

## Picture This: Visual Cues Enhance Health Education Messages for People with Low Literacy Skills

The old adage, “A picture is worth a thousand words” refers to the idea that an image may be more successful in communicating a story than several lines of text—but does this idea hold true for communicating health information to people with low literacy skills?

While people at all literacy levels may have problems comprehending and retaining health information for a variety of reasons, including complex medical terminology and preoccupation with their own symptoms, people with limited literacy skills are especially in need of assistance because they require additional help understanding written information and, because they place more reliance on spoken explanations, they need help in remembering what they hear (1). According to a paper published in *Patient Education and Counseling* that examined several recent studies on the role of pictures in improving health communication, “adding pictures to written and spoken language increases patient retention, comprehension, recall, and adherence, and can be especially helpful to patients with low literacy skills (1).”

So, the old adage does seem to apply when communicating health information to people with low literacy skills. The real question for food and nutrition practitioners is related to the practical application of this idea: What are the best practices for incorporating pictures, illustrations, and other graphics when communicating health information to patients and clients with low literacy skills?

Joan Guthrie Medlen, RD, LD, author of *The Down Syndrome Nutrition Handbook*, specializes in designing

visual tools for communicating and educating people with disabilities, low literacy skills, and for whom English is a second language (ESL). “Visual cues are very important for these groups. When people truly understand your health message they feel more empowered when they walk away from the meeting. They feel independent. They know what to do, and they feel positive about the change because they know how to make that change,” observes Medlen, a member of the Behavioral Health Nutrition dietetic practice group (DPG).

“There is a quote I like about communication from a book by Linda Hodgdon titled *Visual Tools for Improving Communication*,” says Medlen. “In the book, Hodgdon states that ‘communication is 55% visual, 37% vocal, and 7% verbal or the actual message.’ When you consider the fact that communication is far more than the printed work or spoken word, and is so much what we see, then you start to realize *how* you present information is hugely important in terms of comprehension (2).”

### START WITH A CLEAR OBJECTIVE

When food and nutrition practitioners are in the process of selecting or designing visuals, it is important to start with a central educational objective. After a main message has been determined, Medlen suggests asking whether the amount of text may be reduced by using visuals. “Patients, particularly those with low literacy skills, require simple, easy-to-understand visuals that focus on what they need to do,” asserts Medlen.

“Typically, food and nutrition practitioners are only able to see patients for a very short amount of time, [so] they want their patients to remember *everything* about the meeting,” continues Medlen. “To accomplish this they give their patients handouts with visual cues to enhance the com-

prehension and retention of key information. For example, the Plate Method is a very visual tool. An RD can draw a line down the center and across the plate to help remind the patient which types of foods to eat and in what amounts, proportionately. The patient can sit down to a meal, look at the illustration, and know what to do—it’s that simple.”

Medlen, a clinical advisor for health literacy for the Special Olympics, has codeveloped the “I Choose to Change!” health literacy tool which has a very clear main objective: to assist users in remembering key health information, such as ways for achieving bone health (Figure 1). The set of cards provides an opportunity for athletes to make a choice to improve specific areas of health using concise statements coupled with simple, yet relevant graphics. There are five topics, each with a postcard featuring four first steps to choose from. The tool was designed for athletes to choose an area in which they want to make changes as they leave health promotion screenings, but are adaptable to any health screening situation. The “I Choose to Change!” tool is great for drawing athletes into the process of goal setting and taking control of their health,” explains Medlen. The back of each card includes screening scores for bone density and body mass index, with recommendations for follow-up if needed. “Essentially, we took something as dry as a report card and turned it into a tool for action for health promotion,” adds Medlen.

### DRAWINGS VS PHOTOGRAPHS

What types of visual cues are the most successful in communicating health information, particularly for people with low literacy skills? “What the studies in the areas of literacy, health literacy, and special education show is that it doesn’t matter if the

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# I choose to change!

I choose to have strong bones.

Here are things I can choose to do:



- Drink a glass of milk instead of a soda.
- Keep working on my sport!
- Choose not to smoke.
- Eat foods that build my bones:
  - Broccoli
  - Dark leafy lettuce
  - Yogurt
  - Almonds
- Take a vitamin pill with Calcium and Vitamin D.



Food images © 2006 Silverlining Multimedia. Used with permission.



## Personal Health Card

Today we measured two things that tell about your health.

1. How strong your bones are (BMD).
2. How much body fat you have (BMI)

Your BMI is:

\_\_\_\_\_

- You are at a healthy weight for your height.
- You may want to lose some weight to feel healthy.
- Your weight may be getting in the way of your sport.  
Show this card to your Doctor and ask for help losing weight.

Your BMD score is:

\_\_\_\_\_

- Your bones are healthy.
- Your bones may not be as strong as you want.
- Show your Doctor this card. Ask your Doctor how to help your bones be stronger.

Figure 1. "I Choose to Change!" health literacy tool. Copyright © 2005, Special Olympics, Inc, Healthy Athletes Health Promotion. [www.SpecialOlympics.org/Healthy\\_Athletes](http://www.SpecialOlympics.org/Healthy_Athletes). Used with permission.

instructor is using a drawing or a photograph," reveals Medlen. "Each person is going to understand a visual differently. Patients with low literacy skills, ESL, and disabilities will understand a photograph or a drawing as long as it is appropriate to the subject at hand. Key to this is keeping the visual cues as sharp, concise, and uncluttered as possible."

One example of how to draw attention to the message without adding visual clutter can be seen in [Figure 2](#) (Build-A-Sandwich). Medlen tested this tool with a variety of users, and realized that it was important for the key messages to stand out, which led to the size and color differences in the numbers. The food images were added to provide a visual cue for the category of food. "Simply removing backgrounds and garnishes [from the visual cue] does not mean the message is clear and concise," says Medlen.

"Take a look at how our PowerPoint presentations have changed and evolved over the years. In the beginning, these presentations typically featured fancy backgrounds with lots of vi-

brant colors and effects. Today, we know that it is better to use a simple, white background format, which helps the viewer really focus on the subject at hand."

According to the paper published in *Patient Education and Counseling*, simplicity is definitely a key factor in reaching special needs groups. "Simple drawings are most effective in facilitating comprehension," write the authors. "The advantage of simple drawings over more complex pictures may be due to minimizing distracting details. Research has shown that people with low reading skills are more likely to attend to irrelevant details in illustrations than are those with higher reading skills (1)."

#### **DESIGN CONSIDERATIONS FOR WEB-BASED TOOLS**

As food and nutrition practitioners plan the visual and design aspects that will accompany an electronic educational tool such as a Web site, it is important to remember to make the navigation as intuitive as possible,

and to manage visual space to avoid scattered information and to facilitate reading (3).

Medlen, who also manages a popular health education blog dedicated to sharing information for parents, professionals, and people with intellectual and developmental disabilities (<http://healthlit.wordpress.com/what-is-health-literacy/>), notes that there are some similarities between the design strategies for print and online media (such as avoiding clutter), but there are also some notable differences. Some key differences revolve around font selection. Some fonts are traditionally easier to read on a computer screen than they are in a printed document. Sans serif fonts, such as Arial or Century Gothic, are appropriate for body text in anything you read electronically, according to Medlen. However, body text in print is easier to read with a serif font such as Times New Roman.

Medlen also suggests avoiding the use of all capital letters, because they are especially difficult for people with lower literacy skills in determining

## Build-A -Sandwich

Use the choices below to build your sandwich.




























 <p><b>Choose 1</b> Bread or Wrap</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1 or 2 slices White bread</li> <li><input type="checkbox"/> 1 or 2 slices Wheat bread</li> <li><input type="checkbox"/> 1 or 2 slices Rye bread</li> <li><input type="checkbox"/> 1 or 2 slices Pumpernickel bread</li> <li><input type="checkbox"/> French bread</li> <li><input type="checkbox"/> Sandwich buns</li> <li><input type="checkbox"/> Hoagie Buns (6 inches)</li> <li><input type="checkbox"/> Hamburger bun</li> <li><input type="checkbox"/> Kaiser roll</li> <li><input type="checkbox"/> French rolls</li> <li><input type="checkbox"/> Bagels</li> <li><input type="checkbox"/> English muffins</li> <li><input type="checkbox"/> Wraps             <ul style="list-style-type: none"> <li><input type="checkbox"/> Flour tortilla</li> <li><input type="checkbox"/> Tomato flavor</li> <li><input type="checkbox"/> Whole wheat tortilla</li> </ul> </li> <li><input type="checkbox"/> Lettuce as a wrap</li> </ul>	 <p><b>Choose 1</b> Spread</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Italian dressing (put it on the sandwich fillings, not the bread)</li> <li><input type="checkbox"/> Ricotta Cheese</li> <li><input type="checkbox"/> Laughing Cow® cheese (low fat choice)</li> <li><input type="checkbox"/> Hummus</li> <li><input type="checkbox"/> Pesto</li> <li><input type="checkbox"/> Light cream cheese</li> <li><input type="checkbox"/> Mayonnaise (Try light mayo)</li> </ul>    	<p><b>Choose 1 or 2</b> Fillings</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1 ounce Deli meat (check the label)             <ul style="list-style-type: none"> <li>Turkey</li> <li>Chicken</li> <li>Roast beef</li> <li>Ham</li> <li>Pastrami</li> </ul> </li> <li><input type="checkbox"/> 1 slice of cheese             <ul style="list-style-type: none"> <li>Ricotta</li> <li>Cheddar</li> <li>Laughing Cow cheese</li> <li>Swiss</li> </ul> </li> <li><input type="checkbox"/> Tuna salad (see page X)</li> <li><input type="checkbox"/> Chicken salad (see page X)</li> <li><input type="checkbox"/> Meatballs (see page X)</li> <li><input type="checkbox"/> Eggs             <ul style="list-style-type: none"> <li>Boiled, fried, poached.</li> </ul> </li> <li><input type="checkbox"/> Left overs:             <ul style="list-style-type: none"> <li>Roasted chicken</li> <li>Steak</li> </ul> </li> <li><input type="checkbox"/> Peanut Butter</li> <li><input type="checkbox"/> Jelly or Jam</li> </ul>         	<p><b>Choose...</b> as many as you want!</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Tomatoes</li> <li><input type="checkbox"/> Lettuce</li> <li><input type="checkbox"/> Cucumbers (try lemon different types)</li> <li><input type="checkbox"/> Alfalfa sprouts</li> <li><input type="checkbox"/> Bean sprouts</li> <li><input type="checkbox"/> Pickles</li> <li><input type="checkbox"/> Olives</li> <li><input type="checkbox"/> Sliced or shredded carrots</li> <li><input type="checkbox"/> Peppers             <ul style="list-style-type: none"> <li>Red</li> <li>Green</li> <li>Jalapeno</li> </ul> </li> <li><input type="checkbox"/> Onion</li> <li><input type="checkbox"/> Spinach</li> <li><input type="checkbox"/> Mustard</li> <li><input type="checkbox"/> Ketchup</li> </ul>            
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Figure 2. "Build-A-Sandwich" from *Cooking by Color*. Copyright © 2008, Joan Guthrie Medlen, RD, LD. [www.downsyndromenutrition.com](http://www.downsyndromenutrition.com). Used with permission.

the beginning and end of words. Literacy experts also suggest starting every sentence with a capital letter and to place a period at the end of each sentence and bullet point. These subtle visual cues help people who have trouble reading to identify the beginning and end of a sentence.

“When building a Web page tool, I would advise food and nutrition practitioners to look up general accessibility standards for basic Web page design, and to make sure they have what is considered an accessible Web page,” notes Medlen. “At that point it is then important to think of each Web page as a [standalone] visual message. You want each page to be clear and easy to navigate so that the user knows where he or she needs to go to access particular pieces of information. Remember not to assume that people visiting your Web site are accomplished readers and computer users. For example, make it very easy for users to adjust the size of the text. If they can do this easily and quickly, then they will be able to focus on the information rather than how to navigate the site.”

#### VISUAL CUE CAVEATS

Are there situations where a food and nutrition practitioner may want to avoid using a visual cue to enhance his or her message?

“I am a firm believer that you can always find a visual way to help enhance communication and messages,” asserts Medlen. “A complicated message, such as listing all of the side effects, or the things that could happen in a particular scenario, would obviously not make a very productive visual cue, and could take up a lot of paper. However, informing people who to go to for information about side effects is absolutely possible.” The key to clear visual communication is to select visual cues carefully, and to consider what parts of the message will translate well to a visual image or tool. If you do a good job of this, the patient or client will grow to trust you and may even feel comfortable reaching out to you for follow-up information.”

While a visual cue may enhance practically any nutrition message, industry experts are quick to point out the importance of an image’s cultural relevance, especially when engaging

people with low literacy skills. According to the paper published in *Patient Education and Counseling*, health care educators should “be sensitive to the culture of the intended audience in creating or selecting pictures for use in health education materials.” Based on their review of relevant studies on this issue, the authors conclude “people from the target audience should be involved in creating the pictures (1).”

“It is essential to test your visual cues,” adds Medlen. “Gather up a few people from your target audience and see what message they receive from the tool. You might be very surprised at the results! It is important not to assume that your message is 100% clear the first time around.”

#### FUTURE OF VISUAL MESSAGING

“I think we are headed towards best practices that will incorporate visual strategies,” predicts Medlen. “From a technology standpoint, I am already using [a smartphone] to communicate visual messages to patients—I load photographs, arranged in sequence, that feature visual cues, such as reminders or step-by-step instructions. Another great tool is [a handheld digital video camera], which you can use to film your message and, maybe, post it [online], send via e-mail to the client, or upload onto a [smartphone].” Video self-modeling, which is an instructional film shot from the viewpoint of the user, is particularly useful for people low literacy skills.

Text messaging can also provide useful, visual cues for users, according to Medlen. “It’s interesting because some of these users might not have a great understanding of the English language, but we’ve found that they are sometimes quite adept at understanding texting shorthand!”

Whatever the format, at their core, visual cues should always enhance a document or electronic education tool, rather than simply make it appear more attractive. It is important to be clear regarding the main points of the messages and to determine early on what key information you want the user to walk away with.

“Developing a rapport with our patients is the most important thing we can do as food and nutrition practitioners,” says Medlen. “We might have to take a little extra time when work-

ing with people with disabilities, low literacy skills, and for whom English is a second language, but it is important to first and foremost be person-centered and client-centered.”

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