart disease
- ❍ Obesity
- ❍ Physical inactivity

Figure 7.
Nonessential opening text in a diabetes education piece.

Pfizer Inc. *You Can Take Control of Your Diabetes... Today*. 1999.

Leave Out Unnecessary Content

People may not read a piece that's long, no matter how well written it is. In determining what content is most important, ask yourself, "What does the target audience need to know, and what is just nice for them to know?" Then, leave out the information that is only "nice to know."

Plan the Sequence of Topics

The sequence of topics can also influence the effectiveness of health materials. The purpose or content of the materials will help to determine the most appropriate sequence. Remember to use the information from Chapter 3: Planning Consumer Pieces to help you order your main points. It may be helpful to refer back to the purpose you identified as part of the planning process.

Application

- For wellness (disease prevention) materials (for example, a booklet on diet and exercise), a sequence of topics that fosters beliefs suggested by the **Health Belief Model**[13] (HBM) is likely to be most effective.

  The theory says that people are most likely to perform the desired behavior if they feel that they are at risk for a certain condition and that they can do something to reduce their risk.

The HBM sequence may be summarized as follows:

1. You, personally, are at risk. (Smoking doubles your chance of having a heart attack.)
2. But there is something you can do to cut your risk. (Quit smoking.)

3. If you do, you will get these benefits. . . . (Live to see your grandkids grow up.)

4. It's not too hard. It won't cost too much. (Many people do it.)

Figures 8-A and 8-B illustrate two approaches to delivering information. The original text has a sequence of information based on the medical model. The revised version has a better sequence of information based on the HBM and is more patient centered.

An Extra Step: Mammography

Women in the three high-risk categories—age 50 or more, 40 or more with a family history of breast cancer, age 35 or more with a personal history of breast cancer—may consider an additional routine screening method. This is x-ray mammography. Mammography uses radiation (x-rays) to create an image of the breast on film or paper called a mammogram. It can reveal tumors too small to be felt by palpation. It shows other changes in the structure of the breast which doctors believe point to very early cancer. A mammographic examination usually consists of two x-rays of each breast, one taken from the top and one from the side. Exposure to x-rays should be carried out to assure that the lowest possible dose will be absorbed by the body. Radiologists are not yet certain if there is any risk from one mammogram, although most studies indicate that the risk, if it does exist, is small relative to the benefit. Recent equipment modifications and improved techniques are reducing radiation absorption and thus the possible risk.

Figure 8-A.
Original information based on the medical model.

U.S. Department of Health and Human Services, National Cancer Institute/National Institutes of Health. *Breast Exams: What you should know.* 1984.
Readability: 12th grade

What is a mammogram and why should I have one?

A mammogram is an x-ray picture of the breast. It can find breast cancer that is too small for you, your doctor, or nurse to feel. Studies show that if you are in your forties or older, having a mammogram every 1 to 2 years could save your life.

How do I know if I need a mammogram?

Talk with your doctor about your chances of getting breast cancer. Your doctor can help you decide when you should start having mammograms and how often you should have them.

Why do I need one every 1 to 2 years?

As you get older, your chances of getting breast cancer get higher. Cancer can show up at any time—so one mammogram is not enough. Decide on a plan with your doctor and follow it for the rest of your life.

Where can I get a mammogram?

To find out where to get a mammogram:

- Ask your doctor or nurse
- Ask your local heath department or clinic
- Call the National Cancer Institute's Cancer Information Service at 1-800-4-CANCER

Figure 8-B.
Revised information based on the Health Belief Model.

U.S. Department of Health and Human Services, National Cancer Institute/National Institutes of Health. *Breast exams: What you should know.* 1997.
Readability: 5th grade

- For medication or treatment materials for an existing health condition (for example, taking insulin shots for diabetes), the sequence suggested by the **Self-Efficacy Theory**[13] may be most effective.

  The theory says that patients are more likely to follow medical advice if they believe that they, personally, can do it.

4.1

A sequence of information that can raise self-efficacy is as follows:

1. You can control your disease (condition) by following this advice. . . .
2. Here is how to take the medications or treatments. (Review key points.)
3. Many others like you have done this. (Testimonials—written and visual.)
4. For more help call. . . .(Offer more information and support.)
5. Words of encouragement

- For topics that do not deal directly with behaviors (for example, a list of side effects from a medicine), consider a sequence to emphasize the most significant and common information first.

Review Key Points

A summary of key points serves as an important retention aid. It helps the reader hold on to the most important information.

Application

- Review key points.

  Often patients don't understand the advice on the first reading.

- For longer booklets, include several brief reviews, one after each major section.

  A good example of a behavior-focused review is found in the *Take Control—Reach Your Goal!* booklet shown in Figure 9.

Reaching your goals—a quick review

Three simple steps can help you reach your goal:

1 Take medications the right way.
Make notes for yourself, or use a pill box, if you tend to forget to take your pills. Soon you'll be on track.

2 Aim for a healthy weight, if you are overweight. Do this by staying active and making wise food choices. Even losing just a small amount of weight can improve your blood pressure, cholesterol, and blood sugar.

3 Be active.
Walk, swim, or dance for at least a half an hour most days of the week. Find something you enjoy and stick with it.

Figure 9.
A review that highlights key points.

Adapted from Pfizer Inc. *Take Control—Reach Your Goal! Learn ways to lower your: high blood pressure, high cholesterol, high blood sugar*. 2001.

4.2 Involve the Reader

4.2 Principle 2: Involve the Reader

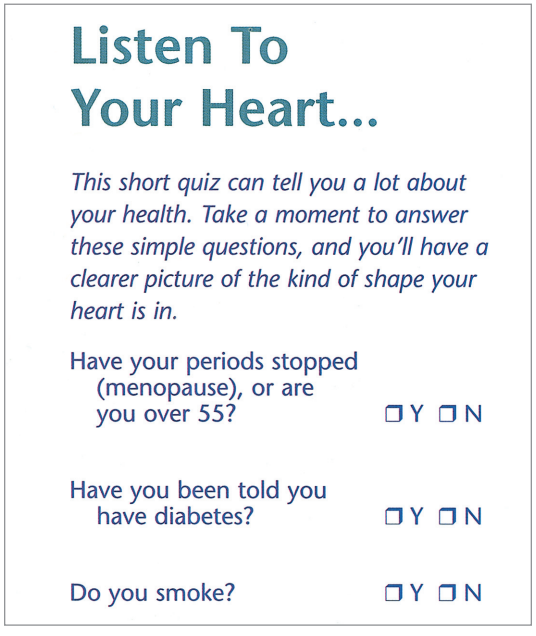
Create Interaction With the Reader

Interaction fosters interest, learning, and memory. Interaction is used often in education and entertainment, but seldom in health care instructions. Interaction can—and should—be made a part of health materials.

Application

- Include questions that ask the reader to pause and respond.

  A quiz, such as that in Figure 10, is one way of including interactive questioning. It engages the reader at the same time that it draws attention to important information.



Listen To Your Heart...

This short quiz can tell you a lot about your health. Take a moment to answer these simple questions, and you'll have a clearer picture of the kind of shape your heart is in.

Have your periods stopped (menopause), or are you over 55? ❒ Y ❒ N

Have you been told you have diabetes? ❒ Y ❒ N

Do you smoke? ❒ Y ❒ N

Figure 10.
An example of one form of interaction.

Pfizer Inc. *Women's Health*. 1999.

- Model typical questions and invite readers to write their own questions.

  While health care booklets often advise the reader to "ask your doctor," many readers will not know what questions to ask. Further, questioning authority figures is not appropriate in some cultures, including some Native American, Southeast Asian, Chinese, and Filipino groups. Modeling questions can help build readers' confidence to ask their own questions and shows that it is okay to ask them. Adding a few blank lines and inviting readers to write in their own questions provides another level of interaction. Figure 11 shows one way question modeling can be incorporated in health care materials.

4.2

If You're in Pain, Get Relief

Medicine and other treatments can almost always relieve cancer pain. Treating pain is an important part of good cancer care. Pain relief can also help you enjoy life more.

To get relief, talk to your doctor or nurse as soon as pain begins.

Tell them:

- ➤ All the places it hurts
- ➤ How strong the pain feels
- ➤ What makes the pain worse
- ➤ What erases the pain
- ➤ How much relief you get from medicines you now take

Ask them:

- ➤ What medicine(s) can you give me to relieve my pain?
- ➤ How and when should I take the medicine(s) and for how long?
- ➤ What side effects are common? What should be done if they occur?
- ➤ Should I try non-drug methods to relieve my pain, too, like relaxation and massage?

Figure 11.
Text that models what information to tell and questions to ask.

U.S. Department of Health and Human Services, *National Institutes of Health. Get Relief from Cancer Pain*. 1994; Pub. No. 94-3735.

- Provide statements or Q&A that lead the reader to stop and think of a response; eg, "measure your waist."

- Model desired behaviors.

  Tell about or show someone like the reader doing the recommended behavior or enjoying the results of the recommended behavior.

  An example that uses modeling (in a caption) appears in Pfizer's booklet *Live Well with Diabetes: Take Steps to Protect Your Feet*.

  "With diabetes, I know I'm at risk for foot problems. I'm playing it smart by checking each day for ingrown nails, cuts, or sores."

- Instruct the reader to compare/contrast two visuals; for example, before and after photos.

  You might, for instance, show photos of lungs before quitting and three years after quitting smoking and ask readers to pick how they would like their lungs to look.

- Present problem situations and ask the reader to choose the best solution.

- Select branch options with interactive CD-ROMs.

- Use a story to impart a health message.

- Ask the reader to finish a partially told story.

- Include things the reader can cut out; eg, check lists, coupons, recipes, calendar pages.

Emphasize Desired Patient Actions and Behaviors

Give emphasis to what the patient has to know and do. This helps involve the reader. It lets them know what to do to take care of themselves. For example, explain how to take the medication, relieve the health condition, cure the disease, or reduce the risk.

Spell Out Useful, Realistic Action Steps for the Reader

These actions should be identified during the initial planning of the piece.

Application

- For behavior advice, give clear directions for the tasks that are being asked of the patient.

  For example, directions for taking medication should include: how much to take, how often, when, and with what. Also include expected benefits and side effects. This information is likely to be what patients need most and want to know.

- If you must explain the details of the disease process, consider placing it in a later section or in a separate document.

- Review key points. Often patients don't understand the advice on the first reading.

- For longer brochures, include several brief reviews, one after each major section.

Make the Document Culture, Age, and Gender Suitable

Examples and visuals are powerful vehicles for conveying a message of inclusiveness—or exclusiveness. Appropriate examples can also make the meaning of instructions patently clear. People want—even crave—relevant examples.

Application

- Use language that is inclusive.

  That is, language that is common to a broad audience rather than a more limited group.

- Use visuals to portray cultural, age, and gender inclusiveness.

The statements below illustrate how phrases with limited relevancy can be transformed into statements that are more inclusive and, therefore, more relevant.

Example: Limited relevancy

To cut down on sweets:

--Put an apple in your briefcase.

--Keep dried fruit in your desk.

--Order salad at a business lunch.

Example: Relevant for most people

To cut down on sweets:

--Take an apple to work.

--Have dried fruits for snacks or when watching TV.

--Have a salad for lunch.

Figure 12 is a good example of inclusiveness in a brochure about Medicare drug benefits.

Figure 12.
Appropriate visuals for a brochure about Medicare drug benefits include people of various ethnic backgrounds who would qualify for the program.

Pfizer Inc. *Senator Bob Dole on the New Medicare Drug Benefits for America's Seniors and People Living with Disabilities. 2004.*

- Strive for cultural suitability.

  You can accomplish this by taking into account the target culture's logic, beliefs, language, expressions, education, and living experiences.

  Cultural suitability is illustrated in the adaptations of the Food Guide Pyramid first issued by the U.S. Department of Agriculture in 1992 and now published in 29 countries. The various guidelines share common ground while still accommodating particular concerns, such as drinking enough water (Argentina) or the protein content of insects (Zimbabwe).[15]

  Notice how the Food Guide Pyramid in Figure 13 has been modified to suitably address a Guatemalan audience in Figure 14.

- Field test materials.

  Use field testing to ensure the suitability of your materials for diverse audiences. Members of the target audience can provide valuable information about the cultural, age, and gender appropriateness of your materials.

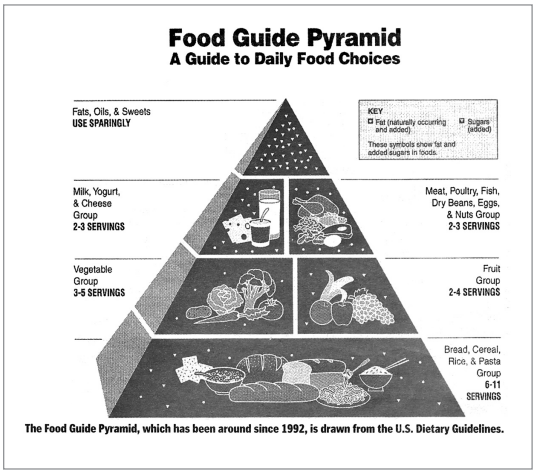


Figure 13.
The Food Guide Pyramid, 1992, is based on U.S. Dietary Guidelines.

Washington Post, July 4, 2000, Health Section.

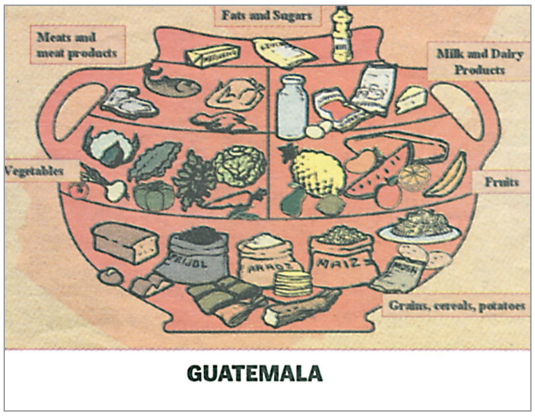


Figure 14.
The shape is changed to a bean pot because the pyramid has a negative message.

Washington Post, July 4, 2000, Health Section.

4.3 Make It Easy to Read

4.3 Principle 3: Make It Easy to Read

Both research and practice show that most adults at all reading skill levels prefer easy-to-read health care materials.[1] For limited-literacy adults, easy-to-read materials are essential.

Pfizer's goal is to produce health care materials at the 6th grade level.[12] At this level, about 75% to 80% of adult Americans will be able to read the materials easily.[1]

Reading level is influenced primarily by two factors: the average length of sentences and the number of hard words. The shorter the sentences and the fewer multisyllabic words, the lower the reading level.

The section on Using Readability Formulas provides instructions on how to measure readability levels.

Use a Conversational Style With Active Voice and Common Words

Together these steps can significantly enhance the readability and appeal of health care materials.

Application

- Use dialogue to present some of the information.

  This tends to be easier to read, and also brings in the attention-getting "power of the overheard conversation."[16]

Example:

> Jean: I've found a great way to stay on track when I'm at a buffet or eating at a friend's house. You know, those times when I can't measure my foods.
>
> Mary: What do you do?
>
> Jean: I call it "rating my plate." I just imagine my plate is divided into three sections. First, I pick nonstarchy vegetables for half the plate… Next, I make sure I eat a meat or protein on one-quarter of my plate… Then on the last quarter of my plate, I pick starchy foods.
>
> Mary: What about fruit?
>
> Jean: Oh—I put my fruit and milk serving "on the side."

Pfizer Inc. *Glucotrol XL, Portions: Rate Your Plate.* 2003.

- Use active voice to make the information more imperative and interesting.

  Passive voice moves more slowly—and adds words.

- Choose common, simple words instead of less familiar or more difficult words.

  Use **doctor** rather than **physician, use** rather than **utilize.** When common words cannot be found, consider using a visual to communicate the meaning.

  When quoting others, get permission from the speaker to create "indirect quotes" by paraphrasing or simplifying potentially difficult statements, when possible. Direct quotes must be included exactly as they are said.

- Only use unfamiliar terms if your intent is to "teach" new words to the reader.

  Define the word in context the first time it's used.

- For number values in text, use your judgment as to which format will be easier to read.

  In some cases, it is best to spell out numbers rather than use them in numeral form (for example, "one million" is easier to read than "1,000,000"). In other cases, it is best to express numbers in numeral form (for example, "27" is easier to read than "twenty-seven," "$100" is easier to read than "one hundred dollars").

- Use all numerals for phone numbers; avoid "vanity" numbers. For example, use 1-800-994-9662 instead of 1-800-994-WOMAN.

  If you must use a "vanity" number, put the numerals first with the vanity in parentheses; for example: 1-800-994-9662 (1-800-994-WOMAN).

Provide Examples for Difficult Words and Concepts

Examples (in words or visuals) are especially needed to explain difficult words and concepts. Health information includes many medical, technical, and abstract terms that are hard for readers to understand.

The writer may know what she means, but without an example the reader may not. Using examples and explanations enhances clarity and minimizes misunderstanding. Remember, it's best to try to use

common, more easily understood words and concepts. However, if you have to use a difficult word or concept, be sure to give an example.

Application

- Clarify concept phrases such as controlled room temperature, normal range, pros and cons, food groups, diet.

  A person may have a general notion of room temperature but may not know that the phrase represents a fairly broad range. Use of the word "controlled" adds another level of complexity. It is important to specify the temperature range in numbers. Similarly, the word diet can be misunderstood. To dieticians, diet means all the things you eat and drink. Many people, however, equate diet with commercial (and expensive) diet programs, such as a Jenny Craig diet.

- Explain category words such as generic, prosthesis, activities.

  Helpful examples for category words appear in this excerpt from the Eisai/Pfizer booklet *Living Well Day by Day. Keepsake, A Program on Memory, Aging, and Alzheimer's,* 1998. (Note the category words **activities** and **common object.**)

  "Alzheimer's disease has its share of safety hazards. Everyday activities, **such as driving a car, chopping vegetables, getting the right water temperature, or turning a stove on or off . . . ."**

  "Problems naming a common object, **such as a watch or pencil."**

- Qualify, illustrate value judgment words such as regularly, heavy, excessive.

  These words can mean different things in different contexts. Exercising regularly may mean three or four times a week. Getting physicals regularly may mean every year. For a patient unfamiliar with a particular subject, these value judgment words must be clarified.

Put the Context First

That way the reader has a "mental address" for the information. This helps memory and understanding because it gives the reader an advance organizer to tie the new information to.

4.3

Context first is especially important for poor readers. They may read so slowly that they forget the initial words by the time they get to the context. In the following example you'll see how a context-last sentence could be rewritten to help poor readers.

Context last: Hard for poor readers

If you feel dizzy, faint, or light headed, especially after you stand up from a lying or sitting position, **at any time you are taking the drug, contact your doctor.**

Context first: Easier for poor readers

Any time you are taking the drug, contact your doctor if you feel dizzy, faint, or light headed especially after you stand up from a lying or sitting position.

Putting the context first often means first stating the action that the reader needs to take, and then providing the more descriptive information.

Break Up Complex Topics

Complex topics are hard to understand. Partitioning them into more bite-sized portions makes them less difficult, allowing the reader to deal with one topic or concept at a time. Complex concepts are often not recognized when they are covered in something as short as a page or a paragraph. If short text blocks contain a number of concepts, it is important to make them easier to understand.

Application

- Break up text that includes several concepts.

  Smaller pieces, divided by headers, are easier to comprehend and remember. For example, the original paragraph on diabetes, which follows, presents five new concepts. The revised paragraph breaks the information into three bite-sized chunks that are easier to integrate and understand. Both paragraphs are at the 6th grade readability level.

Original Paragraph: Complex and hard to grasp

Understanding Diabetes

Your body needs sugar for energy. It gets sugar from the food you eat and drink. The insulin your body makes helps turn blood sugar into energy. When your body does not make enough insulin, it cannot get energy from the sugar. Without insulin, the sugar stays in your blood. Then your blood sugar goes too high and you feel tired.

Revised Paragraph: Partitioned and easier to grasp

Understanding High Blood Sugar

Where blood sugar comes from…
Blood sugar comes from the food you eat and drink.

Why insulin is important…
Insulin turns blood sugar into energy—so you have more pep and don't feel tired all the time.

Why your blood sugar goes high…
When you don't have enough insulin, the sugar stays in your blood. Then your blood sugar goes higher than it should.

Present Each Topic in an Uninterrupted Layout.

Information is easier to understand if the reader's attention isn't interrupted partway through—for example, by turning a page or viewing a graphic in the middle of the text.

Do Not Use Vertical Text

Avoid text that must be read vertically, as in the example here:

D
I
A
B
E
T
E
S

Use "Road Signs" and "Chunking"

These techniques enhance clarity and memory. They help to provide a sense of organization.

Application

- Use headers and subheads to let the reader know what is coming.

  These help by letting the reader "look down the road" to see the direction the new information is taking.

  The headers in Figure 15 draw immediate attention to key messages.

Eating right for a healthier heart

To choose low-fat products, ask yourself:

1. Is fat a major ingredient?
Read food labels. To avoid too much fat or cholesterol, go easy on products that list any ingredient high in saturated fat or cholesterol first (eg, oils, lard, cheese).

Figure 15.
Effective example of use of headers.

Parke-Davis and Pfizer. *Eating Right for a Healthier Heart.* 1996.

- "Chunk," or partition, lists of more than five items. Then group the items under separate headers. Keep bulletted items no longer than 5 to 7 items.

4.3

The items on the list often suggest the headers naturally. For example:

- **Dos** under one header and **don'ts** under another
- A time sequence of items such as: preparation steps, taking the medication, possible side effects
- Common side effects and less common side effects
- Most serious interactions with other drugs and less serious interactions

The arguments for chunking are strong. Most of us, regardless of education level, can't recall from short-term memory more than seven independent items. Many people find recall of even five independent items difficult.

The problem with long lists isn't that patients won't remember all the items on the list. The problem is they may not remember any!

Possible migraine triggers:

- Aged cheese (such as cheddar, provolone)
- Chocolate
- Citrus fruits (such as oranges, grapefruit)
- Alcohol (especially red wine)
- Caffeine: coffee, tea, cola
- Nuts
- Monosodium glutamate (MSG is often added to Asian food and some packaged foods)
- Nitrites (found in preserved meats such as bacon, ham, and lunch meats)
- Stress
- Skipping meals
- Too much/too little sleep
- Travel to different altitudes
- Menstruation
- Pregnancy
- Menopause

Figure 16-A.
A lengthy list.

Compare the effect of chunking on a long list in Figures 16-A and 16-B.

Possible migraine triggers:

- Certain foods eaten 24 hours before the attack
  - Aged cheese (such as cheddar, provolone)
  - Chocolate
  - Citrus fruits (such as oranges, grapefruit)
  - Nuts
  - Monosodium glutamate (MSG is often added to Asian food and some packaged foods
  - Nitrites (found in preserved meats such as bacon, ham, and lunch meats)
- Certain beverages drunk 24 hours before the attack
  - Alcohol (especially red wine)
  - Beverages with caffeine (such as coffee, tea, cola)
- Changes in daily activities
  - Stress
  - Skipping meals
  - Too much/too little sleep
  - Travel to different altitudes
- Hormonal changes
  - Menstruation
  - Pregnancy
  - Menopause

Figure 16-B.
A lengthy list broken into more manageable pieces.

Keep Paragraphs Short and Focused on a Single Point.

Limit paragraph length to fewer than 6 lines of text.

Avoid Sentences That are Long, Complex, or Difficult to Understand.

Try to keep sentences to fewer than 15 words and limit the use of dependent clauses, parenthetical phrases, and compound sentences.

4.4 Make It Look Easy to Read

4.4 Principle 4: Make It Look Easy to Read

Creating an easy-to-read appearance is perhaps the easiest action that writers and artists can take to make materials user-friendly, especially for those with limited literacy skills. Materials that look easy to read will encourage people to actually read them.

Allow Lots of White Space on the Page; No Dense Text

White space makes a page more inviting, makes it look easier to read, and helps readers keep their place. If material looks hard to read, poor readers are not likely even to try. Good readers are also put off by dense text or jam-packed pages. Compare the dense text page shown earlier on page 21 in Figure 8-A with the white space in the text page in Figure 8-B.

Application

- Revise text that is long or concept dense by chunking or using headers to break up copy.

  See Figures 8-A and 8-B on page 21.

- Use a double-column layout instead of single-column text.

  The gutter creates air. The 2-column format works best on a larger page size such as 8.5″ X 11″. It is not recommended for smaller formats or tri-fold brochures.

- Allow wider margins.

- Use a justified left margin and ragged right margin.

  A ragged right margin provides visual differentiation and helps marginal readers to find and keep their place as they move through the text.

- Substitute visuals for text.

  Our eyes are drawn to visuals. In themselves, they have appeal—and they can make the appearance of a page more appealing.

Use Cueing to Direct Reader's Attention to the Key Points

Cueing helps ensure that important information is not overlooked. It also helps the reader to focus.

Application

- Use boldface type, larger print size, or underlining to cue the reader to important text.

- Avoid using italics and ALL CAPS as cueing methods. They may make the copy harder to read.

- Provide a different, contrasting background for a key text block.
- Use other attention-getting devices, such as a margin note, a direct tie-in with a key adjacent visual, a call-out, a different color, or an appropriate icon.
- Consider techniques for cueing visuals as well.

Avoid Reverse Type, ALL CAPS, and Italics

They are very difficult to read for anything except very short bits of text.

Application

- Use ALL CAPS and italics only as accents of 5 words or less in headers/headlines, subheads, captions, or sidebars.
- Limit the use of reverse type to no more than 10 words and 2 lines of text in headers/headlines, subheads, captions, or sidebars.

Figures 17 and 18 demonstrate cueing techniques used with visuals.

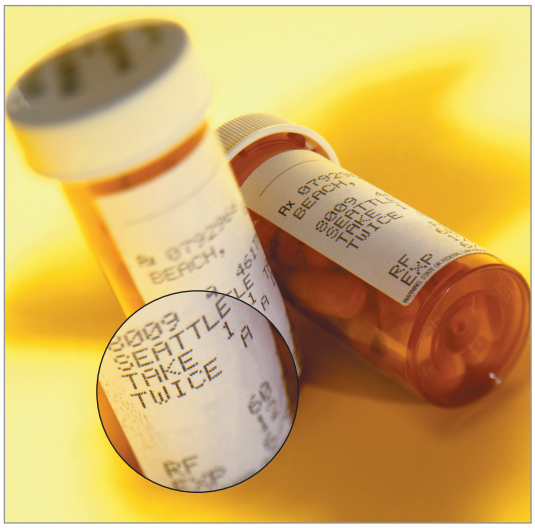


Figure 17.
Example of magnification as a cueing technique to identify a key point.

Figure 18.
Example of using a pointer as a cueing technique.

Provide Sharp Contrast and Large Type

Many readers, especially older readers, need sharp contrast and large font size in order to read comfortably.

Application

- Avoid ghosting visuals behind text.

  The ghosting makes the text hard to read.[17] Compare the clarity of the text with ghosting to that of text without ghosting in Figures 19 and 20.

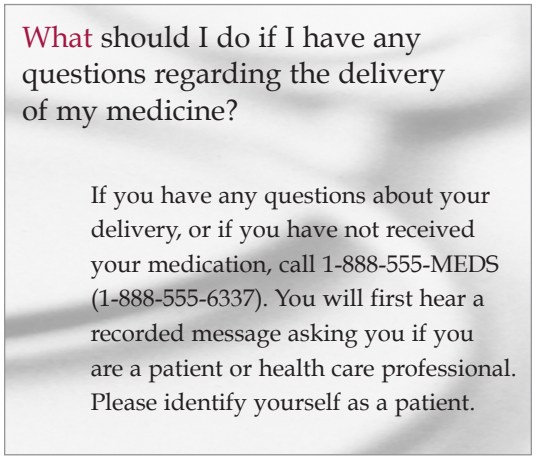


Figure 19.
Example of poor contrast due to underlying visual image.

- Don't place text over images. When text is super-imposed over pictures, it makes it difficult to absorb the content of either the text or the picture.

- Check for sharp contrast before choosing a color palette.

  Older people may have difficulty, for example, reading cream text on a brown background.

- Use 12-point type or larger because it is easier to read, especially for older people with vision problems. For footers, the font can be 10-point type.

- Do not use shadow text or narrow versions of fonts. They are hard to read, especially for people with impaired vision.

- Use serif instead of sans serif typeface because it is easier to read.

  Serif fonts, such as Garamond and Times New Roman, are characterized by short lines extending from the upper and lower ends of the letters. Sans serif fonts, such as Arial, do not have these lines.

  Use a sans serif font only in limited and select cases. No more than 10 words may be sans serif and no more than 2 lines of text for the following: title, headings, subheadings and short captions.

4.4

- Limit the number of fonts in one piece to four.

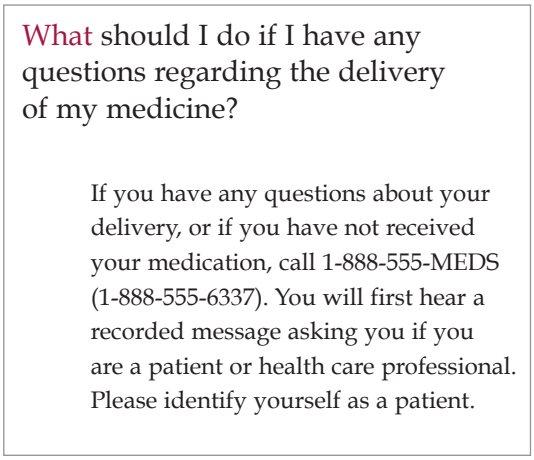


Figure 20.
Example of good contrast with ghosting removed.

4.5 Select Visuals That Clarify and Motivate

4.5 Principle 5: Select Visuals That Clarify and Motivate

Introduction

Illustrations capture the readers' eyes first.[18] We look at the picture, then the caption (if there is one), and finally (maybe) the text. The impact of the visual may be a deciding factor as to whether we read further. Visuals and captions may be all that limited-literacy readers attempt. Visuals are used to ensure cultural, age, and gender appropriateness; show procedures and desired patients actions; and foster self-efficacy (make people believe they can do a particular task).

Visuals can enhance a reader's ability to recall information.[19] For instance, we remember a person's face but not the name; we remember the appearance of a book's cover but perhaps not the title or author.

A recent study funded by a Pfizer grant showed that even simple pictographs (pictures that represent ideas) greatly improved patient recall of health information.[19] One group of patients received only spoken medical instructions. The second group were given spoken medical instructions accompanied by pictographs.

The study found that:

- Those who received only the oral instructions could recall 14% of the information.
- Those who also received the pictographs could recall 85% of the information.

Pfizer also is funding research on using visuals to enhance patient recall of written medical instructions.

Select Realistic Visuals; Omit Distracting Details

Use visuals that help the reader understand the text, portray cultural inclusiveness, show procedures and desired patient actions, and foster self-efficacy (make people believe they can do a particular task).

Line drawings or photographs with uncluttered backgrounds can be effective. For clarity, be sure that body copy refers to, or points out, any visual that is not adjacent to the relevant text.

Use Graphics That Contribute to Your Message

If a graphic does not contribute to the message of the document, it should not be included.

Application

- Use images appropriate to the audience and the subject.

  It's critical to use visuals that reflect the cultural background and beliefs of readers. They must be able to see themselves in the images to establish personal relevance and meaning.

  When developing materials for adults, avoid childish visuals. People with limited literacy skills, in particular, need to identify with health instructions in the context of their daily lives. They have a wealth of adult experiences and often are married, raising children, and holding down jobs. They do not identify with childlike images, childish or silly text, nor with caricatures of parts of the body, foods, or medications.

  Using inappropriate images or childish text results in "dumbed down" materials rather than clear health materials that achieve their communication goals. Poor readers take images seriously. Unrealistic illustrations used in serious messages, such as health care instructions, puzzle and distract poor readers.

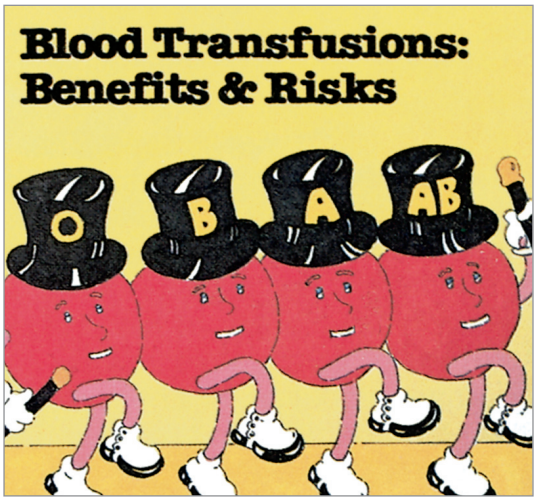


Figure 21.
The letters on the top hats identify blood types, while the bodies are blood cells. The image lacks realism.

U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. *Blood Transfusions: Benefits & risks.* 1981; Pub. No 81-1949.

The caricature of blood cells in Figure 21 converts a serious subject matter into an unrealistic, childish design that not only confuses the reader, good or poor, but also obscures the message.

- Use visuals that are literal and not abstract.
- Do not crop pictures of people.
- Avoid anatomical illustrations from medical text books.

  They are seldom suitable for the general public. Choose less complex images. Use simple anatomical graphics shown in context.

- Use realistic photographs of medicines.

  Showing the actual pill, capsule, or liquid helps make the drug vivid and understandable and enhances self-efficacy.

- Do not use blurry or unclear visuals.

- Use a series of simple visuals to show steps in a procedure.

- Use color to enhance realism, set a mood, differentiate, and add interest and excitement.

  Use colors purposefully, not simply to jazz up a page:

  - Use color to emphasize an especially important word or phrase.
  - Don't mix decorative color with other uses of color.
  - Use the brightest color for the most important point of the visual.

Use Action Captions

Captions clarify the point of a visual. Because our eyes are drawn first to visuals, the accompanying captions may be some of the most important text on a page.

Application

- Use a caption to describe a recommended action shown in the visual.

Figure 22.
If you are a diabetic, get an eye exam every year.

Figure 23.
"Working out in the pool makes exercise fun for me."

4.5

Figures 22 and 23 show how action captions can enhance the effectiveness of visuals.

- Tell the reader the point of the visual through a caption. Tell them what to look at in the visual.
- Write a caption that states the benefits of taking the action shown.
- Use testimonials as captions to make the visual come alive and have personal relevance.

Explain How to Use Any List, Chart, or Diary; Give an Example

Lists, charts, and diaries can be difficult for many people to understand. Therefore, we suggest limiting how often you use lists, charts, and diaries. Be sure to explain how they should be used/interpreted, and provide examples whenever possible.

Application

- Explain what a chart or graph shows.

  Give an example of how to use the chart or graph if the reader is expected to use it. Without explanation, many people will not grasp the purpose of the visual.

- Clarify and explain the purpose of lists.

  Many people do not know how to use them and are turned off by them. Remember that chunking can help make lists more understandable and appealing.

  Figure 24, on the next page, shows a list of foods with fiber that will be difficult for most people. Figure 25, on page 46, shows how the list can be made more understandable by shortening it and eliminating unnecessary information.

MODERATELY RICH SOURCES OF FOOD FIBER

1 to 3 grams of fiber per serving

	Serving	Calories (Rounded to the nearest 5)
Bread and cereals		
Bran muffins	1 medium	105
Popcorn (air-popped)	1 cup	25
Whole wheat bread	1 slice	60
Whole wheat spaghetti	1 cup	120
40% bran flakes	2/3 cup-1oz	90
Grapenuts	1/4 cup-1 oz	100
Cheerio type cereals	11/4 cup-1 oz	110
Most	1/3 cup-1 oz	95
Oatmeal, cooked	3/4 cup	110
Shredded wheat	2/3 cup-1 oz	100
Total	1 cup-1 oz	100
Wheat Chex	2/3 cup-1 oz	105
Wheaties	1 cup-1 oz	100
Legumes (cooked) and Nuts		
Chick peas (garbanzo beans)	1/2 cup	135
Lentils	1/2 cup	105
Almonds	10 nuts	80
Peanuts	10 nuts	105
Vegetables		
Artichoke	1 small	45
Asparagus	1/2 cup	30
Beans, green	1/2 cup	15
Brussels sprouts	1/2 cup	30
Cabbage, red and white	1/2 cup	15
Carrots	1/2 cup	25
Cauliflower	1/2 cup	15
Corn	1/2 cup	70
Green peas	1/2 cup	55
Kale	1/2 cup	20
Parsnip	1/2 cup	50
Potato	1 medium	95
Spinach, cooked	1/2 cup	20
Spinach, raw	1/2 cup	5
Summer squash	1/2 cup	15
Turnip	1/2 cup	15
Bean sprouts (soy)	1/2 cup	10
Celery	1/2 cup	10
Tomato	1 medium	20
Fruits		
Apple	1 medium	80
Apricot, fresh	3 medium	50
Apricot, dried	5 halves	40
Banana	1 medium	105
Blueberries	1/2 cup	40
Cantaloupe	1/4 melon	50
Cherries	10	50
Dates, dried	3	70
Figs, dried	1 medium	50
Grapefruit	1 medium	60
Orange	1 medium	60
Peach	1 medium	35
Pear	1 medium	100
Pineapple	1/2 cup	40
Raisins	1/4 cup	110
Strawberries	1 cup	45

Figure 24.
Difficult list of food with fiber. This list contains unnecessary information.

Department of Health and Human Services, National Cancer Institute, National Institutes of Health. 1984:43; Pub. No. 85-2711.

4.5

FOODS THAT HAVE FIBER

When you eat one serving of these foods, you will get 1 to 3 grams of fiber.

	Serving Size
Breads, Pasta & Snacks	
Bran muffins	1 medium
Whole wheat bread	1 slice
Whole wheat spaghetti	1 cup
Popcorn (air-popped)	1 cup
Almonds	10 nuts
Peanuts	10 nuts
Cereals	
Grapenuts	1/4 cup
Most	1/3 cup
40% bran flakes	2/3 cup
Shredded wheat	2/3 cup
Wheat Chex	2/3 cup
Oatmeal, cooked	3/4 cup
Total	1 cup
Wheaties	1 cup
Cheerio-type cereals	1 1/4 cup
Peas & Beans	
Green peas	1/2 cup
Chick peas (garbanzo beans)	1/2 cup
Green beans	1/2 cup
Soybean sprouts	1/2 cup
Lentils	1/2 cup
Leafy Green Vegetables	
Kale	1/2 cup
Spinach, cooked	1/2 cup
Spinach, raw	1/2 cup
Root Vegetables	
Carrots	1/2 cup
Parsnip	1/2 cup
Potato	1 medium
Turnip	1/2 cup

	Serving Size
Other Vegetables	
Artichoke	1 small
Asparagus	1/2 cup
Brussels sprouts	1/2 cup
Cabbage, red and white	1/2 cup
Cauliflower	1/2 cup
Celery	1/2 cup
Corn	1/2 cup
Summer squash	1/2 cup
Tomato	1 medium
Fresh Fruits	
Apple	1 medium
Apricot	3 medium
Banana	1 medium
Blueberries	1/2 cup
Cantaloupe	1/4 melon
Cherries	10
Grapefruit	1 medium
Orange	1 medium
Peach	1 medium
Pear	1 medium
Pineapple	1/2 cup
Strawberries	1 cup
Dried Fruits	
Apricot	5 halves
Dates	3
Figs	1 medium
Raisins	1/4 cup

Figure 25.
Chunked list of food with fiber with clear introduction and with unnecessary information eliminated.

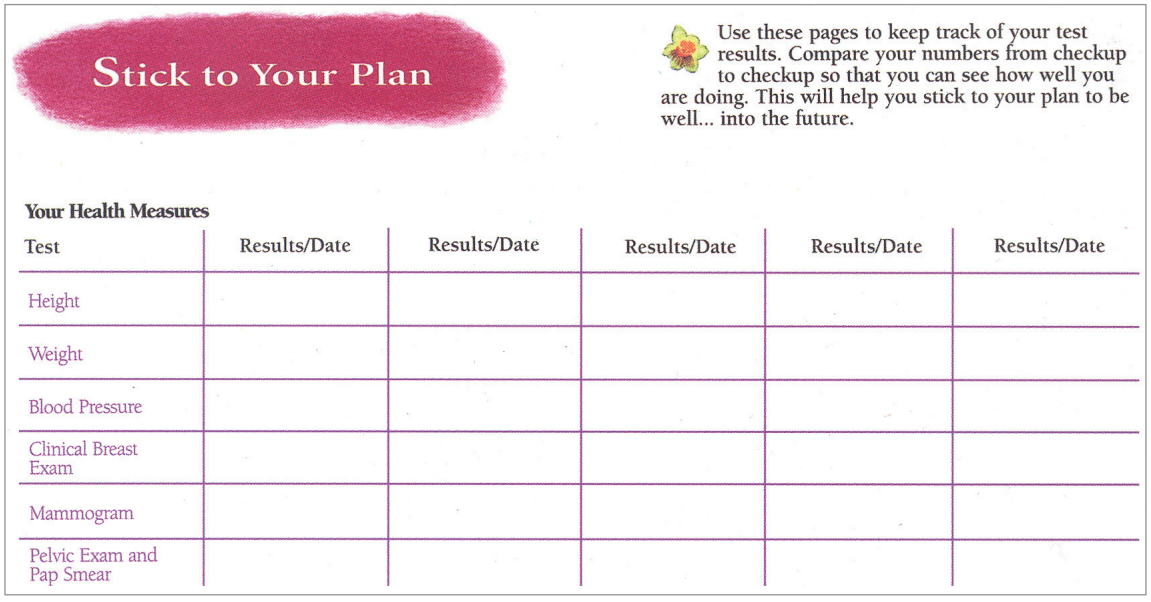
- Provide instruction in the skills needed to keep a diary. In contrast to lists, where a range of data or choices are offered, diaries call for a cumulative and regular record of written information.

  Health diaries are not easy for most people because they are not accustomed to the task and the discipline of regular medical entries.

If you include a diary:

- Keep it as simple as possible and ask only for key information. Explain why it is important to the patient, how to fill it in, and what to do with it.
- Give an example of an entry.
- Tell how long the diary should be kept, or direct the patient to ask the doctor this question.

A diary from one of the Pfizer materials is shown in Figure 26.



Stick to Your Plan

Use these pages to keep track of your test results. Compare your numbers from checkup to checkup so that you can see how well you are doing. This will help you stick to your plan to be well... into the future.

Your Health Measures

Test	Results/Date	Results/Date	Results/Date	Results/Date	Results/Date
Height					
Weight					
Blood Pressure					
Clinical Breast Exam					
Mammogram					
Pelvic Exam and Pap Smear					

Figure 26.
Tabular diary with purpose and use explained.

Pfizer Inc. *The Woman's Health Datebook.* 1998.

4. The Principles for Easy-to-Read Health Care Materials

Summary

Health outcomes are being affected by two key problems related to health literacy:

1. There is a serious mismatch between the readability of health-related materials and the reading skill levels of the U.S. adult population. One out of five adult Americans cannot read the average health care instruction.

2. Adults with limited literacy skills have the intelligence to understand clear health care instructions. What they lack are specific reading skills. If instructions are presented in simple text and with simple visuals, a much larger percentage of the U.S. population could use them.

Tips for producing materials that are easier to understand include:

- Review writing objectives and omit any unneeded text.
- Use simple visuals instead of text to explain complex topics.
- Use shorter, common words for multisyllabic words.
- Break up compound words when possible (eg, any time instead of anytime).
- Limit use of contractions, hyphenated words, and quotation marks.
- Use a conversational style.
- Strive for an average sentence length of 15 words or less. Avoid the use of sentence fragments.
- Avoid use of abbreviations, acronyms, unfamiliar spellings of words, and telephone numbers as letters rather than numbers. For example, use 1-800-994-9662 instead of 1-800-994-WOMAN. If you must use a word for a telephone number, always include the number as well.

The five Principles for writers and illustrators can reduce the literacy mismatch and improve the overall suitability of health care materials. When these Principles are applied to health care materials, they will benefit both good and poor readers. The Principles are:

1. Explain the purpose and limit the content.
2. Involve the reader.
3. Make it easy to read.
4. Make it look easy to read.
5. Select visuals that clarify and motivate.

Words to Watch

4. Words to Watch

Introduction

Many people, even highly literate people, have trouble understanding words used in health care. This also is true of words in any field outside our training or expertise, such as computers, nuclear physics, or certain sports.

In some instances, a word may be totally unfamiliar. In other cases, a word may be familiar, but the person may not understand it in a health care context. For example, upon hearing, "keep your glucose in a normal range," people know what normal means about a person, and they may have a range in their kitchen, but they may miss the intended concept in terms of health care. Even people who understand the concept may need more information than the phrase provides. They need to be told what glucose measurements are considered normal.

Words with a Latin or Greek prefix present special problems. The health science field is full of such words. Here's a small sampling: preop, postop, prenatal, premature, unsweetened, decontaminate, antibacterial. The risk factor for poor readers is that they may recognize one part of the word, such as the **sweetened** in **unsweetened** and then skip the **un**. This kind of guessing can lead to the opposite behavior.

The following list includes a few examples of prefix words, but the main focus is on difficult words found in a sample of Pfizer materials.

Often, these words can be explained with common words, by an example, or by a visual.

4.

Word Examples

Problem Word:	Consider Using:
A	
Abdominal pain	Stomach pain
Active role	Taking part in
Activity	Something you do; something you do often, like driving a car
Actually	Really, in fact, truly
Adequate	Enough *Example (adequate water): 6-8 glasses a day*
Adjust	Fine-tune; change
Adjustment	A change *Example: sleep on your back instead of your stomach*
Adolescents	Teenagers
Adverse (reaction)	Bad
Advisable	Wise, makes sense
Advocacy	Support
Affect	Have an effect on, change, upset, move, disturb
Ailment	Sickness; illness; problem with your health
Allergen	Something that causes an allergy
Allergy symptoms	Allergies
Alleviate your symptoms	Help you feel better
Angina	Chest pain
Animal product	Food with fat that makes your cholesterol high
Anti-inflammatory	Lowers swelling and fever
Anxiety	Very worried, very nervous
Approved for treatment	Approved to treat
Area	Part; patch; place
Arteries	Blood vessels
As recommended	As you were told by your provider/doctor/ nurse/dietitian
Aspect	Point of view; part; item
Associated	That comes with
At its source	Where it starts
Avoid	Stay away from
B	
Behavior	How a person is acting, actions, conduct
Benefit	Do good for, help
Benign	Will not cause harm; is not cancer
Blood pressure	Pressure of blood on the walls of blood vessels
Bloodstream	Blood
Borderline	On the edge of, on the line between
Briefly	In short, for a short time

Problem Word:	Consider Using:
Cardiovascular	Heart and blood vessels
Categories	Groups
Cautiously	With care; slowly *Example: making sure to hold on to handrails*
Certain	Some, for sure
Challenges	Problems
Cholesterol	A waxy fat-like substance found in the body and in some foods
Cholesterol levels	Cholesterol
Chronic	Does not end, constant
Clinical studies	Studies
Cognitive	Learning; thinking
Collaborate	Work together
Combination	Mixture, blend, together with
Commonly reported	Often are
Communicate	Talk with, write to
Concerned	Worried about
Condition	How you feel; health problem
Confidential, confidentiality	Private, keep private
Considerable	Quite a bit of; a lot of *Example (time): a number of months; 10-12*
Considered	Thought to be, seen to be
Constricted	Get narrow, narrow
Contains	Has
Continue	Keep on, go on, take again, stay
Contribute	Play a part, adds to, is a part of
Contributes to	Also causes
Coordinate care giving	Plan the right kind of care and how much care; plan and set up help as needed
Coordinate	Make all parts of your care work together; talk with other doctors, nurses, or other health care providers
Currently	At this time, now
Decreased appetite	Does not want to eat, loss of appetite
Defined	Means, is the same as
Definitely	For sure
Desirable	Wanted, needed, best, looked for
Detached	Stand apart
Determine	Decide, agree on, settle on, find out
Develop	Get, have
Diagnose	Find the cause of your illness
Diagnosis	Cause of your illness

	Problem Word:	Consider Using:
D	Diarrhea	Loose stools
	Diet	What you eat; your meals
	Dietary cholesterol	Cholesterol from food
	Difficult	Very hard
	Directed	Told by your doctor, nurse, or other health care provider
	Discomfort	Aches, pains, soreness, worry
	Discretion	Good judgment, keep private
	Discuss	Talk with
	Disorder	Sickness, illness, disease
	Dizziness	Get dizzy, feel dizzy
	Dosage	Dose; how much medicine you should take
	Drowsiness	Very sleepy
	Drug interactions	How one drug acts with another
	Drug treatment	Taking the drug
	Dysfunction	Problem
E	Edema	When body fluids build up too much, often with swelling; swelling (dependent on context)
	Enables	Lets, allows
	Encouraged	Gave support, made [me] want to
	Engage	Put into place, hold, keep
	Enlarge	Get bigger
	Ensure	Make sure, make certain
	Especially	Mainly, above all
	Estimated	Likely, around, nearly
	Event	Incident, affair
	Excessive	Too much *Example (bleeding): if blood soaks through the bandage*
	Exhibit	Show
	Experience	Have (have signs of)
F	Factor	Other thing
	Fatigue	Very tired
	FDA approved	Approved by the government (FDA)
	Fluid level	How much water your body has
	Focus	Put your mind to, pay attention, keep at (a task)
	Frequently	Often
G	Gauge	Measure; get a better idea of; test (dependent on context)
	Generally	As a rule, by and large, most often
	Generic	Product sold without a brand name; like ibuprofen [Advil is brand name]
	Glucocorticoid	Something your body makes that reduces swelling and fever
	Good posture	Sitting straight and standing tall

Problem Word:	Consider Using:
H	
Hazardous	Not safe; dangerous
Health status	How healthy you are
Healthcare professional	Provider/doctor or nurse
Herbal remedies	Herbs
High-intensity exercise	Use example, such as running
Hives	Red, itchy bumps
Hyperarousal	Very tense, easy to startle, can't sleep, very tired, very anxious
I	
Identify	Find out
Imbalance	Out of balance
Immediate	At once, right away
Impotence	Erection problems, can't have erection
Improve	Get better, get well, do better
Improves	Helps, gets better
Increase gradually	Add to *Example (exercise): add 5 minutes a week*
Increase, increased	Rise, go higher, more
Indicated	Used for
Indigestion	Upset stomach
Individual	Person
Informed	Told
Informed decision	Make the best choice for you, know what you are choosing, have the best information about what you choose
Infrequent	Not often, rare, few and far between
Ingredients	What is in [a medication], what the [medication] is made of
Inhibitor	Drug that stops something that is bad for you
Initial	At first, first
Initially	At first; to start with
Insomnia	Can't sleep
Intake	What you eat or drink; what goes into your body
Intended for	Meant for
Interaction	How things work together (Drug interaction: Some drugs change the way other drugs work; some drugs do not work well together)
Interfere	Get in the way of, block, hold up
Intermittent	Off and on
Internist	Doctor
Intimate	Close, private, personal
Irregular heart beat	Heart beat that is not regular
J	
Jaundice	Yellowing of the skin or the whites of the eyes

4.

	Problem Word:	Consider Using:
L	Landmark	Very important (adj.) Important event; turning point (noun)
	Lesion	Wound; sore; infected patch of skin
	Libido	Sex drive, interest in sex
	Life-threatening	Life and death, dangerous
	Lowest average wholesale price	Cheapest (or rephrase to use verb: costs less)
M	Medical condition	Disease, illness, medical problem, condition
	Medication	Medicine, drug
	Membrane	Thin covering (over a part of the body)
	Message transmission	Sending messages back and forth
	Mg	Milligram; very small amount used to measure drugs
	Moderate	Average, medium, normal
	Moderately	Not too much *Example (exercise): so you don't get out of breath*
	Monitor	Keep track of
	Motivated	Made (me) want to
	Muscle breakdown	Muscle problems
N	Nasal congestion	Stuffy nose
	Natural disaster	Act of God such as flood, or fire; Disaster such as a flood or fire
	Nausea	Upset stomach
	Necessary, necessarily	Needed
	Neglect	Lack of care, don't care for
	Nocturia	Going to the bathroom a lot at night
	Noncancerous	Not cancer
	Non-prescription	Over the counter, you can buy off the shelf, you can buy without a prescription
	Normal range	Where it should be; common amount
	Normal	Common, standard, routine, usual
	Noticed	Saw
	Nutrient	Something in food that is good for you
O	Occur	Happen
	Opened a dialogue	Could talk with
	Option	Choice
	Oral	By mouth
	Original container	The bottle or box it came in
	Overreach	Go too far, strain
P	Percents: [ ]% to [ ]%	[ ] to [ ]%, [ ] - [ ]%
	Perform	Do
	Permanent	Lasting, last forever

Problem Word:	Consider Using:
P	
Persistent	Constant, lasting
Pharmacies	Drug stores
Physical reaction	What happens in your body, your body will react
Placebo	A sugar pill they thought was [Zyrtec]
Possible	May, likely, can be done
Poultry	Chicken, turkey, etc.
Premenstrual	Before your period
Prevalent	Common; happens often
Primarily	Above all, mainly, mostly
Prioritize	Put in the right order; put first things first; put things in order of importance
Procedure	Something done to treat your problem; operation
Progressive	Gets worse (or better)
Prolonged	Lasts a long time, too long
Promote	Help, support
Proper	Correct, right
Pros and cons	Pluses and minuses; reasons for and against
Prosthesis	Replacement for a body part, such as a man-made arm
Proven history	A good record
Provide	Give
Q	
Qualified health provider	Licensed provider/ therapist/ doctor/ counselor
R	
Reaction	Result, end result, response
Rebate	Get money back
Recapture	Bring back
Received to date	We sent so far
Recommend	Suggest
Recreational drug	Street drug
Reduce	Lower
Re-experiencing	Happens to you again and again, over and over
Referral	Ask you to see another doctor; get a second opinion
Refrain	Stop; stay away from
Regularly, regular	e.g., Every month, every week, every day
Related to	Has to do with, has something to do with
Relationships	How well you get along with
Releases	Lets [ ] out into, puts into
Reliable, reliably	Can count on, can depend on
Relieve	Lessen, help, ease, take the edge off
Repeatedly, repeated	Often, over and over

Problem Word:	Consider Using:
Repetitive	Happens over and over, again and again
Replace	Take the place of
Request, requested	Ask for, asked for
Resources	Names of [organizations] that can help you, more facts that can help you; information that can help you
Respond	Take action
Restart	Start again
Restlessness	Restless, can't sit still
Risk factor	Will increase your chance of getting [ ]
Routinely	Often *Example: every week; every other day*
Safety profile	Safety record
Scored tablet	Tablet with a line that makes it easy to cut in half
Seasonal	During certain seasons of the year
Sensitivity to light	Be sensitive to light, eyes can't stand the light, light hurts the eyes
Severe	Terrible, serious, dangerous
Sexual activity	Having sex
Side effect	Something you feel that was caused by a medicine you take
Significant	Very good, a lot of
Significantly	Enough to make a difference *Example (smoking/heart disease): 2 times the chance of having heart disease*
Similar	Same as, like
Situation	In your place, in your state
Sleepiness	Very sleepy
Social contact	Staying in touch with family and friends
Substance	A chemical
Suffers	Has, i.e., is depressed, has depression
Summary	Fact sheet
(Doctor's) supervision	Doctor's care
Support	Help with your needs — for money, friendship, or care
Symptoms	Signs, warning signs
Syncope	Blackout; loss of consciousness; fainting
Syndrome	Disease, a pattern of things that can happen
Tablets	Pills
Tailored	Made just for you
Tearing	Weepy, weeping, watering
Temporary	For a short time, short term *Example: for less than a week*

Problem Word:	Consider Using:
T	
Trauma, traumatic	Shock, distress, ordeal, pain
Treatable	Can be treated
Treatment plan	Treatment
Tremor	Shaking
Triad	Group of 3
Triage nurse	A person who can tell you the best place for care
Type vs. amount	Kind and how much
U	
Unable	Cannot
Uncontrollable	Can't be controlled
Unexpected	Did not expect
Unexplained	Can't explain
Unique	Special
Unsafe	Dangerous, not safe
Unusual	You have not seen before, rare
Usually	Often, most often
V	
Vertigo	Dizziness
Visible	Can be seen
W	
Wellness	Good health; feeling good

5. Using Readability Formulas

5. Using Readability Formulas

Finding the Readability Level of Text

Introduction

Having established that many health care materials are over the heads of a large number of American adults and, therefore, not serving their purpose, Pfizer has made it a priority to produce clear health materials at the 6th grade reading level.

Readability in terms of U.S. school grade levels can be determined by formula. Formulas, for the most part, are applicable to running text but not to lists, charts, and tables. The majority of formulas establish readability based on two factors:

1. The number of hard words in a sample. The more hard words—that is, the more syllables in the sample—the higher the readability level.

2. The average length of sentences. The longer the sentences—the more words in the average sentence—the higher the readability level.

While many formulas—both manual and computerized—exist, Pfizer has chosen to use the manual Fry formula. The Fry was selected because it:

- Is easy to use and takes only about 15 to 20 minutes to obtain results

- Uses reasonably small sample sizes (100 words), so it is suitable for both short and long documents

- Reveals which types of words and sentences are difficult

- Is well recognized within the reading community

- Is not copyrighted

Caution: Many people have used the readability tools available in word processing programs. We don't recommend using these tools. They have been found to be inconsistent and often inaccurate. In particular, the Flesch-Kincaid readability formula tends to give artificially low scores. Moreover, there are specific techniques necessary to prepare a document before using a computerized program. Most people omit this step and get inaccurate results.

5.

Selecting the Samples to Test

Fry specifies sample sizes of 100 words each. Except for very short pieces, three samples are selected and then averaged. The reason for selecting three samples is that the readability levels are often not uniform throughout the text. One could be misled if only one sample were used.

Application

- With a 10- or 15-page pamphlet, usually select samples from near the beginning, the middle, and the end.
- Select at least some of the samples from the text that presents the most complex information.

Using the Fry Formula

The process for determining readability using the Fry formula and chart is outlined below. The heavy solid line that runs through the Fry chart on page 63 indicates positions of greatest accuracy.

Directions:

1. Select three 100-word passages from the material you wish to test. Count out exactly 100 words for each passage, starting with the first word of a sentence. (Omit headings.) If you are testing a piece that has fewer than 300 words, use the formula on page 64.

Readability levels may vary considerably from one part of your material to another. Therefore, select the three samples from different content topics, if possible. For example, if a pamphlet includes such topics as the disease process, treatment options, and actions the patient should take, select one sample from each of these topics.

Additional information:

- Count proper nouns. Hyphenated words count as one word, including the phonetic spelling of words.
- Headings, subheadings, and the title of a piece should not be included in the Fry. A bold face lead-in to a paragraph is considered a part of the text, not a subheading, and therefore should be counted in the Fry.
- Phone numbers, fax numbers, and URLs should all be taken out of running text. They can be centered below the paragraph or put to the side, in which case they should not be included in

the Fry. However, if either must appear in a sentence or among running text, they should not be counted in the Fry.

- Only the narrative directions in recipes should be included in the Fry, not the list of ingredients.

- All direct and indirect quotes must be included in the Fry, since they are a part of the text. If they are too difficult to read, they probably won't be helpful to the piece.

2. Count the number of sentences in each 100 words, estimating the fractional length of the last sentence to the nearest 1/10. For example, if the 100th word occurs 5 words into a 15-word sentence, the fraction of the sentence is 5/15 or 1/3 or 0.3.

Additional information:

- Bulleted lists should only be included in the Fry when they are complete sentences. Lead-in sentences should be included in the Fry only if they are complete sentences.

  Example:
  Talk to your doctor about your health:

  - How do you feel?

  - Have you ever had surgery?

  - Are you taking any medicines?

  - Do you drink or smoke?

- Footers should not be included in the Fry.

- Remember to keep bulleted lists simple, even if they are not included in Fry calculations.

3. Count the total number of syllables in each 100-word passage. You can count by making a small check mark over each syllable.

   There is a short cut to counting the syllables. Since each 100-word sample must have at least 100 syllables, skip the first syllable in each word. Don't count it; just add 100 after you finish the count.

   Count only the remaining syllables (that are greater than one) in the 100-word sample. Thus, you don't put check marks over any of the one-syllable words; you put only one check over each two-syllable word, two checks over three-syllable words, and so forth.

5.

Occasionally you may be in doubt as to the number of syllables in a word. Resolve the doubt by placing a finger under your chin, say the word aloud, and count the number of times your chin drops. Each chin drop counts as a syllable. You can also refer to the dictionary to determine the number of syllables in a word.

Additional information:

- Abbreviations pronounced as a word (eg, AIDS) count as one word/the number of syllables (eg, one syllable for AIDS). If the abbreviation is spelled out when pronounced (eg, HIV) count it as one word and each letter as one syllable (eg, three syllables for HIV). See the chart Frying Abbreviations and Symbols on the next page for more details.

4. Calculate the average number of sentences and the average number of syllables from the three passages. This is done by dividing the totals obtained from the three samples by three as shown in Table 1.

Example:

	Number of Sentences	Number of Syllables
1st 100 words	5.9	124
2nd 100 words	4.8	141
3rd 100 words	6.1	158
Totals	16.8	423
Divide Totals by 3	5.6 Average	141 Average

Table 1.
Sample calculation of average syllables and number of sentences for Fry readability formula.

Frying Abbreviations and Symbols

Abbreviation/Symbol	How to Fry
a.m./p.m.	1 word, 2 syllables (ie, 9:00 a.m. = 2 words, 5 syllables) or: "in the morning," "in the afternoon," and "in the evening"
he/she	1 word, 2 syllables
ft.	Write out "feet"
in.	Write out "inches"
lbs.	Write out "pounds"
mg/dL	Best practice: avoid using. If not possible: 1 word, 4 syllables
no.	Write out "number"
#	Best practice: write out "number." If not possible: #5 = 1 word, 2 syllables
P.S.	Do not Fry
trademark symbol (™)	Do not Fry
&	1 word, 1 syllable
%	1 syllable (ie, 24% = 1 word, 3 syllables) or: write out "percent" (ie, 24 percent = 2 words, 4 syllables)
## – ## (ie, 140 – 159)	Write out "to" (ie, 140 to 159)
$	Do not Fry

Frying Words and Numbers

Words/Numbers	Example	How to Fry
Generic Names	Donepezil Hydrochloride	Do not Fry
Brand Names	Aricept	Do not Fry
Drug Category Names	Antihistamines, COX 2 Inhibitors, Statin	Best Practice: Limit use of drug category names. Do not Fry first use. Each time after first usage the term must be Fryed.
Pronunciation Guides	E-rec-tile Dys-func-tion	2 words, 6 syllables
Hyphenated Words	Borderline-high	1 word, 4 syllables
Recipe Measurements	Ounces, cups, tablespoons, tea-spoons	Do not use abbreviations (eg, oz., tsp.) for measurements. Spell words out and Fry according to the number of syllables in each word.
Time of Day	12:30	1 word, 4 syllables
Year	1994	1 word, 4 syllables
Simple Numbers	12	1 word, 2 syllables
Ranked Numbers	23rd	1 word, 2 syllables
Longer Numbers	600,000	1 word, 6 syllables
Fractions	½	1 word, 2 syllables
Decimals	10.5	1 word, 3 syllables
URLs	www.pfizer.com	Do not Fry
Phone Numbers	1-800-555-5555	Do not Fry (Avoid using words in phone numbers. If you must, always include the number as well)
Fax Numbers	1-800-555-7777	Do not Fry

5.

5. Refer to the Fry graph. On the horizontal axis, find the line for the average number of syllables (141 for above example). On the vertical axis, find the line for the average number of sentences (5.6 for the example). The readability grade level of the material is found at the point where the two lines intersect.

In the example from Table 1, the Fry chart shows the readability level at the 8th grade (see dot at the intersection in Figure 27). The curved line through the center of the Fry graph shows the locus of greatest accuracy. With a little practice, the 5-step process will become much easier. You will soon be able to determine a readability level in 10 to 20 minutes.

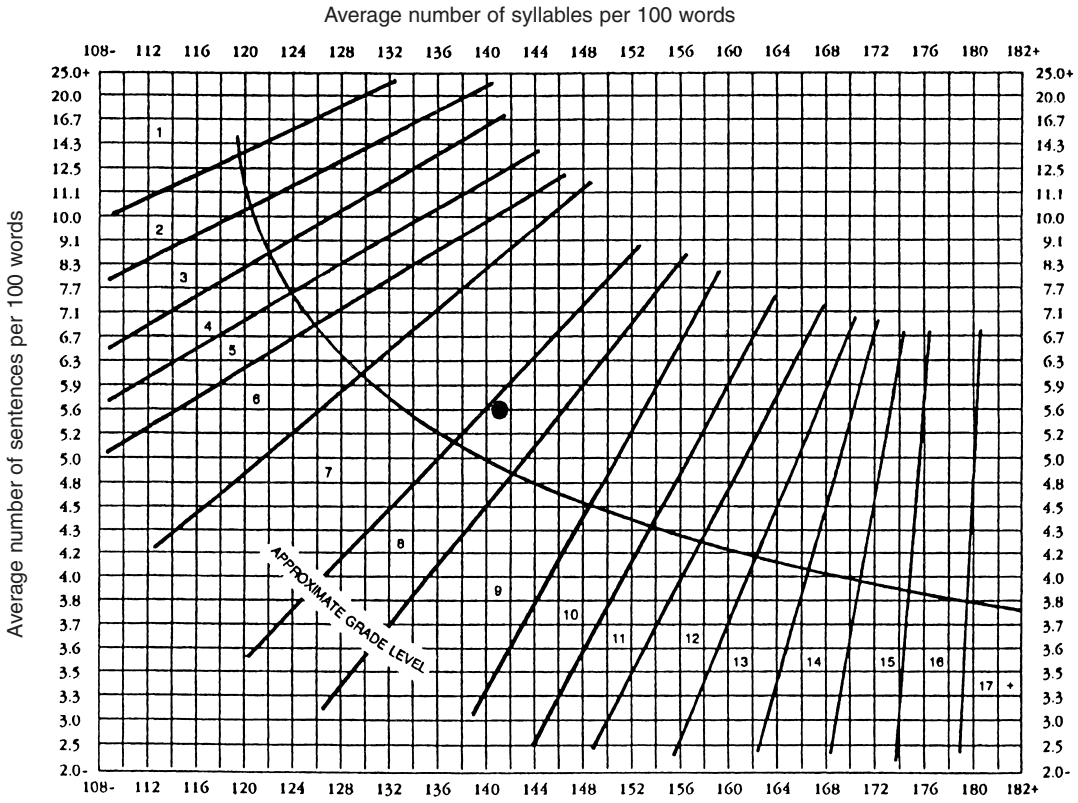


Figure 27.
Fry Chart showing readability based on sample calculations in Table 1. This chart should be used for determining readability of health materials developed for Pfizer.

Using the Fry Formula for Pieces With Less Than 300 Words

Consumer pieces are often short, making it impossible to take three separate 100-word sections. Here is a simple formula to help you when pieces consist of less than 300 words:

1. Total number of words in the text = ____
2. Total number of sentences in the text = ____
3. Total number of syllables in the text = ____
4. Average number of syllables per 100 words
   (100 x number of syllables) ÷ number of words = ___
5. Average number of sentences per 100 words
   (100 x number of sentences) ÷ number of words = ____
6. See the Fry graph and plot your averages (steps 4 & 5) to find the approximate grade level of the text.

If Material Is Above 6th Grade Level

If the material developed is above the 6th grade level, review the Principles to see where changes can be made. Remember, it's both the correct use of the Principles and a 6th grade reading level that make materials easy to read and understand. Don't focus on the reading level to the exclusion of the Principles. Using all five Principles correctly will help you attain a 6th grade reading level. Also, be sure to review "Tips for producing lower reading level materials" on page 47.

- Readability formulas do not measure:
  - Familiarity of language in the text
  - Clarity of writing
  - The number of new concepts introduced in the text
  - Influence of format and design
  - Cultural sensitivity or relevance
  - Credibility or believability

Pfizer Principles for Clear Health Communication has been tested for readability.

Readability level: 10th grade

Target audience: Advertising and marketing professionals with college degrees.

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