

Web-based Communications and Health Literacy

January 21, 2003

Cam Escoffery, PhD, MPH, CHES
Rollins School of Public Health

Objectives

1. Identify appropriate methods for health education to address health literacy concerns
2. Describe issues related to health literacy with the Internet
3. Evaluate web sites for their sensitivity to culture and health literacy
4. Apply sound criteria for developing web-based health education

Overview

- Choice of health education medium
- Internet
- Internet use for health information
- Evaluation criteria related to health literacy
- Web design

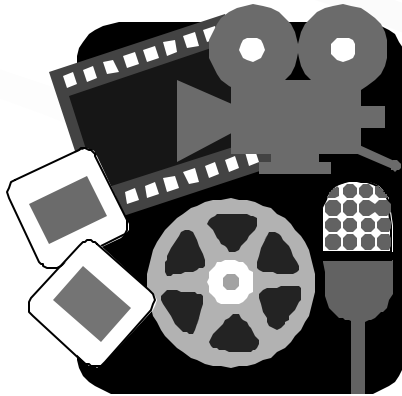
Choice of Health Education Medium

- Know your audience (audience analysis):
 - Preferences for getting information
 - Attitudes toward and comfort with technology
 - Use of technology
- Decision to use the Internet
 - Train your patients on using the Internet
 - Develop a portal of materials appropriate for the audience
 - Create and test materials



Internet

- Convergence of media
 - computer
 - telephone
 - television
 - radio
 - video
 - audio
 - print
- Uses of Internet
 - Extends choice for health professionals to reach consumers
 - Allows health professionals and consumers to interact



Advantages of the Internet

- Access to personalized health information
- Access to health information, support, and services on demand
- Ability to distribute materials widely
- Capacity to apply different learning styles

Disadvantages to the Internet

- Access to Internet → Digital Divide
- Poor quality of health information
- Privacy of health information
- Early start in quality standards for websites and online programs
- Early in the development of e-health based on best practices of health communication, instructional technology, and learning theories
- Limited evaluation of e-health

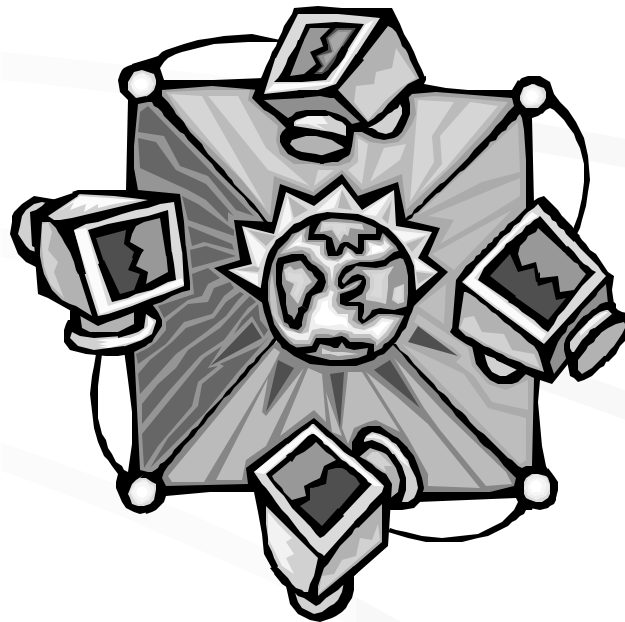
Use of the Internet for Health Education

- People who use the Internet for health care (CyberChondriacs)
- 52 million American adults relied on the Internet to make critical health decisions (Pew Internet & American Life Project, 2000)
- Now in 2002, 73 million adults (62% of Internet users) employ the Internet to:
 - research prescription drugs,
 - explore new ways to control their weight,
 - prepare for doctor's appointments, etc.



5 E's in ehealth

- **E**asy to use
- **E**ducate
- **E**quity
- **E**mpowerment
- **E**nabling



Issues with Health Education on the Internet

- Information
 - Locating useful information difficult
 - Poorly organized information
 - Dishonesty and quackery
 - Patient education is written at a higher level than general public (10th grade; Graber, Roller, & Kaeble, 1999, *Journal of Family Practice*; Berland et al., *JAMA*, 2001)
 - Health information is primarily text-based (Eng et al., *JAMA*, 1998)

Issues with Health Education on the Internet

- Design
 - Complex design
 - Distracting audio/video (hard to turn off)
 - Lack of use of graphics or captions for audio
 - No ease of navigation



Guide for Developing Web Materials



- Content
 - Chunk materials into small pieces (limit concepts)
 - Repeat new information for learning purposes
 - Include how-to information as short phrases
 - Reinforce ideas with illustrations
 - Use language, idioms, and expressions of their peers
 - Give examples of things specific to their culture /background or familiar images
 - Test for readability

Guide for Developing Web Materials



- Format
 - Keep paragraphs short or use bullets
 - Use headings for each section
 - Use simple, large fonts and graphics
 - Use ample white space, boxes, or lines to help reader
 - Use common icons/symbols for navigation (e.g., arrows, home) in a consistent place

Guide for Developing Web Materials

- Avoid use of multimedia unless:
 - Audience has been trained
 - Plug-ins are all loaded
- Pilot Testing and Feedback
- Distribution
 - Have material on the web
 - Have printable (PDF) version for dissemination for those without access

Evaluation Criteria

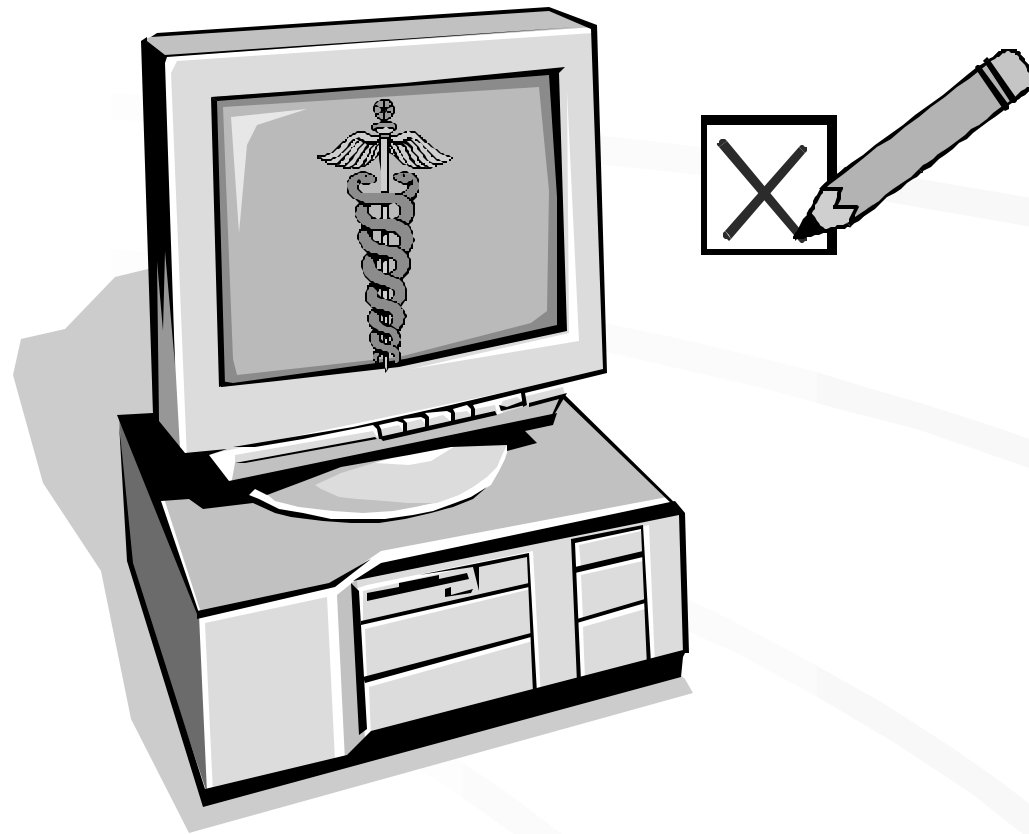
- Content (quality, depth, scope, accuracy)
- Design and aesthetics (layout, interactivity, presentation, appeal, graphics, use of media)
- Disclosure of authors, sponsors, developers (purpose, nature of organization, sources of support, authorship, origin)
- Currency of information (frequency of update, freshness, maintenance of site)
- Authority of source (includes reputation of source, credibility, trustworthiness)
- Links (quality of links, links to other sources)

Evaluation Criteria

- Ease of use (includes usability, navigability, functionality)
- Accessibility and availability (ease of access, fee for access, stability)
- Intended audience (nature of intended users, appropriateness for intended users)
- User support (availability of support, documentation for users)
- Contact addresses or feedback mechanism
- Attribution and documentation (clear references, balanced evidence)

Source: Kim, Eng, Deering, & Maxfield, British Medical Journal, 1999

Assessing Websites



Poor Example

Controlling Indoor Allergens

The number of cases of asthma has increased in recent years, and researchers have been looking for the reasons why. In many cases, evidence has led to the consideration of allergens and other triggers inside the home and workplace. Americans spend 30 percent to 60 percent of their time in their homes and many hours in enclosed working environments.

As attention turns to the indoor triggers that can cause asthma, scientists are beginning to figure out ways to control them and, thus, to control asthma attacks. Avoiding triggers is the safest, most logical and most effective way to control asthma, equivalent to a cure for many people.

The most common indoor allergens and irritants include dust mites, mold, animal dander, cockroach debris, smoke (from cigarettes, fireplace chimneys, woodstoves or other sources) and strong odors. But there are many other possible culprits — more than 2,000 indoor irritants have been identified that can trigger an asthma attack.

The role that different triggers play and the steps to control them differ for each individual and environmental circumstance. A number of general approaches can be taken, though. Environmental control should be approached in steps.

The first steps are relatively simple and inexpensive and can be initiated when sensitivity to an item is suspected. These include frequent vacuuming (not by persons with asthma), removal of objects that harbor irritants (when removal is a relatively simple matter) and the placement of barriers, such as airtight covers on mattresses and pillows.

The second step, for people with known allergies and whose symptoms fail to respond to the first step, is more expensive and might include removing nonwashable rugs and draperies.

The third step involves cleaning heating ducts, using air cleaners and using chemicals such as tannic acid, that denatures allergens, and benzyl benzoate, which kills dust mites.

A little knowledge about the most common irritants and how to combat them is a helpful way to begin:

Good Examples

Mammograms: Not Just Once, But For a Lifetime

Mammograms

Not just once, but
for a lifetime

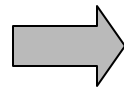
White Space



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.

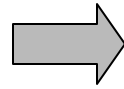
How do I know if I need a mammogram? Talk with your doctor about your chances of getting breast cancer. Your doctor can help you decide when you should start having mammograms and how often you should have them.

Key Message



*If you find a lump or
see other changes in your breast,
see your doctor right away.*

Use of headers



Why do I need a mammogram 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.



How is a mammogram done? Mammograms are quick and easy. You simply stand in front of an x-ray machine. The person who takes the x-rays places your breast between two plastic plates. The plates press your breast and make it flat. This may be uncomfortable for a few seconds, but it helps get a clear picture. You will have x-rays taken of each breast. A mammogram takes only a few seconds.

Simple Images



Where can I get a mammogram? To find out where you can get a mammogram:

- Ask your doctor or nurse.
- Ask your local health department or clinic.
- Call the National Cancer Institute's Cancer Information Service at **1-800-4-CANCER** (1-800-422-6237).

How to information

To learn more about mammograms,
call the National Cancer Institute's Cancer Information Service at

1-800-4-CANCER
(1-800-422-6237). People with TTY equipment, dial 1-800-332-8615.

Simple message

Simple layout

KEEP YOUR FOOD SAFE



Appealing image

Food that goes bad can make you sick. This is called food poisoning. Sometimes when people think they have the "flu" or a "stomach bug," they really have food poisoning.

What makes foods go bad? Germs. They get on foods and grow. You cannot see germs on food. You cannot always smell taste them, either.

These are some of the foods germs like best:

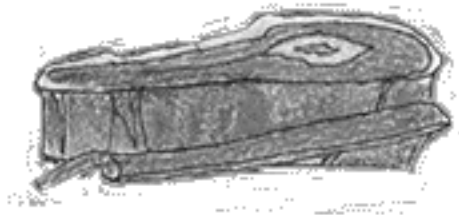
- Milk and other products
- Meat
- Eggs
- Poultry
- Seafood

You can keep food safe. This booklet tells you how to: buy safe food and keep it safe at home.

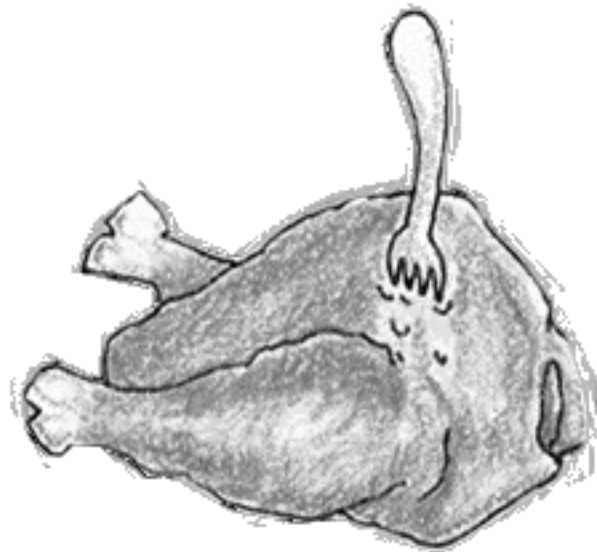
Source: Keep your Food Safe, Federal Citizen Information Center

Cook them until they are done:

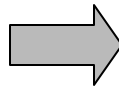
Cooked red meat looks brown inside.



Poke cooked chicken with a fork. The juices should look clear, not pink.



Images reinforce words



Simple message and reinforcing images

These are some rules for good eating:

1. Eat



Breakfast

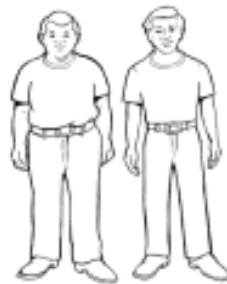


Lunch



Dinner

2. Lose weight
if you need to.



3. Eat more fiber.



4. Eat less fat.



Try not to eat foods
with lots of fat!



Source: Rules for Healthy Eating, National Center for Farmworker Health

How Many Servings of Milk and Yogurt Should I Eat?

Milk and yogurt are on the next level of the food pyramid.

One serving of food from the milk and yogurt group is

**Show images to
relate to portions**



1 cup fat-free milk or
1 cup buttermilk

OR



1 cup nonfat
yogurt

Do you eat milk and yogurt-type foods that are not listed?

Ask your diabetes teacher how much and how often to eat them. Also ask the healthiest ways to eat them.

Source: I have Diabetes: How much should I eat?, National Diabetes Clearinghouse

Surveillance of Internet Use

- U.S. Census
<http://www.census.gov/prod/2001pubs/p23-207.pdf>
- Harris Interactive
<http://www.harrisinteractive.com>
- Pew Internet and American Life Project
<http://www.pewinternet.org/>

Internet and Health Resources

- Healthy People 2010 - Health Communication chapter
<http://www.health.gov/healthypeople/Document/HTML/Volume1/11HealthCom.htm>
- Wired for Health and Well-Being: The Emergence of Interactive Health Communication
<http://www.health.gov/scipich/pubs/finalreport.htm>
- Risk, & Dzenowagis. (2001). Review of Internet health information quality initiatives. JMIR, 3(4), e28.
<http://www.jmir.org/2001/4/e28/index.htm>

Web Design

- Web Style Guide

<http://info.med.yale.edu/caim/manual/contents.html>

- Building a School Website

<http://www.wigglebits.com/>

- Web Design, Development, and Maintenance

<http://www.knowledgehound.com/topics/website.htm>

- Web Developer

<http://www.webdeveloper.com/>

Web Design

- Usability
 - National Cancer Institute's Usability Site
<http://www.usability.gov>
 - Useit.com
<http://www.useit.com/>
- World Wide Web Consortium's (W3C's) Web Accessibility Initiative (WAI) (Guidelines for users with disabilities)
<http://www.w3.org/TR/2002/REC-UAAG10-20021217/>

Examples of Health Materials addressing Literacy

- US Food and Drug Administration
<http://www.fda.gov/opacom/lowlit/7lowlit.html>
- National Cancer Institute
<http://cancer.gov/CancerInformation/>
- National Center for Farmworker Health
http://www.ncfh.org/00_ns_rc_pateduc.shtml
- National Institute of Diabetes & Digestive & Kidney Diseases –
Diabetes Nutrition Series
<http://www.niddk.nih.gov/health/diabetes/pubs/nutritn/index.htm>
- National Heart, Lung, and Blood Institute - Improving
Cardiovascular Health in African Americans
<http://www.nhlbi.nih.gov/health/public/heart/other/chdblack/energiz1.htm>
- National Oral Health Information Clearinghouse – A Healthy
Mouth for Your Baby
<http://www.nidcr.nih.gov/health/pubs/hmouth/menu.htm>

Thank You.

Cam Escoffery

Rollins School of Public Health

cescoff@sph.emory.edu