Health Literacy Online: Design for Usability and Accessibility

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About CommunicateHealth

Online Health Information

- Usability
- User-Centered Design
- Plain Language
- Health Education Theory
“The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.”

Tim Berners-Lee, W3C Director
What We’ll Cover

- What we know about web users with limited literacy skills
- Strategies for creating easy-to-use and accessible health websites
Warm Up
We are online.
Nearly 90% of adults use the internet.
72% of internet users looked online for health information in the last year.
Half of online health research is on behalf of someone else.
60% say their most recent search had an impact on their health or the way they care for someone else.
We struggle with complex health information.
Users with limited literacy skills are...

- Willing to use the web to access health information and services
- Able to accomplish tasks when websites are designed well
More often than not, it’s a poorly designed website – more than limited literacy skills – that contribute to users’ challenges online.
http://health.gov/healthliteracyonline/
How the guide was developed

- Original research with more than 700 web users with limited literacy skills
- Best practices from the literature on cognitive processing and the online behavior of adults with limited literacy skills
- Principles of web usability
What we know about web users with limited literacy skills
Prone to skipping and focus on the center of the screen.

Easily overwhelmed and limited working memory

Struggle with search
More likely to be **smart phone** dependent
Designing for small screens is critical.
Mobile + Seniors
Every 8 seconds a Boomer turns 65.
Seniors are Online

+ **6 in 10** older adults go online.
+ **71%** go online everyday.
+ Tablets and e-readers are as popular as smartphones among older adults.
+ **75%** of adults over age 65 are living with at least 1 chronic health condition.

*Source: Pew Internet and American Life Project*
Seniors + Mobile

Mobile reconnects them with the world and makes them feel relevant.

Voice feature can overcome dexterity and communication challenges.

Voice-based alerts can compensate for short-term memory loss.

Source: Sachs Insights
ALL Users Benefit from Improved Readability and Usability

Comparing time-on-task on the original site with a prototype (designed to support users with limited literacy skills):

<table>
<thead>
<tr>
<th>Time on Task (Mean)</th>
<th>Original Site</th>
<th>Prototype</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>High literacy</td>
<td>14:19</td>
<td>5:05</td>
<td>+182%</td>
</tr>
<tr>
<td>Lower literacy</td>
<td>22:16</td>
<td>9:30</td>
<td>+134%</td>
</tr>
<tr>
<td>All users</td>
<td>17:50</td>
<td>6:45</td>
<td>+164%</td>
</tr>
</tbody>
</table>

High Literacy Users: 3x as fast with the revised site
93% success rate on revised site (compared to 68% with original)

Strategies for creating easy-to-use health websites
Write **Actionable** Content
The web is for information (not documents)
Write web content that:

+ Answers users’ questions
+ Helps users complete a task
+ Helps users make a decision
Activity 1
Poll: Multiple Choice

How long do you have to grab a user’s attention on your website?

+ 5 seconds
+ 15 seconds
+ 25 second
+ 45 seconds
+ 60 seconds

Web pages with clear value to the user will hold their attention longer.

Source: Nielson Norman Group, 2000
Put the most important information first

Take Steps to Prevent Skin Cancer

The Basics: Overview
The best way to prevent skin cancer is to protect your skin from the sun and other sources of ultraviolet (UV) rays.

To protect your skin from the sun:
- Stay in the shade as much as possible between 10 a.m. and 4 p.m.
- Use sunscreen with SPF 15 or higher.
- Cover up with long sleeves, a hat, and sunglasses.

You can also protect your skin by avoiding indoor tanning.

Why do I need to protect my skin?
Protecting your skin today may help prevent skin cancer later in life. Most skin cancer appears after age 50, but skin damage from the sun can start during childhood.

Taking steps to prevent skin cancer may also help prevent:
- Wrinkles
- Blotches or spots on your skin
- Other damage to your skin and eyes

Next section
1 of 7 sections
Typical F pattern
Provide specific action steps

Watch Your Weight

Take Action: Set Goals

Start by making a promise to eat well, move more, and get support from family and friends.

Set realistic goals.
If you need to lose weight, do it slowly over time. Start out by setting small goals, like:

- I want to lose 1 to 2 pounds a week.
- I will add 10 minutes of physical activity to my daily routine.
- I will avoid second helpings of meals this week.

Keep a food and activity diary.
When you know your habits, it's easier to make changes. Write down:

- When you eat
- What you eat
- How much you eat
- Your physical activity

Print this food and activity diary or make your own.
Which page would be most helpful if your child had asthma?

① “About asthma”

② “Asthma symptoms”

③ “Prevent asthma attacks at home”
Prioritize the Behavior

Asthma makes breathing difficult for more than 34 million Americans.

Asthma in children is on the rise, but with proper treatment for symptoms of asthma, kids and adults can live well.

If someone in your family has asthma, start by getting rid of these common causes of attacks:

- Mold or dampness
- Cockroaches
- Secondhand smoke
2 Display Content Clearly
Limit paragraph size, use **bullets** and **short lists**

**Version 1**

**Eat Healthy**

Browse Sections

**The Basics: Overview**

To be healthy, your body needs to get enough vitamins, minerals, and other nutrients. Eating healthy means getting plenty of vegetables and fruits, whole grains, fat-free or low-fat milk products, seafood, lean meats and poultry, eggs, beans and peas, and seeds and nuts.

Eating healthy also means limiting a) cholesterol, sodium (salt), and added sugars, b) trans fats, which may be in foods like cakes, cookies, stick margarines, and fried foods, c) saturated fats, which come from animal products like cheese, fatty meats, whole milk, and butter, and d) foods made with refined grains, like white bread, noodles, white rice, and flour tortillas.

Get a personalized Daily Food Plan to help you choose healthy foods.

**Version 2**

**Eat Healthy**

Browse Sections

**The Basics: Overview**

To be healthy, your body needs to get enough vitamins, minerals, and other nutrients. Eating healthy means getting plenty of:

- Vegetables, fruits, whole grains, and fat-free or low-fat milk products
- Seafood, lean meats, and poultry, eggs, beans, peas, seeds, and nuts

Eating healthy also means limiting:

- Cholesterol, sodium (salt), and added sugars
- Trans fats, which may be in foods like cakes, cookies, stick margarines, and fried foods
- Saturated fats, which come from animal products like cheese, fatty meats, whole milk, and butter
- Foods made with refined grains, like white bread, noodles, white rice, and flour tortillas

Get a personalized Daily Food Plan to help you choose healthy foods.
Make websites **responsive** and design them to meet user needs.
Communicate Health
is an award-winning team of content and usability experts dedicated to designing better health information. We help healthcare and government agencies simplify health information. How can we help you?

Learn more about us
Make interactions **easy** by placing frequently used buttons where they are easy to reach.
Make your Site Accessible

- Make sure screen readers and other assistive technologies can read your site
- Check that users can navigate your site using only a keyboard
- Choose strong color contrast, especially for buttons
- Test content that requires the use of plug-ins or dedicated software for accessibility
Organize Content and Simplify Navigation
Need health insurance? See if you qualify

You can enroll in or change plans if you have certain life changes, or qualify for Medicaid or CHIP.

SEE IF YOU CAN GET 2016 COVERAGE

Want a quick overview first?
Health and wellness information for older adults from the National Institutes of Health.

Categories

- **Bones and Joints**
- **Cancer**
- **Diseases and Conditions**
- **Healthy Aging**
- **Heart and Lungs**
- **Memory and Mental Health**
- **Treatments and Therapies**
- **Vision and Hearing**
- **All Topics A-Z**

Featured Topic

Bladder Health

Exercise Stories
People of all ages and physical conditions benefit

Health Videos
Many of our health topics feature short
Create **linear** information paths

**What Are the Risk Factors for Colorectal Cancer?**

Your risk of getting colorectal cancer increases as you get older. More than 90% of cases occur in people who are 50 years old or older. Other risk factors include having—

- Inflammatory bowel disease, Crohn’s disease, or ulcerative colitis.
- A personal or family history of colorectal cancer or colorectal polyps.
- A genetic syndrome such as familial adenomatous polyposis (FAP) or hereditary non-polyposis colorectal cancer (Lynch syndrome).

Lifestyle factors that may contribute to an increased risk of colorectal cancer include—

- Lack of regular physical activity.
- Low fruit and vegetable intake.
- A low-fiber and high-fat diet.
- Overweight and obesity.
- Alcohol consumption.
- Tobacco use.

[More Information](#)

[What Is Colorectal Cancer?](#)

[What Can I Do to Reduce My Risk?](#)
Give buttons **meaningful** labels. Skip generic labels, like ‘Next’ or ‘Back’
Good content organization enables users to find information quickly.
WORRIED? CHAT NOW
Have you had unprotected sex? Chat with a health educator right now and figure out what to do next.

MY BIRTH CONTROL
Take this quiz and find out which birth control method is right for you.

MY BODY
Face it: bodies can be confusing. Get to know your body and make good decisions about your sexual health.

BIRTH CONTROL, STDs, AND PREGNANCY
Here's everything you need to know, including when to go to the doctor.

QUIZZES AND GAMES
How do you handle tough situations when it comes to sex and relationships? Test your knowledge.
Using Labels

Which link will have information on asthma triggers?

① Air Pollution & Respiratory Health
② Indoor Air Quality
③ Asthma and Allergies

?????
Include a **simple** search function

Source: HHS search results for diabetes
Engage Users
Engage users with interactive content

Invite users to customize content and provide feedback.

- Email information to a friend.
- Print out a recipe.
- Take a poll or rate the information on the site.
- Use a calorie or BMI calculator.
- Enter personal data like age or weight to get tailored tips.
Share information through multimedia

Provide information in multiple formats to engage users and foster learning.

For example:

- **Visuals** to show spatial information (like maps)
- **Text** to communicate information you want users to remember in the long term
- **Sound** to convey information you want users to remember in the short term
Make content interactive
Provide **tailored** information
MYSmoketree: Your personalized quit experience

This interactive page delivers articles, apps, text messaging programs and social media accounts from Smokefree.gov's full library of tools that help you quit smoking.

We know quitting can be hard, but we've got your back. Check out these resources for women like you.

Your Top Five

Here is content tailored specifically for your interests!

1. Preparing to Quit? Start by Taking These 5 Steps
2. Have You Built A Quit Plan?
3. Quitting Cold Turkey Isn't Your Only Choice
4. Is Nicotine Replacement Therapy Right for You?
5. 5 Things to do on Your Quit Day

SmokefreeTXT

The program will help you set a quit date and get ready for quitting. You'll get daily tips and on-demand help with cravings.

SmokefreeTXT

Text QUIT to 47848.
Make it printer-friendly!
Test your site with users with limited literacy skills
The curse of knowledge......
Usability testing with 5 participants will reveal 85% of usability problems.

Source: Nielson Norman Group, 2000
Activity 2
Top 10 Tips for User Testing

1. Partner with community organizations to recruit special populations
2. Screen for participants with limited literacy and limited technology use
3. Develop screeners, consent forms, and moderator’s guides in plain language
4. Use cash incentives when possible
5. Test whether your content is understandable and actionable
Top 10 Tips for User Testing

⑥ Be cautious using remote and online testing

⑦ Pre-test your moderator’s guide

⑧ Choose a moderator with experience conducting research with limited literacy participants

⑨ Conduct testing sessions in a setting that is familiar and accessible to participants

⑩ Test on mobile using the participant’s device; ensure Wi-Fi is available
Your website is a work in progress.
Resources!
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**Section 1: What We Know About Users with Limited Literacy Skills**
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Thank you!

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