

# Using **eHealth Interventions** to Engage Consumers



**A Practical Guide**

## Dedication



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A consummate physician and researcher whose wisdom, compassion, sense of humor, knowledge and warmth touched all who had the good fortune to encounter him. Harold was deeply committed to those he cared for, always concerned with his patients first and foremost, and worked tirelessly to help them have better, healthier lives. Harold lived life with gusto, and the foundation of his life and work continues on through those who were touched by his gentle spirit.

## Acknowledgements:

The Health e-Technologies Initiative would like to express sincere thanks to the following people for their contributions and guidance during the development of this Guide:

Marie Abraham, MA

Elmer V. Bernstam, MD

Hank Fanberg, MBA, CMPE

Lisa Fenichel

Patricia D. Franklin, MD, MBA, MPH

Gilles Frydman

M. Chris Gibbons, MD, MPH

Jill Hodges, MPH, MSL

Michael King

Tami Mark, PhD, MBA

Huong Q. Nguyen, PhD, RN

Steven E. Ross, MD

Dirk G. Schroeder, ScD, MPH

Debbe I. Thompson, PhD

Tom Wolff, PhD

Special thanks to Steve Downs, SM and Michael Painter, JD, MD of the Robert Wood Johnson Foundation.

Design by Angela Dwyer of Dwyer Design

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April, 2008

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## Introduction



eHealth (electronic health) is the use of the latest interactive computer technologies to improve health and health care services. It is widely used by health consumers/patients and increasingly by hospitals, doctors' offices and employers as a way to improve health outcomes and quality of care. We are only starting to understand how these tools can be used most effectively to accomplish these objectives.

Since 2002, the **Health e-Technologies Initiative** (HETI), a national program of the Robert Wood Johnson Foundation (RWJF), has been supporting research in eHealth to find out how eHealth tools can help patients and consumers who use them. We believe, and there is some evidence to support, that technology can help consumers improve their personal health and that of their loved ones, as well as receive better health care services.

RWJF's October 2007 Issue Brief, *Improving Quality Health Care: The Role of Consumer Engagement*, offers three ways to make the health care system more consumer-friendly, with the hope of improving the quality of care that people receive:

- Help consumers become more connected to their well-being by encouraging them to become informed about choices that affect their care and quality of life.
- Make sure consumers have the tools and skills that will allow them to be confident in the choices they make.
- Urge doctors, nurses and other health care providers to encourage consumers to become active participants in their own care (to the extent they desire).

eHealth has the potential to assist in the achievement of these activities.

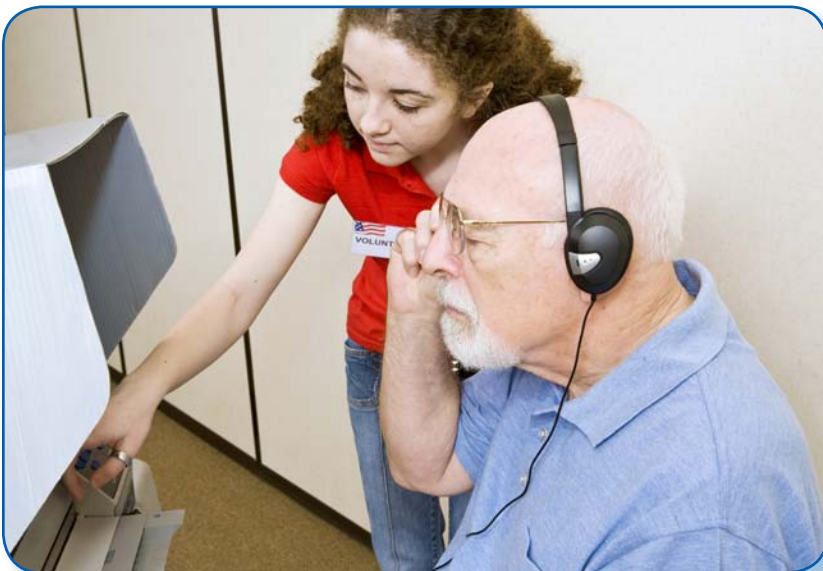
This Guide can help groups who are considering the use of eHealth by:

- introducing the concept of eHealth, and
- encouraging the use of effective eHealth programs in projects that support quality health care.

The Guide is designed to provide community decision-makers —

- consumer advocates
- public health, policy and government staff
- developers of eHealth programs
- employer representatives from human resources and employee health programs
- disease management and wellness companies, and
- health plan staff involved in health promotion

— with a basic understanding of eHealth, as well as additional resources to connect with for more detailed information as you develop eHealth programs. Throughout the Guide, you will find practical “things to keep in mind” as you consider using eHealth tools within your communities. In addition, HETI can be a source of assistance and information to you.



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## The Technologies



There are a variety of technologies that can be used by consumers to access eHealth “programs” (also called “applications” or “interventions”).

Technologies are advancing, becoming faster, more compact and more cost-efficient every day. Some examples of current technologies include:

**World Wide Web/Internet** – a network of electronic pages that display text and/or graphics and can be accessed through personal computers, cell phones and Personal Digital Assistants (PDAs);

**Interactive Video** – a video program and personal computer program that work together and are controlled by one or more people;

**Interactive Voice Response Systems (IVRS)** – a telephone-based application that allows people to use their voice and/or a telephone keypad to communicate with a central computer;

**Kiosk** – a stand-alone unit with a touchscreen or keyboard that houses an interactive computer system;

**Wireless Networks** – the use of airwaves rather than wires to transmit information;

**Personal Digital Assistant (PDA)** – a portable hand-held device that allows people to store and retrieve information and, often, access the Internet;

**Mobile Computing Devices** – Internet-enabled wireless cell phones and PDAs;

**Remote Disease Monitoring Devices** – equipment designed to measure physical functioning, such as blood pressure monitors, heart rate monitors, blood sugar measuring devices (glucometers), weight scales, etc;

**eTablet** – a touchscreen computer that is operated with a digital pen or fingertips, instead of a keyboard or computer mouse;

**Compact Disc (CD)** – a plastic disc that can store data, including eHealth programs, to be read by personal computers and other devices;



**Digital Video Disc (DVD)** – similar to a CD, but it can store larger amounts of data, such as a movie; and

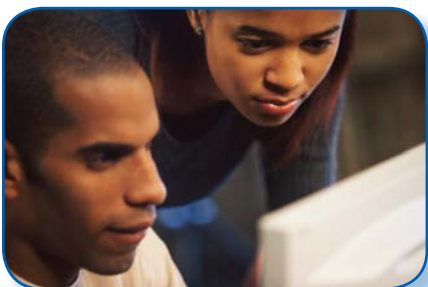
**Interactive Games** – the use of video games to educate people and promote healthy behaviors.

Some examples of how these technologies can be employed include:

- finding out how well a specific doctor follows medical guidelines for care,
- determining the quality of care provided by a specific hospital,
- increasing physical activity by participating in interactive video games,
- communicating with health care providers through secure e-mails,
- researching disease-specific online communities,
- getting access to a loved-one’s electronic medical record to assist in his/her care management, and
- learning to quit smoking, lose weight, better control diabetes, lower cholesterol, lower blood pressure and seek health and lifestyle advice.

Seven major themes arose as we began researching how to use eHealth interventions to engage consumers, and thus became the framework for this Guide. Read on to learn more about:

- Identifying and Engaging Your Audience
- Activating People to Use eHealth Tools
- Cultural and Linguistic Competency/Design
- Facing Literacy Challenges
- Introducing Technology to Unfamiliar Audiences
- How to Determine the Quality of Information on the Internet
- Finding Resources



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## Identifying and Engaging Your Audience

eHealth holds great promise, but it is important to understand both its possibilities AND limits.

### What We Know...

People want clear and simple messages delivered in a convenient, appealing way, preferably at low or no cost. Ideally, they also want it tailored to their specific needs, interests and situations while maintaining their anonymity.

### The Basics in Capturing Your Audience

As you research your potential users, you will find that they have varying levels of education and motivation. Some will want only information while others are looking only for support. Some will have little or no experience using technology of any kind, and some will be very sophisticated.

Clearly define who you are trying to reach and tailor messages to increase their interest in using eHealth tools to actively manage their own health care.

Determine what things may get in the way of people's desire to use technology (for example, no computer or Internet access, no previous computer experience), and find ways to solve these problems.

Make sure that the language you use to capture your audience is theirs, not yours. Understand that not everyone sees themselves as a "consumer" of healthcare and that the term "eHealth" may not be well understood by those you are trying to reach.

Build a relationship with future eHealth users and allow them to tell you what they need, like and dislike in their own words. Ask them to help you design and test the tools you're creating and keep their preferences a priority as you develop the program.

*"We're most successful when we make the research real and employ people early on in the development process. The end result is often something that we, the scientists, never could have developed ourselves. Constant, repeated feedback within partnerships results in a better design."*

**Dr. M. Chris Gibbons**





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## Activating People to Use eHealth Tools

Learn what your users want and need BEFORE introducing any eHealth application. Be prepared for some users to take the tool and run with it, while others may need more convincing.

Your audience members must see the VALUE in your eHealth application; otherwise it will not be worth their time and trust.

Ways to boost the use of eHealth programs:

- Keep your tools quick and easy to use. Overly complicated tools will frustrate your users. Those that fit into patients' busy lives are more likely to be used.
- Make sure your users are being realistic about what the tools can and can't do to improve their health.
- Let users share information with one another. Provide an opportunity for users to give each other emotional and technical support. In addition, you can encourage users to share their experiences with other people (peers, family, coaches, guides, healthcare personnel), and foster ways for this larger group to interact with each other.
- Avoid "surprises" like hidden costs and the need for expensive software. Take a look at current trends to make sure you are not choosing a technology that may become outdated in the near future.
- Include messages and information that consumers can actually apply to their day-to-day lives. For example, if you are providing information on healthy eating, feature shopping lists and recipes that can be prepared quickly and where ingredients are readily available.
- If your tool is to be used within a clinical setting, make sure it will not interfere with work flow or create more work for the staff.



*"Why is it that we are all willing to shell out, on average, \$43/month for cell phone service? If we can make eHealth tools this compelling then I think we've got a winner."*

**Dr. Huong Nyguen**

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## Cultural and Linguistic Competency/Design

*“When we designed the “characters” for our Internet program, we paid attention to body types, hairstyles, personalities, and likes/dislikes regarding diet and physical activity. We also included different family structures; there were two-parent families, there were one-parent families, there was a family where an aunt was highly involved with the character’s family. We tried to reflect family situations the study participants may have at home.”*

**Dr. Debbe Thompson**

Respect your audience members, their values, their situations, and their cultural beliefs. Understand that different cultures have different ways of learning and communicating. It may be necessary to develop multiple versions of your eHealth application tailored to the needs/interests of specific groups. eHealth applications can be easily adapted to provide tailored programs and materials.

### What Does Your Audience Need?

- Make sure that a representative sample of your target audience has reviewed, tested, and preferably been involved in the development of your eHealth application. Programs should take into account various age, socio-economic, educational, racial, ethnic, cultural, gender, sexual orientation, abilities and language differences in order to fully engage the consumers they are trying to reach.
- Be certain that anything you develop is easy to use. It may be tempting to create something flashy, but it could ultimately make your eHealth tool too complicated. Usability testing is a must.



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## Facing Literacy Challenges

All materials, whether written, audio or video, need to be clear and relevant. Content MUST be easy to understand and instructions should be simple to follow. If consumers are asking you a lot of questions, this could be a sign of trouble for your program and you need to figure out why.

### Readability

It is advised to write to a 7th grade reading level when working with adults. There are software programs (see the Resources section at the end of the Guide) that can help you determine the difficulty of your text or script. These programs count the number of letters per word and words per sentence. The same rules apply should you choose to translate content for non-English speaking consumers. When possible, it is helpful to test understanding with representatives from the intended audience.

It may also be useful to break up large amounts of text in an eHealth program with some simple design techniques — using white space, bullet points or pictures — to demonstrate the information you’re trying to communicate.

### Health Literacy

Health literacy refers to a person’s ability to find, process and understand health information. An individual’s numerical skills, knowledge of the human body and the nature and causes of disease can also impact their health literacy.

According to the Institute of Medicine, groups that may be more likely to have lower health literacy in English are older adults, racial and ethnic minorities, people with less than a high school degree or GED certificate, people with low income levels, non-native speakers of English, and people with poor health.



When developing an eHealth tool, use everyday language. Avoid using words that are overly technical or scientific. This can be a difficult task when addressing complicated health and/or medical issues. If you must use complex language, define technical words within your text or via a link.

## Technological Literacy

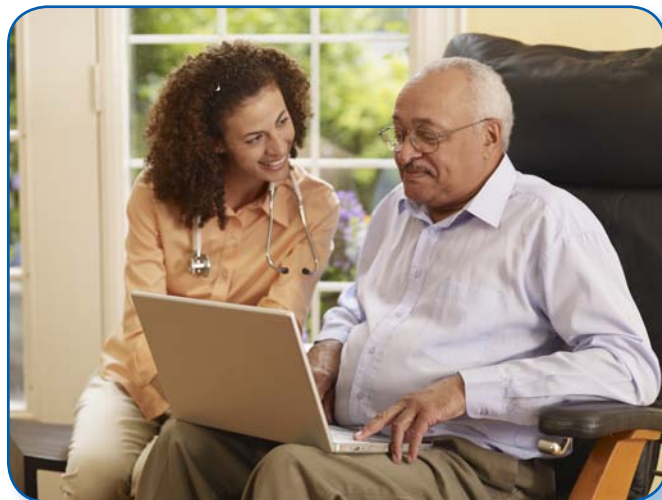
Comfort with technology will increase with subsequent and consistent use. Some members of your audience will have good intuition when it comes to using technology and some may need step-by-step instruction. Be prepared to train both. You may find that some eHealth tools will not work for your audience.

Ways to decrease confusion within a Web site, for example, are to make sure the site:

- is compatible with several different browsers (i.e. Internet Explorer, Netscape or Mozilla), computer types (Windows-based, Macintosh) and older computer operating systems that consumers may use;
- is easy to find via a search engine (i.e. Google or Yahoo) and is well labeled;
- has internal navigation that is clear and instinctive;
- does not automatically open multiple browser windows; and
- allows information to be accessed from many locations within the site.

*"We learned that paper and pencil screening tools are just too difficult to manage within a busy oncology practice. A lot of our patients are older and the idea of starting up a computer and having to open an application and figure out where they need to go was very confusing to them. Our partners developed a PC tablet — it is like a laptop computer that uses a stylus rather than a keyboard — point and click."*

**Dr. Tami Mark**



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## Introducing Technology to Unfamiliar Audiences

It is very likely that some members of your audience will have little or no experience using technology. If you have built an eHealth Internet site, for example, you may need to explain what a browser is, what cookies are and how a site map is used. Be prepared to do this.

Here are some suggestions to help people become more comfortable using technology:

- Write clear, simple instructions.
- Use current users to train new users.
- Develop online tutorials.
- Let users work at their own pace, be able to save their work and return to it when they're ready to continue.
- Build in HELP and SEARCH functions.
- Keep information current and updated.
- Create a graphic, easy-to-use user manual.
- Provide technical support.

"Usability" describes how easy it is for a person to use an application, and it needs to be first and foremost in a program's design or the program will fail. To increase your eHealth application's usability:

- Select type styles (such as Arial) that are easy to read.
- Use at least 12-point type and larger type for older audiences.
- Choose color schemes that are easy on the eyes such as dark text on a light background.
- Limit your use of graphics and animation. These can slow down the user's computer, cause frustration and draw attention away from important information.
- Warn users if a link within your site will take them away from your site.



*"We are so accustomed to the one-on-one, on-site, face-to-face clinical encounter. Letting go of that model is scary, but eHealth tools allow us to accomplish our health promotion efforts with several consumers at the same time."*

**Dr. Patricia Franklin**

## Addressing Security Fears

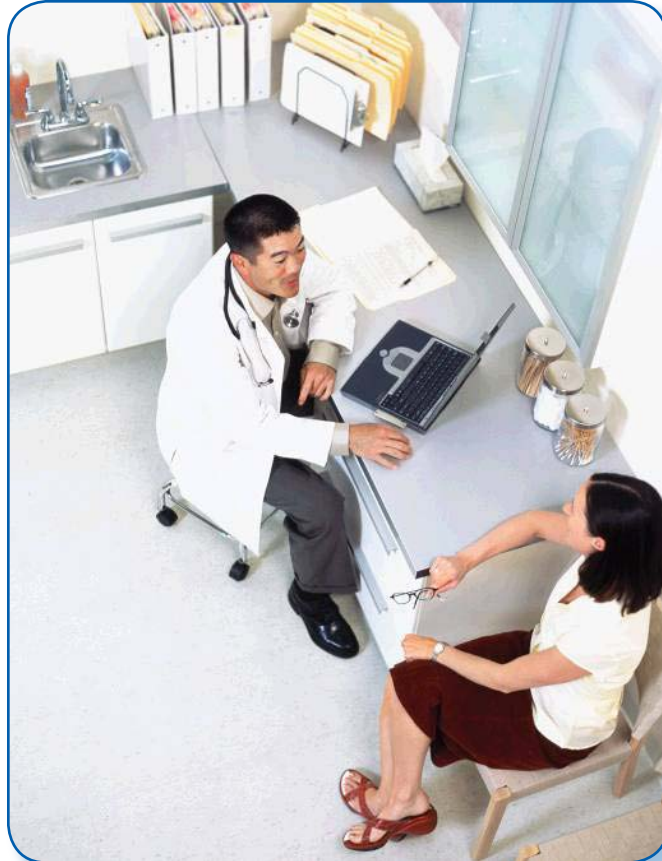
The Internet contains a wealth of information, and consumers are increasingly using it to share personal information, including data about their health status.

While security is not the difficult hurdle that it once was, people are still nervous about using technology to manage their health. Some tips for helping your users feel safer are:

- Make your privacy and security policies simple and easy to access and understand;
- Explain functions such as Sign Out, Password Protection, and Self-Audit (if available);
- Decide who will have access to what information and strictly enforce your policy; and
- Build security safeguards into any Internet site you build.

*“Security issues seemed like a looming phantom over early models of eHealth. But with reasonable safeguards, the public is becoming much more comfortable with these tools in practice.”*

**Dr. Steve Ross**



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# How to Determine the Quality of Information on the Internet

Your audience may feel overwhelmed by the amount of data and information available to them. Teach your audience to seek out a few sources of information, compare their findings and use their best judgment, including discussing the information with their health care providers.

## Understand the Source

A lot of online health information is accurate, though some is not. A quick way to identify the source of the information you are reading is to look at the address bar on your Internet browser. The last three letters of the web address can often tell you who is hosting/sponsoring the site you are visiting. In general:

- .com or .biz – hosted by a for-profit organization
- .org – hosted by a not-for-profit organization
- .gov – hosted by the Government
- .edu – hosted by a school, college or university



## Seek Current Information

There is also a fair amount of outdated information on the Internet. Look for a label that says “Site Last Updated”. This won’t necessarily tell you how recent all of the information is, but it will tell you when someone last managed the site. If possible, establish a system to tell users when new content has been added to your site.

## Cost or No Cost?

Many Web sites offer free advice and interactive tools such as risk calculators which, for example, can assess a user's potential risk of developing heart disease based on their age, weight, cholesterol levels and smoking habits. There are also eHealth tools that cost money. These tools may be customized to an individual's needs, but are not necessarily any better or worse quality than information available at no cost.

In either case, these are not intended to take the place of a physician/patient relationship, but can aid conversations between the two and encourage patients to take a more active role in their health care.

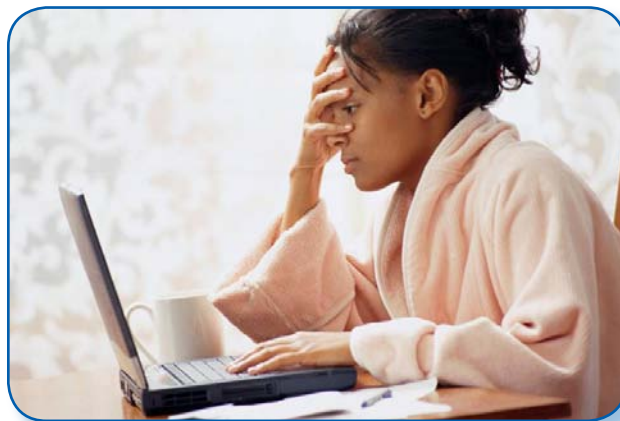
## User-Provided Information

Online patient groups are growing in numbers and add emotional support and the ability to share information, which can be especially crucial for those with rare diseases.

Online encyclopedias (wiki) allow users to post and edit information on any topic imaginable. Users may dispute facts, request references and link to external Web sites.

*"The online audience is policing itself. If you post any medical 'fact', you better be prepared to back it up with peer-reviewed publications."*

**Gilles Frydman**





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## Finding Resources

### Build on What's Already There

Take a look at what already exists in your market and pool your resources. For example, many eHealth applications, particularly Web-based tools, can inexpensively be modified and re-branded to suit your audience at a lower cost than starting from scratch. Partnering with worksites, schools, libraries and other locations where technology and staffing are already in place can save both time and money.



#### Example:

Researchers at the University of Washington found a practical way to use existing resources. They studied International students who arrived at the University without computer skills and were able to learn the best ways to train non-computer users. They later trained undergraduate students involved in the campus' computing group on how to take this knowledge and apply it as they trained members of the community in an online diabetes management program.

### Advances in Technology

Hardware such as cell phones, PDAs and personal computers all continue to come down in price. CD-ROMs and DVDs can be duplicated for pennies. Software is no longer something that you have to buy in a box. You can now download programs directly off the Internet and pay for a service often for a low monthly or per-member fee.

*“Too many good projects die after a few years because they were developed in isolation, without enough thought to sustainability or integration within larger programs. Even during the process of writing the grant proposal, you need to think about how, if your project is successful, it can be scaled up and grown into something significant. Effectively translating scientific research into beneficial programs is critical.”*

**Dr. Dirk Schroeder**

## **Where to Find Funding**

### **Local/State Government**

There is money out there. For example, the State of Florida gave \$2.5 million to help fund the HOPE (Hispanic Obesity Prevention and Education) Project which includes a free, bilingual website with personalized nutrition, fitness and health evaluations and interactive exercise DVDs.

### **Seek Grant Money**

Focus on the details of the funding request — be straightforward, have clear objectives and ways to measure what you’re trying to achieve. Take a course in grant writing or hire a grant writer if needed.

### **Networking Organizations/Societies**

Connect with people who may have funds and/or connections through health information management organizations, state level societies and leadership groups.

### **Corporate**

Many corporations do things for low cost or no cost. Most private companies have some element of offering in-kind support.



# Resources

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## For additional information on eHealth, please visit the following resources:

### Health e-Technologies Initiative ([www.hetinitiative.org](http://www.hetinitiative.org))

*The eHealth Landscape links to many organizations that are working to evaluate and improve eHealth. The Collaboration Community is an interactive feature designed to enhance connections and collaborative efforts of researchers in the field.*

### Community Toolbox (<http://ctb.ku.edu/en/>)

*The Community Tool Box is a free, Internet-based service to assist you in addressing community health and development issues in your community.*

### Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

(<http://www.nlm.nih.gov/medlineplus/webeval/webeval.html>)

*This guide teaches you how to evaluate the health information that you find on the Web.*

### A Reporter's Toolkit: Health Information Technology

([http://www.allhealth.org/publications/Health\\_information\\_technology/Toolkit\\_Health\\_Information\\_Technology\\_78.asp](http://www.allhealth.org/publications/Health_information_technology/Toolkit_Health_Information_Technology_78.asp))

*The resources in this toolkit will help you understand how health information technology is slowly changing health care.*

### The Community Guide (<http://www.thecommunityguide.org/>)

*This collection of recommendations to promote population health was created by the Centers for Disease Control and Prevention.*

### Expanding the Reach and Impact of Consumer e-Health Tools

(<http://www.health.gov/communication/ehealth/ehealthtools/pdf/ehealthreport.pdf>)

*This publication explores the ways in which the use of eHealth can be broadened to diverse populations.*

### Center for Healthcare Strategies (<http://www.chcs.org/info-url3959/info-url.htm>)

*The Center is a nonprofit health policy resource center with a mission to improve health care.*

### Clear Language and Design Reading Effectiveness Tool

(<http://www.eastendliteracy.on.ca/clearlanguageanddesign/readingeffectivenessstool/>)

*Use this Reading Effectiveness Tool to find out if your draft manuscript is at the right Grade Reading Level for your intended audience.*

### Step-by-Step Usability Guide (<http://www.usability.gov>)

*U.S. Department of Health & Human Services hosts this guide for developing usable and useful Web sites.*



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## Online Sources for Consumer Health Information:

### American Academy of Family Physicians

(<http://familydoctor.org/online/famdocen/home.html>)

### Mayo Clinic ([www.mayoclinic.com](http://www.mayoclinic.com))

### MedLine Plus (<http://www.nlm.nih.gov/medlineplus/>)

### National Institutes of Health (<http://health.nih.gov/>)

### U.S. Department of Health and Human Services (<http://www.healthfinder.gov/>)

### Wikipedia ([http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page))

