8 | Reader-Friendly Materials

> "I had a cold... Everybody told me to go to the doctor, but I put it off, and I put it off... And I still had this cough... And I knew it was getting into my lungs because I've had bronchial pneumonia before. My husband said, 'You're going to the doctor.' And I said, '[Then] *you're* going to go and fill out the papers.' Because that's why I don't go to the doctor, [and why I kept putting it off]. So he took me there and he filled out the papers... And I *did* have bronchial pneumonia, and they wanted to put me in the hospital."

View video of New Reader telling her story:
http://www.aap.org/commpeds/resources/video/Barriers2.wmv

In a health literate organization, everyone who interacts with patients and families using print or web-based material understands the importance of clear information in these formats. They understand how readable, easy-to-use print and web information supports quality of care, patient safety, and health equity. They strive to find, revise, or create materials that are relevant, effective, and usable to the widest range of patients possible, in other words, reader-friendly.

Ideally, your organization will have all the print materials and web-based information needed to serve patients, employees, and other stakeholders effectively. It will also have weeded out or replaced unneeded, confusing, or ineffective materials.

The ideas and tools in this chapter are designed to help you:

- Evaluate the materials you already have.
- Select new materials that match the literacy needs of your patients.
- Develop your own materials using plain language writing and design principles.

A Health Literate Health Care Organization Has Materials that Are Easy to Understand and Use

This chapter directly addresses Attribute 8 and will help you "design and distribute print, audiovisual, and social media content that is easy to understand and act on."

Source: Brach C, Keller D, Hernandez LM, et al. *Ten Attributes of Health Literate Health Care Organizations.* Washington, DC: National Academy of Sciences, 2012.

Why do Materials Need to be Reader-friendly?

Much of your patients' contact with the health care system, and with health information, is through the written word, whether on paper or the Internet. Patients use written information when they are:

- Finding a doctor's office or lab.
- Reading health education handouts.
- Searching for accurate health information on the web.
- Reading prescription and over-the-counter drug labels.
- Filling out health history forms.
- Reading and understanding consent forms.
- Following hospital discharge instructions.
- Filing insurance forms and paying medical bills.

No matter how well you explain an illness or treatment, and answer questions, patients may not remember what you say after they leave the exam room or hospital. Or they may not remember it accurately enough. For this reason health care providers should supplement verbal communication with effective print materials.

Websites you refer patients to or emails you write need to be user- and reader-friendly as well. These forms of written communication are taking a larger role in everyday life. While the Internet is a great tool for communicating and teaching, it is only as effective as its form and content. And remember that patients with limited education or incomes still may not have easy access to the Internet.

Effective Materials Support Adherence

Here are some reasons patients need good print or web-based information to manage their health:

- Patients often need more time to process what they have heard in their doctor's office.
- Good handouts can guide, reinforce, and supplement providers' explanations.
- Patients are only with their health care providers a fraction of the time they are dealing with their health conditions. Most self-management of health conditions is carried out by patients and families at home, work, or school.
- Caregivers rely on printed information to help them support loved ones.

Good Materials Help Ensure Safety and Quality

Clear, usable, and accurate information is essential. What can happen without it?

- Patients may skip over questions they don't understand. Some patients have described marking no to every condition on a health history form so they are not asked about questions they don't understand. Important responses may be missing, like an allergy to a medicine, leaving doctors without information needed to diagnose and manage health problems. Then, treatments or medications may not address the real problem. Or they could cause harm.
- When patients don't understand instructions, they can't follow them. If patients and families don't understand how to manage a chronic condition, take medicines, or care for themselves before and after surgery, it could lead to poor outcomes or repeated hospital stays.
- Patients may not know their rights or how to use the system. When patients don't know their rights within the health care system or how to use their insurance benefits, they may be less likely to use the system appropriately. They may over- or under-use care.
- Remember, informed consent is a process, not just a form. Patients may be asked to read and sign consent forms without really being informed. Many consent forms are written at college level, making them extremely difficult for most patients to read. If patients don't fully understand their choices, the risks and benefits, or possible health outcomes related to their surgery or procedure, they may have results they didn't expect, and providers may be at risk of liability.

Good Materials Can Help Lessen Health Disparities

Clear, easy-to-understand and easy-to-use print and web information can help overcome communication barriers that contribute to health disparities.

Cultural differences can get in the way of communication. For example, if a medicine is prescribed for a patient who believes his illness is caused by an evil spirit, effective information can help him understand the importance of taking the medicine alongside his belief. The way that information is delivered is key to its acceptability.

When language is a barrier, high quality translations are needed. Effective print and web materials in the patient's native language and reflecting the patient's culture become very important. People with disabilities may also experience health disparities that can be addressed by clear, easy-to-read information. For example:

- People with a visual impairment or learning disability may need to have an enlarged document with easy-to-navigate headings. On the web, they may use screen-reading software that works best with clearly-formatted documents.
- American Sign Language, which is a distinct language not based on English, is likely to be the first language of people who are deaf. They may have limited English proficiency and may need documents written in simple English without idioms.
- People with physical disabilities may use assistive devices that work best with clear, easy-to-navigate web-based information.

What Does Success Look Like?

Here is what a health literate organization with easy-to-understand and easy-to-use print and web information may have in place:

Your Materials

- Print and web materials are appealing to look at and easy for their intended audiences to read, understand, and act on.
- Print materials are written at 8th grade reading level or below.
- Materials highlight the most important, need-to-know and need-to-do information for the reader.

- Readers can tell who and what materials are for at first glance.
- All print and web materials adhere to reader-friendly guidelines, from consent forms to navigation on your website to signs in your facilities.
- Print and web materials are not assumed to replace verbal communication, and don't conflict with what providers and staff say.
- Written materials are available in the primary languages spoken by your community. Translators use plain language or, when possible, materials are created directly in the language so translation is not necessary.

Your Health Care Providers and Staff

- Health care providers understand the importance of using reader-friendly print and web materials and choose the most reader-friendly materials available.
- Staff are trained to make sure they get the right materials into the right hands at the right time.
- A core group of people is trained and have experience in *developing* new materials that are effective with the specific audiences that need them.
- Health care providers and staff who are not fully trained to develop new materials have learned some strategies for *revising* existing materials to better meet the needs of patients and families, and the public.
- Health care providers learn and use strategies to mark up print materials as they go over them with patients. This helps patients with all levels of literacy find, understand, remember, and use the information later on their own.
- Health care providers check for patient and family understanding of print materials using teach-back.

Your Organization

- Your organization has adopted policies that call for use of reader-friendly print and web-based information. The policies include guidelines that describe what *reader-friendly* is and how to assess its characteristics.
- Your patients, staff, and community have easy access to relevant effective materials on many common topics.

- Your organization's leaders devote resources to health literacy, for example they support funding for revising existing and developing new materials, translation services, training for providers and staff, electronic systems that are simple to maintain and widely available when needed, and time and staff to update web information on a regular basis.
- Navigation interviews are used to identify opportunities to improve signage.
- Adult learners and Patient and Family Advisory Committee members provide insights on developing print materials.
- Paperwork and forms to be completed are minimized. Paperwork is sent or downloadable ahead of time so people can fill it out at home. Help is offered to everyone in a friendly, pro-active, non-shaming way.
- Letters and correspondence from your organization, like lab and x-ray results or billing notices, are written using plain language principles.
- Print and web-based information is accessible for those with disabilities.

How Do You Make Materials More Reader-friendly?

What can you do to improve the print materials and web-based information your organization provides? How can you get access to good materials? How do you know if the materials you are using are effective? There are a number of ways to ensure your organization's materials match the literacy needs of your patients.

Find Reader-friendly Materials

You can find a variety of reader-friendly health information from federal agencies, consumer sites, health publishers, and others. More materials are being developed all the time. It's important to know what's out there. And it's important to choose print materials, computer-based training programs, and websites that will work with your audiences.

However, it can be challenging to find reader-friendly materials. They are spread here and there, rather than listed all in one place. For example, you can find some great easy-to-read materials for seniors on the National Institute on Aging website www.nia.nih.gov, but they may not be identified that way in their descriptions.

Another challenge is finding materials labeled reader-friendly that really *are*! Many vendors label their materials easy-to-read without testing them with the intended audience or measuring them against known guidelines. So make sure you review materials before ordering them.

Similarly, health publishers may offer reader-friendly print materials but they may not be listed separately in a catalog or website, so you may need to review each description to find them.

Evaluate the Materials You Find

There are many aspects of materials and websites that help make them readable and appropriate for your audience. The checklist approach helps you assess aspects beyond simply vocabulary and sentence structure, like organization, graphic design, and cultural appropriateness. The Suitability Assessment of Materials (SAM)[1], AHRQ Patient Education Materials Assessment Tool (PEMAT), and the CDC Clear Communication Index use the checklist approach. The SAM was one of the first examples and can be adapted to meet the specific needs of your audience. The Clear Communication Index http://www.cdc.gov/healthcommunication/ClearCommunicationIndex/ is an evidence-based tool used by the Centers for Disease Control and Prevention to assess public health messages. The PEMAT http://www.ahrq.gov/pemat is an instrument to evaluate the understandability and actionability of patient education materials.

Readability Checklist Example

Content is Well-planned

- ☐ Does the content have only 3 to 5 main points?
- ☐ Does the content tell patients only what they need to know to do the desired action?
- ☐ Are the key points in the order readers expect to find and use them?
- ☐ Is the content appropriate for the audience's age and culture?

Content is Conversational

- ☐ Does the content use mostly one- and two-syllable words?
- ☐ Are sentences short and clear?
- ☐ Does the content avoid confusing jargon?
- ☐ Are acronyms used sparingly and spelled out on the first use so they make sense to the patient?
- ☐ Is the content written in the active voice?
- ☐ Is the content written at or below a 6th to 8th grade level?

Fonts and Styles are Consistent

- ☐ Is the body of the text written in at least 12-point serif font?
- ☐ Does the content have no more than 3 different font styles?
- ☐ Is the format consistent throughout?
- ☐ Is the text in upper and lower case instead of ALL CAPITALS?

Layout is Easy to Read

- ☐ Is the format clean and simple?
- ☐ Does the text cover no more than 50% of the space?
- ☐ Does the content have headings and subheadings?
- ☐ Does the content use bulleted lists?
- ☐ Are illustrations easy to recognize? Do they relate to the text? Do they make sense to the patient? Are they age- and culturally-appropriate?
- ☐ Is the document accessible to people with disabilities of all kinds?

Evaluation Tools for Websites

Resources for evaluating the usability of websites can be found at http://www.usability.gov/guidelines/. These guidelines cover a wide range of characteristics. However, they do not include information on ease of use for people who are not strong readers. Studies show readers with low literacy skills read and use websites quite differently than readers with high literacy skills. To learn about the differences and how to tell if your sites are likely to help or impede people with lower literacy skills, go to http://www.useit.com/alertbox/20050314.html.[2]

Resources for evaluating accessibility of websites for people with disabilities can be found at http://www.w3.org/WAI/. This site provides international standards from the Web Accessibility Initiative which include recommendations for addressing the needs of a wide array of web users.

Finally, find out *how* information is being used. For example, there may be easy-to-understand video modules available on-line but there may not be enough computers for all patients. Staff may print out a written version of the information for patients, not realizing the written version may not be easy to understand. Just listening to the audio or being handed a printed version of the tutorial does not mean patients will understand, learn, remember, and act on new concepts.

Get User Feedback

Asking potential users is the only sure way to know what is effective. This can be done with focus groups or on a smaller scale with individual interviews. It can also be helpful to interview family members or other caregivers who may need to use your print materials or websites. Having people tell you where they struggle or succeed as they go through the text shows you where you can improve.

Create New or Revise Existing Materials

Your goal should be that everyone in your organization who uses print and web materials understands the importance of reader-friendly information. And they should know the basic characteristics of reader-friendly print and web information. For example, a pediatric nurse may not have been trained to create a handout for parents from scratch, but should at least know how to revise existing materials by making a few changes that will fix the biggest barriers for readers. Over time and with practice and coaching, you can develop a core group of go-to plain language materials experts.

Hands-on Workshops

The best way to learn the process (from conceptualizing your message to designing to field testing) is an in-person, hands-on workshop conducted by a qualified experienced trainer. In a live, in-person training, you can see many examples of what works and what doesn't, and learn why. You learn the basics, practice what you learned, and get feedback from the trainer and fellow participants. Consider inviting an expert, such as a member of the Clear Language Group http://www.clearlanguagegroup.com, to lead a tailored on-site training for a group from your organization. In addition to helping build expertise and capacity within your organization, this will establish a critical mass of trained, excited people who will, in turn, build momentum and commitment.

Books and On-line Resources

Learning from health literacy and materials development books, articles, guides, toolkits, and on-line resources is a way to get started and an option if resources are limited. However, learning from a book or web-based guide is usually not enough guidance to learn to create reader-friendly materials or websites from scratch. If you want your organization to have a group of go-to experts, they should have in-depth training.

Health Literacy Tools for Developing Print Materials

Resource	Description
Agency for Healthcare Research and Quality (2014). *Patient Education Materials Assessment Tool* http://www.ahrq.gov/pemat/	A tool to assess the understandability and actionability of print and audiovisual patient education materials
Center for Medicare Education (2000). *Writing Easy-to-Read Materials* http://medicine.osu.edu/sitetool/sites/pdfs/ahecpublic/Writing_EasytoRead_Materials.pdf	Issue brief describes the basics for writing easy-to-read materials
Centers for Disease Control and Prevention (2013). *Clear Communication Index* http://www.cdc.gov/healthcommunication/ClearCommunicationIndex/	Evidence-based tool used for developing and assessing public health messages.
Centers for Medicare and Medicaid Services (2010). *Toolkit for Making Written Material Clear and Effective* https://www.cms.gov/WrittenMaterialsToolkit/Downloads/ToolkitPart03.pdf	Comprehensive guidebook that includes practical tools to improve printed material
Doak C, Doak L, Root J (2006). *Teaching Patients with Low Literacy Skills* http://www.hsph.harvard.edu/healthliteracy/resources/teaching-patients-with-low-literacy-skills/	Provides many plain language strategies and includes the suitability assessment of materials (SAM), a checklist approach to assessing the readability of materials
Maximus (2005). *The Health Literacy Style Manual* http://www.coveringkidsandfamilies.org/resources/docs/stylemanual.pdf	Provides guidance for developing easy-to-read materials
National Institutes of Health (2003). *Clear and Simple: Developing Effective Print Materials for Low-Literate Readers* http://www.cancer.gov/cancertopics/cancerlibrary/clear-and-simple/page5	Guide includes a brief checklist along with step-by-step information on creating materials

Health Literacy Tools for Creating Websites

Resource	Description
Department of Health and Human Services (2010). *Health Literacy Online: A guide to writing and designing easy-to-use health Web sites* http://www.health.gov/healthliteracyonline/index.htm	Comprehensive online guide geared toward web designers, web content specialists, and health communication professionals
Eichner J, Dullabh P (2007). *Accessible Health Information Technology (Health IT) for Populations With Limited Literacy: A Guide for Developers and Purchasers of Health IT* http://healthit.ahrq.gov/sites/default/files/docs/page/literacy_guide.html	Evidence-based guide for website developers includes general recommendations for improving accessibility of all health IT and specific recommendations that address the needs of users with limited literacy
Krug S (2005). *Don't Make Me Think: A Common Sense Approach to Web Usability* http://www.sensible.com/dmmt.html	Proposes a simple approach to usability testing appropriate for anyone involved in development of a website
Nielsen J (2005). *Lower-Literacy Users: Writing for a Broad Consumer Audience* http://www.useit.com/alertbox/20050314.html	Describes the barriers users with low literacy experience when searching websites for information
Usability.gov http://www.usability.gov/guidelines/	Includes usability guidelines established by the federal government
Web Accessibility Initiative http://www.w3.org/WAI/users/Overview.html	Includes strategies, guidelines, and resources to help make the web accessible to people with disabilities

Principles for Creating and Revising Materials

Once you learn basic principles about reader-friendliness, it's time to begin creating or revising some written materials. You may never feel like you know enough, but this is an area where the more you work on it—and the more you seek feedback from end-users—the better you get. You will no doubt go through multiple drafts as you work through a document, and you will likely see things you missed and continue to make changes over time. You can use the following approach to get started.

Plan Your Materials

First, consider the needs and expectations of all your audiences—the people who will read and use your materials. This will include the obvious audiences of patients and their families but other stakeholders, as well.

Involve Stakeholders

Start by making sure you know who the stakeholders are. Medical and legal professionals, administrators, policy specialists, and others in your organization may want or need to approve the materials. Perhaps the materials were funded by an agency or foundation whose staff or members have a stake in how they turn out. Think about these people early in the process, inform them about your work, and get their involvement and support. Help them understand that reader-friendly and plain language communication are appreciated by people of *all* reading abilities. Using these principles is *not* dumbing things down.[3]

Learn about Patients, their Families, and the Community

Learn about your patients, their families, and the communities your organization serves. Research their demographics: race, ethnicity, age, educational level, languages they speak, whether they are new to your area or the U.S., socioeconomic status, gender identities, cultural groups with which they identify, their health beliefs, and their preferences and expectations about how health care is delivered. How do you learn all this?

- Research government databases about your community.
- Build relationships with representatives of the communities.

- Ask patients and their families to help you understand their perspectives, and involve them in creating materials. They can tell you:
  - The topics they are interested in and need information about.
  - Whether your key messages are appropriate and compelling.
  - How they perceive your proposed illustrations or photographs and graphic elements such as color and design.
  - How cultural beliefs and norms need to be addressed.

Create Your Key Messages

Limit your document to 3-5 key points or messages most readers will want to know at the time they are reading the text. Include only what readers must know to carry out the recommended action—the need-to-know versus nice-to-know. Because we tend to include much more than patients need or want to know, a good guideline is "If in doubt, leave it out." Avoid including information that answers questions the audience would not likely ask.

Think from the perspective of your users. Make sure your 3 to 5 key points are in the order readers will expect to find and use them. Let's say you're developing a brochure for parents on what to feed their babies and toddlers. You might think of the foods in categories and be tempted to list them that way. But how will parents look for the information? By the age of their child. If you list the information by age groups, parents can quickly find and read just the information that matters to them. If you list it by food groups, they will have to read each section looking for the content that applies to their child's age.

The User's Perspective

Following surgery for a fractured hip and 12-week stay in a rehabilitation center complicated by readmissions due to bleeding, an 88-year old woman was ready for discharge. She would be returning to her home where she previously lived alone. Her out-of-town daughter would be staying with her for 4 days.

Rehabilitation staff made repeated efforts to help the woman demonstrate that she was able to resume managing her many medications, several of which had been changed during her stay. They wrote a list of her medicines and asked her to describe how she would take them. But she was unable to explain her medication regimen, and recommendations were made for various medication management services.

When she and her daughter got home, her daughter rewrote the medication list in the way she knew her mother thought about her medications—according to the times of the day. Her mother was then able to take over her own medication management and continue her successful recovery.

Write in Plain Language

When switching from spoken to written English there is a tendency to be more formal. (In other languages the difference can be quite marked.) Words and sentences usually become longer and, in general, tend to be more official or academic. Avoid that, and write as though you are talking to your mom or grandfather.

- **Use shorter, more conversational words.** Use one- or two-syllable words. For example, instead of "demonstrate" use "show." Or instead of, "If you're unable to perform your exercises because of pain, please tell your therapist," write, "If it hurts to do your exercises, please call us."
- **Avoid medical and scientific jargon.** For example, telling someone with no medical background that they will be *intubated* during surgery is probably not very helpful. Try saying there will be a tube put into their airway to help them breathe while they are asleep. Describing a treatment as *palliative* vs. *curative* is also unlikely to be helpful. Many people will not know either term. Instead, you might say, "I'm afraid your cancer cannot be cured. The hospice treatment will make you more comfortable in your last weeks."
- **Explain new words and concepts in context.** Give concrete examples. For example, when warning about post-operative problems, instead of "excessive bleeding" try "blood that soaks your bandage all the way through."
- **Avoid acronyms or make sure you explain them first.** For example, you might use BMI instead of body mass index all the time. Remember that your patients need to be specifically taught: 1) What BMI stands for, and 2) what body mass index means, why it matters, and what theirs should be.

Use Shorter, Clear Sentences

Don't let the urge to be formal make your sentences longer than necessary. The average sentence length should be 10-15 words. That means some sentences can be up to 20 words long if most are shorter. If all the sentences are less than 15 words, the writing may sound awkward and unnatural, which can impair understanding. Also, make sure the sentences are simple, clear, and straightforward. Here is an example. (Note: BBTD stands for baby bottle tooth decay.)

Original	Revised
When you consider the potential cost of treating the problems associated with BBTD, it is best to prevent this condition from developing in the first place. (26 words)	It can cost a lot to treat Baby Bottle Tooth Decay. (11 words) So start taking care of your baby's teeth before the first tooth comes in. (14 words)

Use Active Instead of Passive Voice

Active sentences put the person or thing doing the action before the action word. Passive voice often uses the sentence structure, "X was done by Y." Here are some examples:

Passive Voice	Active Voice
Members have been confused by some of the new regulations.	Some of the new regulations have confused members.
Patient satisfaction was evaluated by the hospital in 2010.	The hospital evaluated patient satisfaction in 2010.
Blood sugar levels can be evaluated often with these strips.	You can check your blood sugar often with these strips.

Write Directly to Your Readers in a Friendly Tone

Personalize your message by writing *to* your readers rather than *about* them. You might use "you" or just address your readers with an "understood you" as in "Check your blood sugar after each meal." It works well to use "you" for the reader/consumer and "we" for the organization. If the document comes from your organization, it's obvious who "we" stands for. Being friendly and inviting is important, too. Sometimes it's even more important if you're using the direct approach. Focus on people rather than things.

Original	Revised
This medicine may cause drowsiness.	This medicine may make you sleepy.
Vaccines are important for protecting children's health.	Protect your child's health. Get the right vaccine on time.
The client must arrive for the first appointment 20 minutes early.	Please come 20 minutes early for your first visit.

What About Readability Formulas?

Readability formulas can help you measure how hard the text is to read, but they don't tell the whole story. They use a mathematical formula to estimate the reading grade level at which a material is written. But just because someone finished 12th grade does not mean they read at 12th grade level. And what is taught in a certain grade now is much different from what was taught in the 1940s when readability formulas were developed. Therefore, it is best to think of these tests as measures of difficulty on a continuum.

In general, the formulas count the average number of syllables in a word and average number of words in a sentence. Those are the two most significant factors in reading difficulty so readability formulas do give very important information.

But, there are many other aspects of printed materials that formulas cannot measure and that influence understandability, appeal, relevance, and more.[4]

- Organization and density of information
- Familiarity of vocabulary or concepts
- Influence of format, design, or visuals
- Cultural sensitivity or relevance
- Credibility or believability
- Readers' readiness to learn

Often-used formulas in health care are the SMOG and Fry.[1] You can learn to use them both by hand or you can go to websites that calculate the scores for you. If you prefer not to analyze reading level by hand, you can either go on-line to a website or use software on your computer. Be careful when using readability functions in word processing software. This might be handy but there have been reports of problems with their reliability and accuracy.

Health Literacy Tools for Analyzing Text

By Hand	Electronically
The Fry formula http://www.readabilityformulas.com/fry-graph-readability-formula.php	**The Fry formula** http://www.csudh.edu/fisher/readability.htm
The SMOG formula http://www.hunter.cuny.edu/irb/education-training/smog-readability-formula	**The SMOG (and other formulas)** http://www.online-utility.org/english/readability_test_and_improve.jsp

Your organization might also consider purchasing software which analyzes reading level. A good choice is *Readability Formulas*™ http://www.micropowerandlight.com/rd.html. Some readability software also provides suggestions to make the text more readable. *Health Literacy Advisor*™ http://www.healthliteracyinnovations.com/home analyzes reading level with several different formulas and also provides plain language substitutions for words and phrases. It also has a Spanish version. *Stylewriter*™ http://www.stylewriter-usa.com/index.html analyzes reading level and suggests a variety of plain language edits which can be very useful and save time.

Understanding Results

Whether you test your content using readability software, the web, or manually, you will get a score that indicates a grade level. Most formulas are only accurate to within one or two grade levels. Suppose your score is 6.7. Round the number to the nearest whole number, but know it would be unrealistic to say for sure the content tests at 7th grade level. It is actually more accurate to say the content is probably written at 6th to 7th grade reading level, or to be safe, 6th to 8th.

If the score is higher than your target level, go through the guidelines above and apply them more stringently. Cut out jargon. Shorten sentences that are longer than 20 or 25 words. Hunt down the 3- or 4-syllable words you can change to shorter, more commonly-spoken words. Go back through the document and reassess the necessity and relevance of every word. Look at all aspects of the text.

In summary, readability formulas are just one of many tools for creating and assuring reading ease. They should not be the final step in determining whether or not your content is easy-to-read *and* understand.

Graphic Design, Layout, and Visuals

Good design is just as important to readability as content, words, and formatting.[5,6] Few patients want to spend time wading through unnecessary information. They want it fast and efficiently. Good design can help. If you don't have resources to work with a professional graphic designer, use these guidelines.

Fonts Influence Readability

There has been a debate among document designers, graphic designers, and readability specialists for decades about use of two different families of fonts, also called typefaces: serif and sans serif. A serif font has little curls at the end of each letter. These little curls are called serifs. Serifs are thought to help move your eyes from one letter to the next, which is a good thing when you don't read well or you want to read information quickly. Serif fonts work well for written materials. Sans serif fonts have straight letters. Sans means without, so sans serif fonts are missing the little curves on the letters. The letters end abruptly, which in theory, slows your eyes as they move from letter to letter, at least in printed materials.[7]

The Difference Between Serif and Sans Serif Letters (fonts or typefaces)

Times New Roman is one of the standard, most used serif fonts. Serif fonts are almost always best for the main text and also work for headings. Sans serif typefaces are fine used as headings but generally not for the main text. *Arial*, also popular, is a sans serif font, and it works nicely for headings.

For images on computer screens (e.g., websites or e-mail) sans serif fonts may be best. Some experts say sans serif fonts "hold together" better on screens because they can be digitized more easily.

White Space Gives Readers a Visual Break

When you're creating easy-to-read materials, give readers a visual break by surrounding content with white or open space. How much is enough? In general, 50% of the page. White space generally means an open area free of text. It can be colored as well as white and can include non-text elements such as illustrations, photos, or easy diagrams. You can create white space with:

- At least one-inch margins on the top, bottom, and sides in letters and flyers—anything on 8½" by 11" paper.
- Headings and subheadings that introduce information.
- Short paragraphs with space between them.
- At least half an inch between columns of text.
- Bulleted text with one quarter inch between the bullet and its text.

Use dark type on a white or light background for good contrast between the text and background. Light or white text on a dark background is called reverse type and should be avoided in print materials. It can be hard to read in print. Interestingly, though, it seems to work fine for websites or text projected on a screen.

Emphasize What You Want Patients to Remember

Use one or two of these methods to highlight the most important messages.

- Write short paragraphs with one or two key points, or put information in a text box, also known as a call-out box.
- Bold a term or phrase but don't overdo it.
- Italicize a few key words. However, be aware that too many words in italics can be hard to read and slow readers down.
- When there are multiple items, use numbers if there are steps that should be done in order. Use bullets for lists. Limit length to 5-7 items.

Good Headings Grab Attention and Provide Content

Headings and subheadings are great for directing your readers' eyes to specific information. They can instruct, inform, catch and guide the reader's eye, and drive your message home.

Carefully written text can also help your headings and subheadings do double duty. Instead of simply introducing a topic, headers can provide content as well. For example, "What Is Depression?" introduces the topic clearly but doesn't give new content. A more powerful heading like "Depression is More than Just the Blues" introduces the topic and gives new content. Using headings to deliver content as well as announce a new topic can be especially effective for reluctant readers who may read only headings.

Pictures Encourage Understanding

Illustrations and photos can be great teaching tools—if they make sense. Illustrations, photos, clip art, graphs, and other visual elements should complement and explain information. Look at the visual elements and ask:

- Do they help explain your point?
- Are they a clue to the content?
- Do they add understanding for the reader?
- Do they make sense all by themselves?

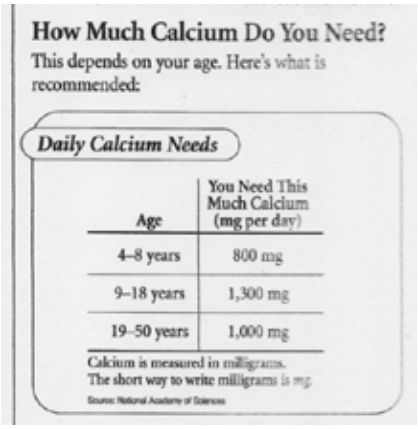
If you answer yes, then use them. If they are just pretty pictures, leave them out. Illustrations and photos should resonate with your intended audience. Remember that if your material is intended for a specific culture, your photos should be of people from that culture. Consider how color images, illustrations, and graphic features will look if printed in black and white. Also consider whether their meaning will be clear if the person using it cannot read the accompanying text.

Tables, Graphs, Charts, and Figures

Tables, graphs, charts, and figures can be a great way to visually explain information if done simply, but they can also confuse readers. Before using any of these formats, test them with your intended audiences to be sure they are understandable.

A table should require no more than a simple strategy like finding the correct column, going to the correct row, and then going to the next column to find the information.

A simple table might be two columns with a few rows like this example. Notice the helpful brief introduction and the simple label that tell readers exactly what they will find in the table.



How Much Calcium Do You Need?

This depends on your age. Here's what is recommended:

Daily Calcium Needs

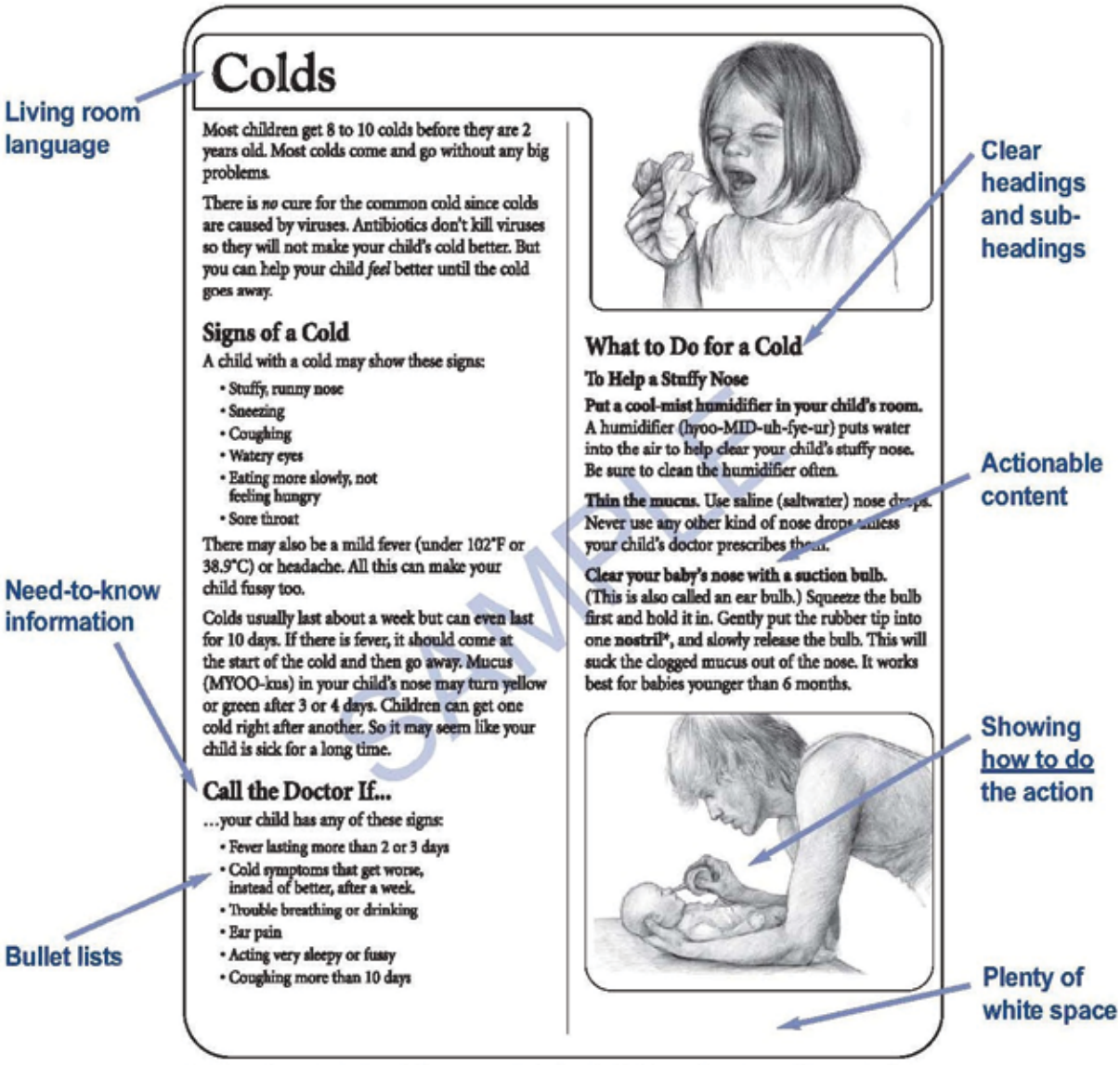
Age	You Need This Much Calcium (mg per day)
4–8 years	800 mg
9–18 years	1,300 mg
19–50 years	1,000 mg

Calcium is measured in milligrams. The short way to write milligrams is mg.

Source: National Academy of Sciences

Graphs and charts can be particularly difficult. Many people were not exposed to them in school and have little experience reading them. Pictograms, as shown below, are an option.

The following example shows plain language design principles in action.



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Culturally- and Linguistically-Appropriate Materials

Different people learn in different ways, and culture may influence this. Some prefer learning the facts. Others prefer learning through stories. Still others prefer non-print like video and audio. You don't want to assume that how you learn best is how others learn best or that what you've written will have meaning to others. To ensure your materials are understandable and make sense to people from cultures other than your own, you must ask.

A Brochure about Home Poison Prevention

A brochure about home poison safety had been translated from English into Spanish. In field-testing the Spanish version, interviewers discovered that talking about *home* safety didn't resonate with Spanish-speakers. They said it was about keeping their *family* safe, not their *home*. The new version focused on making sure the family is safe in the home. This is a subtle shift but, without it, the audience would have found the brochure puzzling and irrelevant.

Collaborate with Your Target Audience

Collaborate with your target audience in developing materials and take what they tell you to heart. Otherwise your materials are unlikely to be used.

- Show a few community members the material to determine if it is culturally appropriate. You don't want to offend your audience or present information that is simply not relevant. You want to use an approach and examples that fit with their views and the best way to know this is to ask.

- Use words, concepts, and idioms from the population's everyday language. Ask members of the community what is meaningful to them. They'll help you decide what to say and how to say it.

- Make sure you use photos and illustrations that will resonate with your audience(s). Think hard about what your illustrations represent and run them past members of the community. You want your audience to personally identify with the photos, illustrations, and other images in your piece.

Tips for Ensuring Quality Translations

- Make sure the English material is written in plain language. Revise and format your handout so it is easy to read and understand before translation.
- Ideally, the translator will be a member of the intended community and will have worked with patients who have low literacy skills.
- Conduct a quality assurance translation check to ensure an accurate translation and that the translated version is written at the easiest reading level possible. Best practice is to have two independent translators, from different cultural backgrounds, translate the document and reconcile any differences. Then have a third translator conduct the final review.
- Go back to your intended audience to test the translated document and get their feedback. Ask them questions about the content and illustrations/photos. Be sure to ask questions that will result in useful feedback. Revise the document based on the community feedback.

Field Test Materials

Ultimately, you cannot know if your intended audience is going to read, understand, and act on the information in your materials unless you ask them. If you don't, you run the risk of spending time and money to create materials patients will not use.

Field testing asks your intended audience for their opinions. And in most cases, they are more than happy to tell you what they think. Take their feedback to heart. Listen carefully to what they say and don't say.

Writing field testing questions is tricky. Don't ask yes or no questions because all you will get are yes and no answers, which doesn't tell you much. Instead, you need to develop questions that will get at readability, acceptability, accessibility, appeal, comprehension of words or concepts, self-efficacy (do they believe they can do the suggested action), usefulness (does the action make sense for them), and persuasion (were they persuaded by the message). Here are sample questions (followed by the area that they are intended to learn about).

Sample Questions for Field Testing

- Would you say this booklet is easy to read and understand or hard to read and understand? Please tell me why you say that. (acceptability, accessibility, self-efficacy)
- What would you say are 2 or 3 of the main points the hospital wants to get across in this booklet? (comprehension)
- Who do you think this booklet is written for? (acceptability, appeal)
- Would you give this booklet to a family member or friend? If yes, why? If no, why not? (acceptability, appeal)
- Please flip through the booklet and look at all the photos. Do the people in them look like people you know? Are there any you would change? (acceptability, appeal)
- Now let's open up to the first two pages. What do you think about the way these pages look? For example, what do you think about the size of the letters and how many words are on the pages? The colors, like green ink on the headings? (appeal, readability, accessibility)

Health Literacy Tools for Field Testing Materials

Resource	Description
Krueger R, Casey M (2008). *Focus Groups: A Practical Guide for Applied Research* http://www.amazon.co.uk/Focus-Groups-Richard-Krueger/dp/1412969476	Guidebook on setting up and conducting focus groups
Centers for Medicare and Medicaid Services. *Toolkit for Making Written Material Clear and Effective* (Part 6) https://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/Toolkit-Part-6-Feedback-Sessions.html	Free, in-depth, online resource for getting feedback from patients

Using Handouts with Patients

Now that you've read this far, you should have a much better idea of what makes a good patient handout and what doesn't. From now on, you'll probably look at all patient materials with a more discerning and wise eye. If you need to find or create better alternatives, you can make those you do have work in the meantime. Here are a few tips for getting the most out of handouts you already have:

- Highlight the key points. Circle or mark the most relevant and important information for the patient. For example, say, "I'm circling this information on what to do if you have pain and swelling after we pull your wisdom teeth." Use a star, or underline or highlight other information. Tell the patient what you're doing, for example, "Another thing to watch for is a fever. If your temperature goes over 101°F, call us. I'm putting a star by this to help you remember."
- Use handouts as a springboard for discussion. Don't be surprised if patients say they have no questions when glancing at the materials. Most need time to digest the information. If you have to leave the room for five or ten minutes, that can be enough time for the patient to read through a handout and decide if there's something they don't understand. When you return, remember they may not tell you they don't understand unless you ask, especially if they do not read well.
- Write notes on the handout. Print clearly rather than using cursive.
- Offer to read the materials with the patient. This can help patients remember what you told them, especially if you rephrase what you're reading, using simple language.
- Realize the limitations of handouts. They don't work for people who can't read well enough to get meaning from print (about 1 in 5 adults). Also, if they're not visually appealing, patients are less likely to read them.

Policies about Print and Web Materials

It's good to have a policy at your organization that sets expectations for use of reader-friendly principles for print and web-based materials. This can provide opportunities for leadership support, guidance for managers and department heads to create time and resources for improving written materials, and recognition that your organization considers this an important priority to providing safe, high-quality, patient-centered care.

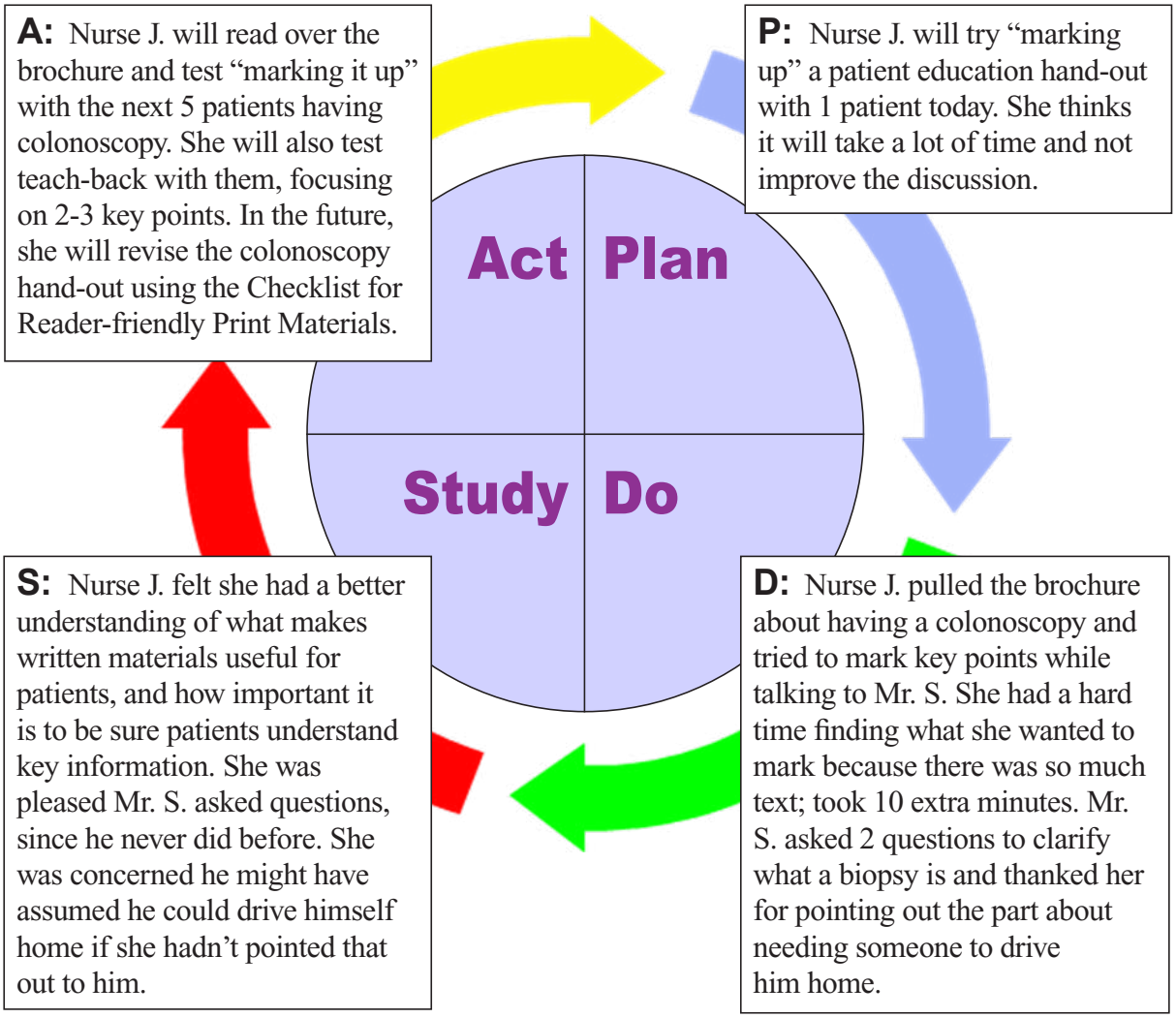
Consider the following Excerpt from the UnityPoint Health Patient and Family Printed Education Materials Policy.

Excerpts from the UnityPoint Health Patient and Family Printed Education Materials Policy

The purpose of this policy is to endeavor to ensure that patient and family education and information print materials are developed, revised, and/or selected using health literacy guidelines about content, graphic design and layout, and reading level.

- "Content: The content expert (primary writer) examines the material for accuracy, completeness, and relevance, ensuring it reflects current nationally- and UnityPoint Health-accepted guidelines and practices. Content should also be developed taking into account health literacy writing principles."
- "Graphic Design and Layout: Technical design principles, including font style and size, headings, subheadings, white space, appropriate visuals, and other characteristics that enhance the readability of the materials, should be used."
- "Reading Level: The Patient Education or Health Literacy Coordinator will evaluate the reading level of education materials using approved readability formulas or software. For the general public, 6th to 8th grade level is best."

Example PDSA Cycle: Using Reader-friendly Health Education Materials



A: Nurse J. will read over the brochure and test "marking it up" with the next 5 patients having colonoscopy. She will also test teach-back with them, focusing on 2-3 key points. In the future, she will revise the colonoscopy hand-out using the Checklist for Reader-friendly Print Materials.

P: Nurse J. will try "marking up" a patient education hand-out with 1 patient today. She thinks it will take a lot of time and not improve the discussion.

S: Nurse J. felt she had a better understanding of what makes written materials useful for patients, and how important it is to be sure patients understand key information. She was pleased Mr. S. asked questions, since he never did before. She was concerned he might have assumed he could drive himself home if she hadn't pointed that out to him.

D: Nurse J. pulled the brochure about having a colonoscopy and tried to mark key points while talking to Mr. S. She had a hard time finding what she wanted to mark because there was so much text; took 10 extra minutes. Mr. S. asked 2 questions to clarify what a biopsy is and thanked her for pointing out the part about needing someone to drive him home.

Summary of Key Points

- Much communication between patients and health care systems is through the written word. Effective print materials are a key element of good health communication.
- Reader-friendly print and web materials promote safe high-quality care, and adherence.
- Patients may not remember much of what is said, so they need clear information in print to take with them and refer to later.
- Your organization can provide effective, reader-friendly information by: finding existing materials and websites outside the organization; revising materials already used in the organization; or creating new materials.
- Staff responsible for choosing, revising, or creating print or web-based information should undergo training on plain language and clear design principles.
- Checking the reading grade level at which a material is written is not sufficient to assess readability, understandability, and usability.
- Design, layout, and visuals are key ways to enhance reader-friendliness.
- Culturally-sensitive, accessible materials can help address health disparities, including disparities experienced by people with disabilities.
- Both print and web-based information should be accessible to people with a variety of disabilities. Be sure to consider the needs of all people as you evaluate, develop, and deliver health information.
- Ideally, materials in languages other than English should be produced directly in the language and culture of the audience. If translation is needed, use qualified translators and be sure to field test the translation with members of the target audience.
- Field testing your materials is the only way to know if your materials are effective. Even a few interviews will give you great information about how well your materials are working. Don't skip this step.

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6 Lohr L. *Creating Graphics for Learning and Performance: Lessons in Visual Literacy*. New Jersey: Merrill Prentice Hall; 2003. Available at: http://www.worldcat.org/title/creating-graphics-for-learning-and-performance-lessons-in-visual-literacy/oclc/636001191. Accessed: February 7, 2013.

7 Wheildon C. *Type & Layout: How Typography and Design Can Get your Message Across—or Get in the Way*. Berkeley, CA: Strathmoor Press; 1995.