



Health Information for Seniors: The Internet's Expanding Role

Focus

In recent years, the Internet has revolutionized the way many Americans get information, making a vast array of resources available at the click of a mouse. In turn, the Internet is an important tool for increasing America's health literacy—the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. A major segment of the nation's population, however—and one with many members who want and need accurate information about health and health benefits—has not taken advantage of this unprecedented new resource.

Although approximately one-half of Americans age 65 and older know that information on health, health care, government benefits, medications, news, commerce, and much more is available on the Internet, only a minority of this age group seek information online (the PEW Internet & American Life Project; <http://www.pewinternet.org>). Lack of knowledge about the Internet's possibilities and uses, along with a lack of Internet access and computer skills, are obstacles for many seniors. Cognitive and motor impairments, which become more common as people age, create additional barriers.

The Unwired Majority

Five years from now, as the first members of the Baby Boom generation reach age 65, the number of Internet-savvy seniors will start to rise sharply. At present, however, Internet use among seniors remains markedly lower than among other American age groups. According to a 2004 survey by the Kaiser Family Foundation, only 42 percent of those currently age 65 and older have ever used a

computer, only 31 percent have ever gone online, and only 33 percent have Internet access at home.

Senior Internet users, furthermore, are not representative of the entire age group, and, in comparison to nonusers, are more likely to have attended college, to have above-average incomes, and to be white. Seniors with low incomes, who belong to racial and ethnic minorities or who live in rural areas, are the least likely to use the Internet. In 2003, for example, only 11 percent of African Americans age 65 and older reported any online experience, as opposed to 22 percent of white seniors. The cyber-savvy are also more likely to be male than female. Although the numbers of male and female seniors who use the Internet are about equal, older women greatly outnumber men in the general population.

Those seniors who do go online overwhelmingly log on from home using dial-up connections. More than one-half of younger Americans who surf the Internet, on the other hand, go online at work, and nearly one-half of them use broadband connections at home.

Dial-up connections complicate navigation of many Web sites and online features, making it difficult, if not impossible, to download large files and documents. Because of dial-up's lower speed, forms and applications are also more likely to time out, an especially significant and frustrating problem for seniors, who often need more time than younger persons to respond to prompts or fill in answers. Because older persons may take longer to navigate systems designed by and for young people, they may lose forms in the middle of carefully filling in information.

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Many people experience declines in their vision, manual dexterity, memory, and cognitive abilities as they age, and these disabilities also add to older users' frustrations with the Internet. Print that is too small or not sufficiently readable, page layouts that are unclear or lack sufficient contrast, and backgrounds that distract may make accessing information difficult. Web sites with complicated or deep organizational structures or unclear links may make navigation difficult for people who are unfamiliar with the Web or have cognitive or memory deficits. Reduced dexterity may prevent users from double-clicking or pointing with precision in drop-down menus and other small spaces. In addition to technical problems, inexperience and lack of overall understanding of how computers and the Internet work add to the difficulties that can make using the Internet too intimidating for many older people.

A More Senior-Friendly Web

As a result of these challenges, 8 in 10 of today's seniors who have not yet used the Internet do not think they ever will. Those who rarely or never go online cite never having learned how and the fact that computers are "too complicated" as major obstacles. Many of them, furthermore, do not know any Internet users. Seniors with low general literacy or with low health literacy face additional barriers to using the Web or succeeding in finding useful health information.

Across the country, however, community organizations such as senior centers and continuing care retirement communities, libraries, and other facilities open to the public make Internet access available to seniors who do not have it at home. Community technology centers also provide training in computer skills. For some members of the underserved population, however, skills training in reading as well as in computer use is needed to get online. Such skill-building classes can support the improvement of health literacy among the elderly and encourage seniors to use the Internet to access health information.

For seniors to find the Web useful, the sites that they visit must be designed with their special

needs and challenges in mind. Usability testing with members of the target population is a must to pinpoint whether a proposed Web site design has flaws that will reduce its usefulness to senior surfers. Usability tests include defining the tasks needed to use the Web site, setting up trials of those tasks, and evaluating how people do on them.

Experience shows that older persons find most useful those sites that are easy to read and navigate and do not require pinpoint accuracy with the mouse. A variety of available resources provide information on increasing the usability of Web sites for older adults. Basic requirements include using clear type—ordinarily a sans serif font of at least 12 to 14 points—and avoiding non-contrasting colors and confusing backgrounds. This is important because many older people have experienced a decline in the ability to distinguish blue, green, and yellow. Plain language, concise text, and relevant images also increase understanding. Slow connections require that animation, video, and audio segments be short.

Clearly stated, concise information and relevant images also increase understanding. Text should be written with the Web in mind, not merely posted from preexisting print documents. Dense blocks of text and complex phrasing and jargon make understanding difficult for those reading a computer screen. Writing should emphasize clarity, and the document should include adequate white space.

Persons with visual, auditory, or cognitive challenges that prevent them from using a site's regular features require easily available alternatives such as open captions, voice narration, and static versions of animations. Web sites should have simple and clear organizational structures with links obviously labeled and the steps needed for navigation prominently explained. Large, clear buttons requiring only a single click help users to navigate, but elements that require fine manipulation, such as drop-down menus, may cause problems for many users. Automatic scrolling is inappropriate for older users, and including a tutorial on using the site adds greatly to usability for many.

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Finding Health Information

Once seniors do get online, they use the Internet for e-mail more than for any other purpose. For a growing number, however, the Web is also an important source of health information. One in five people age 65 and older reported in 2004 that he or she had gone online for that purpose, although books and television still remain the health sources of choice for the overwhelming majority of the age group. Seniors generally do not have strong trust in health information on the Internet, or in fact, in most other media. Nonetheless, many senior Internet users have reached decisions or taken actions based on what they learned on the Web. Most of them, however, failed to evaluate or check the source of that information. The presence on the Internet of accurate health information that is easily accessible to seniors is therefore vital to their welfare.

Seniors' top health pursuits on the Web include researching particular conditions, diseases, and prescription drugs, although very few people have ever filled prescriptions online. Seniors are much more likely to receive e-mails about their medications or health from drug companies and other marketers than from their doctors. In 2004 surveys, fewer than 10 percent of seniors had used the Internet to learn about or compare Medicare benefits.

People age 64 and younger, having been in the workforce during the years when computers came to dominate many American workplaces, are dramatically more likely than seniors to go online. Seventy percent of people age 50 to 64 reported having Internet experience, and two-thirds have Internet access at home. In addition, members of this age group are far more likely to have confidence in health information retrieved from the Internet, with about 58 percent having "a lot" or "some" trust in it, as opposed to only 26 percent of seniors. Only books outrank the Internet as a medium that 50- to 64-year-olds trust "a lot" to provide accurate information on health. As these highly experienced Internet users reach their own senior years, they will often turn to the Internet for the health information they will increasingly need.

Spotlight

Showcasing Internet Technology for Healthier Living

The 3rd National Prevention Summit held in Washington, DC, in October 2005 included a Healthier Living Technology Showcase to highlight interventions using the latest digital and interactive applications to support prevention. Three of the 24 demonstrations used the Internet to answer specific health needs of seniors.

My HealthVet, operated by the U.S. Department of Veterans Affairs (VA), provides military veterans a secure online environment that combines access to a wide range of information on veterans' activities, benefits, and issues with resources for learning about and managing their health. Veterans can use the site to order their medications and download a variety of benefit forms. In addition, the site provides advice on health issues such as weight loss and flu prevention, along with news and volunteer opportunities of interest to veterans. All health information is accurate, up-to-date, timely, and in accordance with VA clinical practice guidelines. Links to other trusted sources, such as the Centers for Disease Control and Prevention, provide further information options.

To help manage their health, registered users of **My HealthVet** also have the option of creating a complete personal health record that they can then share and update as they wish. This allows individuals to keep all their personal health information, including such readings as blood pressure and blood sugar, in one handy place, and it also allows them to track changes over time. Planned updates to the Web site will allow users to access their VA health records, including lab reports, prescriptions, and appointments. They will also be able to authorize other persons, such as designated family members, healthcare providers, or veterans' advocates, to see and even to manage the personal record to the extent that the veteran desires. Available online at <http://www.myhealth.va.gov>.

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Get Fit on Route 66, a Web site operated by AARP for its members, provides a free program that encourages participants to increase their daily physical activity by taking an imaginary trip along the famous highway from Chicago to Santa Monica in the classic 1950s vehicle of their choice. Choosing from among 66 activities, “travelers” record the minutes they spend being physically active each day and watch their vehicles move along the route, with each minute counting as one of the trip’s 2,448 miles. Participants also choose to receive daily or weekly e-mails with tips about activity, fitness, and diet. Although aimed primarily at AARP members, the program is available to anyone who wishes to participate. Available online at <http://aarp.getfitonroute66.com>.

BenefitsCheckUp, operated by the National Council on Aging, gives users age 55 and older confidential, personalized screening reports on their eligibility for hundreds of public and private assistance programs, including those that can help pay for prescription drugs, health care, utilities, and other needs. Based on an anonymous questionnaire filled out by the user, the Web site screens 1,300 programs in the 50 states and the District of Columbia, to determine which are appropriate to the individual. On average, persons in each state can qualify for 50 to 70 different programs.

The site then gives recommendations specific to the person’s state and indicates the optimal combination of public and private programs to maximize individual savings. The report includes detailed descriptions and contact information for the appropriate programs, helping people to enroll by providing direct access to more than 250 application forms, including some in interactive PDF formats that can be filled in on the computer and others as direct online enrollment links.

The site also provides information on how to obtain individual counseling and includes answers to questions about filling out the questionnaire, understanding the report, and using the computer’s keyboard and printer to obtain a permanent copy of the report. It also offers an “Organization Edition” to nonprofit groups that counsel or help individuals enroll for benefits. Available online at <http://www.benefitscheckup.org>.

Resources

NIH Senior Health provides access to a wide range of health information. The site allows the user to change the size of print and the degree of contrast on the screen, and it also has an option for voice narration. Available online at <http://nihseniorhealth.gov>.

FirstGov for Seniors provides access to a wide range of Federal Government health services and information. Available online at <http://www.firstgov.gov/Topics/Seniors.shtml>.

Medicare.gov, the official Federal Government site for people with Medicare, provides a variety of resources for learning about and comparing Medicare options. **My.Medicare.gov** provides registered users access to personalized information regarding their Medicare benefits and services. The site is presented in English and Spanish and in versions that increase readability. Available online at <http://www.medicare.gov>.

Medicare Prescription Drug Coverage

Workbook for Mental Health Consumers by the National Mental Health Association (NMHA) provides basic information about the new Medicare prescription drug benefit and tips for individuals preparing to enroll in a prescription drug plan. Also included are resources and organizations that can assist in enrollment, important questions individuals should ask when comparing plan options, worksheets to assist individuals in choosing a plan, and definitions of common terms. Available online at <http://www.nmha.org> or by calling the NMHA Resource Center at 800-969-6642.

MedlinePlus: Seniors’ Health Issues offers access to information about health issues relevant to seniors as a service of the National Library of Medicine and the National Institutes of Health. Available online at <http://www.nlm.nih.gov/medlineplus/seniorshealthissues.html>.

Online Health Information: Can You Trust It?, a health information article from the National Institute

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on Aging, is available for free download at <http://www.niapublications.org/agepages/healthinfo.asp>.

Older Americans and the Internet, a 2004 survey report from the Pew Internet & American Life Project, is available for free download at http://www.pewInternet.org/pdfs/PIP_Seniors_Online_2004.pdf.

Usability.gov provides information on designing Web sites and testing and improving their usefulness to consumers. Guidelines for improving usability for seniors are available online at <http://www.usability.gov/pubs/112005news.html>.

The Usability Professionals' Association offers a range of resources about usability at <http://www.upassoc.org>.

The **Web Accessibility Initiative** site provides information on making the Web accessible to persons with disabilities, including an introduction to issues and tools and a list of essential components for accessibility. Available online at <http://www.w3.org/WAI/gettingstarted/Overview.html>. The **10 Quick Tips** portion of the site offers links to documents explaining how to improve usability. Available online at <http://www.w3.org/WAI/References/QuickTips/Overview.php>.

Usability for Senior Citizens provides information on general usability, including why seniors may find Web sites difficult to navigate. Available online at <http://www.useit.com/alertbox/20020428.html>.

Making Your Website Senior Friendly offers a checklist from the National Library of Medicine and the National Institute on Aging that is available for free download at <http://www.nlm.nih.gov/pubs/checklist.pdf>.

You Can! Campaign, a part of the U.S. Department of Health and Human Services' *Steps to a Healthier US* initiative, is designed to increase the number of older adults who are active and healthy through partnerships with community-based organizations; Federal, state, and local agencies; and the media. The Campaign is managed by the Administration on Aging. Available online at <http://www.aoa.gov/youcan/youcan.asp>.

Activities

A service of the National Health Information Center, healthfinder® provides online quizzes called **Online Checkups** about a variety of health topics. The site also includes relevant information about each topic and links to more than 1,500 health-related organizations. To learn more, visit <http://www.healthfinder.gov/scripts/Topics.asp?context=6&keyword=122&Branch=5>.

SeniorNet Learning Centers offer basic and advanced computer classes on a variety of topics. The Learning Centers are managed primarily by senior volunteers, and classes are taught by volunteer instructors. The centers are housed in a variety of locations such as community centers, senior centers, and clinics throughout the United States as well as abroad, and they are locally or regionally sponsored. For a list of Learning Centers by state, visit <http://www.seniornet.org/php/lclist.php>.

SeniorNet also provides free, self-paced, online tutorials designed for older adult computer users. One tutorial, called **Learn To Search the World Wide Web**, includes information about the Web, explanations about how information is collected and organized, and tips on how to find information on the Internet. A glossary of Internet terms and mouse exercises also are available. To view the tutorial, visit <http://www.seniornet.org>.

Aging Well, the Web site of the New York State Office for the Aging, provides online animated stretching, strength, and range of motion exercises specifically designed for people age 50 and older. The Web site also contains health and wellness information on a variety of topics as well as printouts and checklists for taking medications. Available online at <http://agingwell.state.ny.us>.

Computers Made Easy for Senior Citizens provides links to free Internet tutorials and other instructional sites and also includes information about research techniques, general search tips, a glossary of terms

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and definitions, and links to organizations for older computer users. Available online at <http://www.csuchico.edu/~csu/seniors/computing2.html>.

SPRY (Setting Priorities for Retirement Years) Foundation, a national nonprofit research and education organization that helps people prepare for successful aging, is a leading national information source on computer-assisted technology for caregiving. The Foundation has been partners with the National Institutes of Health on several senior and cutting-edge technology meetings. It also has a publication, *Computer-Based Technology and Caregiving of Older Adults*, in English and Spanish. For more information, visit <http://www.spry.org>.

SLMSeniors.com provides a directory of Web sites useful for older adults, articles on health topics, a glossary of computing terms, and tips for Internet users. Free online, self-guiding CPR and first-aid courses are offered at <http://www.firstaidweb.com>. Although not designed solely for seniors, the courses are referenced at <http://www.slmseniors.com/library/cpr.htm> and are useful for people of all ages, including older adults.

In the Literature

Digital Divisions by Susannah Fox.
Washington, DC: Pew Internet & American Life Project, October 5, 2005.
From May to June 2005, 68 percent of American adults used the Internet, up from 63 percent 1 year earlier. However, Americans age 65 and older continued to lag in their use of the Internet. Twenty-six percent of Americans age 65 and older went online, compared with 67 percent of those age 50 to 64 and 84 percent of those age 18 to 29. Americans age 65 and older were the least likely demographic group to have an Internet connection, and the majority of older Americans were completely offline or had a tenuous connection to the Internet. The study divided Internet usage into three tiers: offline or no use, modest connections such as dial-up, and high-speed access.

Health Literacy and Functional Health Status Among Older Adults by M.S. Wolf et al. *Archives of Internal Medicine* 165(17):1946–1952, September 26, 2005.
Researchers investigated the relationship between health literacy, self-reported physical and mental health functioning, and health-related activity limitations among 2,923 new Medicare managed care enrollees. Participants with inadequate health literacy reported a lower mean physical function and mental health than participants with adequate health literacy. They also were more likely to report activity limitations.

Teaching Elderly Adults To Use the Internet To Access Health Care Information: Before-After Study by R.J. Campbell and D.A. Nolfi. *Journal of Medical Internet Research* (7)2:e19, June 30, 2005.
This article reviews results of a program to teach older adults to use the Internet to access healthcare information. The objective was to determine whether training led to changes in participants' perceptions of their health and interactions with healthcare providers, health information-seeking behaviors, and self-care activities. Of 60 older adults who began the 5-week training program, 42 (mean age 72) completed the entire program. The authors did not find robust before-after effects for most of the outcomes measured. Older adults were willing to use the Internet as a source for general health information but adhered to a physician-centered model of care for making decisions about their health care.

Do Older Adults Use the Internet for Information on Heart Attacks? Results From a Survey of Seniors in King County, Washington by H. Meischke et al. *Heart & Lung*, 34(1):3–12, January–February 2005.
This study interviewed 323 adults age 65 and older in an investigation of the demographic and psychosocial variables related to use of the Internet by seniors to obtain information about health and heart attacks. Results showed that only 7 percent of seniors who reported using the Internet sought information on heart attacks. Age and history of acute myocardial infarction were significant predictors of information

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seeking on heart attacks, which suggests that only a small, high-risk group of seniors actually seeks information on heart attacks from the Internet.

e-Health and the Elderly: How Seniors Use the Internet for Health—Survey by Kaiser Family Foundation. January 2005. Available at <http://www.kff.org/entmedia/7223.cfm>.

A Kaiser Family Foundation survey of Internet use for health and healthcare information by older Americans found that less than one-third of seniors (age 65 and older) have gone online to obtain health information, but more than two-thirds of older adults age 50 to 64 have done so. The survey was a nationally representative, random digit dial telephone survey of 1,450 adults age 50 and older.

Usability of Health Web Sites for Older Adults: A Preliminary Study by E.S. Nahm et al. *Computers, Informatics, Nursing*, 22(6):326–334, November–December 2004.

Researchers explored the usability of three health-promoting Web sites designed for use by older adults in this study. The study used two assessment methods: an evaluation by experts in gerontology and Web usability and a usability test by older Web users. Individuals in the study expressed great interest in obtaining online health information but preferred a simple design with clear instructions. They needed instructions on how to search for credible information online.

Understanding Health Literacy: Implications for Medicine and Public Health by J.G.

Schwartzberg et al. (eds.). Chicago, IL: American Medical Association, December 2004.

This compilation covers health literacy from multiple perspectives. The book begins with an overview of health literacy and covers the epidemiology of low health literacy, literacy demands in healthcare settings, health literacy and the patient-provider relationship, participatory decisionmaking in relation to patient literacy, and informed consent for low-literate populations. An article by C.E. Baur addresses use of the Internet to improve literacy. Also included are an overview of the literature and a glossary.

Prescription Drugs Online by Susannah Fox. Washington, DC: Pew Internet & American Life Project, October 10, 2004.

Researchers surveyed by telephone a random sample of 2,200 adults age 18 and older to examine use of the Internet for drug information and found that one in four Americans has looked online for drug information but few actually purchased drugs online. Eighteen percent of 59- to 68-year-olds have searched online for drug information compared to just 8 percent of Internet users age 69 and older.

Health Literacy and Knowledge of Chronic Disease by J.A. Gazmararian et al. *Patient Education and Counseling* 51(3):267–275, November 2003.

Researchers investigated the relationship between health literacy and knowledge of disease among 653 new Medicare enrollees who had at least one chronic disease, namely asthma, diabetes, congestive heart failure, and/or hypertension. Participants completed in-person and telephone surveys that included the Short Test of Functional Health Literacy in Adults (STOFHLA). Participants with inadequate health literacy demonstrated less knowledge about their disease than participants with adequate health literacy. Health literacy was found to be independently related to disease knowledge.

The Association Between Age and Health Literacy Among Elderly Persons by D.W. Baker et al. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 55(6):S368–S374, 2000.

Researchers sought an explanation for why there is a high incidence of low functional health literacy among older adults. Home interviews, STOFHLA, and the Mini Mental State Examination (MMSE) were conducted with 2,774 community-dwelling older adults. Mean STOFHLA decreased with year in age even after adjusting for MMSE performance, newspaper reading frequency, health status, and visual acuity.

Health Literacy Among Medicare Enrollees in a Managed Care Organization by J.A. Gazmararian et al. *The Journal of the American Medical Association* 281(6):545–551, February 10, 1999.

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Researchers investigated the incidence of low functional health literacy among 3,260 new Medicare enrollees in a national managed care organization. Information was collected through in-person interviews and the STOFHLA. Researchers found that 33.9 percent of English-speaking participants and 53.9 percent of Spanish-speaking participants had inadequate or marginal health literacy. Health literacy and reading ability decreased with age.

Meetings

American Association for Geriatric Psychiatry 19th Annual Meeting: Exploring a New World: Current Research, Future Impact. San Juan, PR. Visit <http://www.aagpmeeting.org>. **March 10–13, 2006.**

2006 Joint Conference of NCOA and the American Society on Aging. Invest in Aging: Strengthening Families, Communities, and Ourselves. Anaheim, CA. Visit <http://agingconference.org/agingconference/jc06/index.cfm>. **March 16–19, 2006.**

Natural Bridges: Preparing for Aging in the South: 27th Annual Meeting of the Southern Gerontological Society. Lexington, KY. Visit <http://www.wfu.edu/academics/gerontology/sgs>. **April 5–8, 2006.**

2006 American Geriatrics Society Annual Scientific Meeting. Chicago, IL. Visit <http://www.americangeriatrics.org/news/meeting/annualmeeting2006.shtml>. **May 3–7, 2006.**

23rd Annual Summer Series on Aging presented by the University of Kentucky Sanders-Brown Center on Aging. Lexington, KY. Visit <http://www.research.uky.edu/aging/summerseries>. **June 12–14, 2006.**

Summer Institute on Aging Research. Queenstown, MD. Visit <http://www.nia.nih.gov/NewsAndEvents/Calendar/SummerInstitute2006.htm>. **July 8–14, 2006.**

2008 World Congress on Aging and Physical Activity. Tsukuba, Japan. Visit <http://www.isapa.org>. **July 2008.**