

Online Health Search 2006

**Most internet users start at a search engine
when looking for health information online.
Very few check the source and date of the
information they find.**

October 29, 2006

Susannah Fox, Associate Director

Summary of Findings

Eight in ten internet users go online for health information.

Eighty percent of American internet users, or some 113 million adults, have searched for information on at least one of seventeen health topics. The percentage of internet users who search for health information has been stable over the past four years, even as the internet population has grown and broadband connections at home have become the norm. As in 2002 and 2004, certain groups of internet users in 2006 are the most likely to have sought health information online: women, internet users younger than 65, college graduates, those with more online experience, and those with broadband access at home.

Health Topics Searched Online			
Health Topic	Internet Users Who Have Searched for Info on It (%)		
	2002	2004	2006
Specific disease or medical problem	63%	66%	64%
Certain medical treatment or procedure	47	51	51
Diet, nutrition, vitamins, or nutritional supplements	44	51	49
Exercise or fitness	36	42	44
Prescription or over-the-counter drugs	34	40	37
A particular doctor or hospital	21	28	29
Health insurance	25	31	28
Alternative treatments or medicines	28	30	27
Depression, anxiety, stress, or mental health issues	21	23	22
Environmental health hazards	17	18	22
Experimental treatments or medicines	18	23	18
Immunizations or vaccinations	13	16	16
Dental health information	*	*	15
Medicare or Medicaid	9	11	13
Sexual health information	10	11	11
How to quit smoking	6	7	9
Problems with drugs or alcohol	8	8	8

* The question was not asked in the 2002 and 2004 Surveys.

Source: Pew Internet & American Life Project December 2002 Survey (N=1,220); November 2004 Survey (N=537); August 2006 Survey (N=1,990).

This Pew Internet & American Life Project report is based on the findings of a daily tracking survey on Americans' use of the internet. All numerical data was gathered through telephone interviews conducted by Princeton Survey Research Associates between August 1-31, 2006, among a sample of 2,928 adults, aged 18 and older. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is +/- 2%. For results based on internet users (n=1,990), the margin of sampling error is +/- 3%.

Eight million American adults look online for health information on a typical day.

Seven percent of health seekers, or about 8 million American adults, searched for information on at least one health topic on a typical day in August 2006. This places health searches at about the same level of popularity on a typical day as paying bills online, reading blogs, or using the internet to look up a phone number or address.

The typical health information session starts at a search engine, includes multiple sites, and is undertaken on behalf of someone other than the person doing the search.

In order to capture a portrait of a typical health search, we asked respondents to think about the last time they went online for health or medical information. We found that:

- 66% of health seekers began their last online health inquiry at a search engine; 27% began at a health-related website.
- 72% of health seekers visited two or more sites during their last health information session.
- 48% of health seekers say their quest for information was undertaken on behalf of someone else, not themselves. An additional 8% of health seekers say the search was on behalf of someone else *and* to answer their own health questions. Thirty-six percent of health seekers say their last search was in relation to their own health or medical situation.
- 53% of health seekers report that most recent health information session had some kind of impact on how they take care of themselves or care for someone else: 42% described it as a minor impact and 11% described it as a major impact.
- The impact was most deeply felt by internet users who had received a serious diagnosis or experienced a health crisis in the past year, either their own or that of someone close to them. Fourteen percent of these hard-hit health seekers say their last search had a major impact, compared with 7% of health seekers who had not received a diagnosis or dealt with a health crisis in the past year.

Among the internet users who say their last search had any kind of impact:

- 58% say the information they found in their last search affected a decision about how to treat an illness or condition.
- 55% say the information changed their overall approach to maintaining their health or the health of someone they help take care of.
- 54% say the information led them to ask a doctor new questions or to get a second opinion from another doctor.

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- 44% say the information changed the way they think about diet, exercise, or stress management.
- 39% say the information changed the way they cope with a chronic condition or manage pain.
- 35% say the information affected a decision about whether to see a doctor.

Most health seekers are pleased about what they find online, but some are frustrated or confused.

We gave respondents eight different ways – four positive and four negative – to describe how they felt during their last search for health information online. People were much more inclined to identify with the positive descriptions.

- 74% of health seekers say they felt **reassured** that they could make appropriate health care decisions.
- 56% say they felt **confident** to raise new questions or concerns about a health issue with their doctor.
- 56% say they felt **relieved** or **comforted** by the information they found online.
- 51% say they felt **eager to share** their new health or medical knowledge with others.

On the other hand:

- 25% say they felt **overwhelmed** by the amount of information they found online.
- 22% say they felt **frustrated** by a lack of information or an inability to find what they were looking for online.
- 18% say they felt **confused** by the information they found online.
- 10% say they felt **frightened** by the serious or graphic nature of the information they found online.

Three-quarters of health seekers do not consistently check the source and date of the health information they find online.

Just 15% of health seekers say they “always” check the source and date of the health information they find online, while another 10% say they do so “most of the time.” Fully three-quarters of health seekers say they check the source and date “only sometimes,” “hardly ever,” or “never,” which translates to about 85 million Americans gathering health advice online without consistently examining the quality indicators of the information they find.

Summary of Findings

These 2006 findings compare with the one-quarter of health seekers who said they always checked the source and date, one-quarter who did so most of the time, and the 50% of health seekers who said they rarely or never checked these two quality indicators in our survey in 2001. One possible reason for this diminished diligence in checking sources and dates might lie with health websites themselves: A recent study commissioned by the U.S. Department of Health and Human Services finds that just 4% of “frequently visited” health websites disclosed the source of the information on their pages and 2% disclosed how the content is updated.¹

Successful health information searches may bolster health seekers’ confidence.

Few health seekers report bad outcomes and many report positive effects of their online health queries. Three percent of health seekers, or about 3 million adults, say they or someone they know has been seriously harmed by following the advice or information they found online. Fully 31% of health seekers, or about 35 million adults, say they or someone they know has been significantly helped by following medical advice or health information found on the internet.

Online Health Search 2006: Summary of Findings at a Glance
Eight in ten internet users go online for health information.
Eight million American adults look online for health information on a typical day.
The typical search for health information online starts at a search engine, includes multiple sites, and is undertaken on behalf of someone other than the person doing the search.
Most health seekers are pleased about what they find online, but some are frustrated or confused.
Three-quarters of health seekers do not consistently check the source and date of the health information they find online.
Successful health information searches may bolster health seekers’ confidence.
Source: Fox, Susannah. <i>Online Health Search 2006</i> . Washington, DC: Pew Internet & American Life Project, October 29, 2006.

¹ CDC Wonder Data 2010. Healthy People 2010 Health Communication Focus Area 11, Objective 11-4.

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About Princeton Survey Research Associates: PSRA conducted the survey that is covered in this report. It is an independent research company specializing in social and policy work. The firm designs, conducts, and analyzes surveys worldwide. Its expertise also includes qualitative research and content analysis. With offices in Princeton, New Jersey, and Washington, D.C., PSRA serves the needs of clients around the nation and the world. The firm can be reached at 911 Commons Way, Princeton, NJ 08540, by telephone at 609-924-9204, by fax at 609-924-7499, or by email at ResearchNJ@PSRA.com

Part 1.

113 Million Internet Users Seek Health Information Online

Eight in ten internet users have looked online for health information – the same portion as in 2002 and 2004.

Eighty percent of American internet users have searched for information on at least one major health topic online, the same portion as in 2002 and 2004.² That translates to about 113 million American adults (18+ years) who use the internet to find health information. As in previous surveys, certain groups of internet users are the most likely to have sought health information online: women, internet users younger than 65, college graduates, those with more online experience, and those with broadband access. In addition, internet users who have seen a doctor in the past year are more likely than those who have not to have looked online for health information (84% vs. 66%). Internet users with health insurance are no more or less likely than those who do not have health insurance to get health information online.

Using the internet to gather health information is an activity that has remained consistently popular with most internet users over the last seven years of polling by the Pew Internet & American Life Project and other research organizations. In addition to our surveys, national surveys by Harris Interactive and the Digital Future Project have tracked a similar trend line in the percentage of internet users who look for health information online.³ Our findings also echo a 2005 study by the Kaiser Family Foundation which found that Americans age 65 and older are the least likely age group to use the internet to gather health information.⁴

<p>“Health seekers” — Internet users who search online for information on health topics, whether they are acting as consumers, caregivers, or e-patients</p>
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In our survey, 7% of health seekers, or about 8 million adults, searched for a health topic on a typical day in August 2006, which is about the frequency with which internet users

² “Health Information Online” (Pew Internet & American Life Project, May 27, 2005) Available at: http://www.pewinternet.org/PPF/r/156/report_display.asp and “Internet Health Resources” (Pew Internet & American Life Project, July 16, 2003) Available at: http://www.pewinternet.org/PPF/r/95/report_display.asp.

³ “Number of ‘Cyberchondriacs’ – Adults Who Have Ever Gone Online for Health Information – Increases to an Estimated 136 Million Nationwide” (Harris Interactive, August 1, 2006: <http://www.harrisinteractive.com>) and “The 2005 Digital Future Report” (The Center for the Digital Future: <http://www.digitalcenter.org/>).

⁴ “e-Health and the Elderly” (Kaiser Family Foundation, January 12, 2005) Available at: <http://www.kff.org/entmedia/7223.cfm>

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are paying bills online, reading blogs, or using the internet to look up a phone number or address on a typical day.

Health Seekers	
Demographic Group	Percent Who Have Looked for Health Information Online
Online women	82%
Online men	77
Internet users age 18-29	79
Internet users age 30-49	84
Internet users age 50-64	78
Internet users age 65+	68
Internet users with a high school diploma or less	71
Internet users with some college education	80
Internet users with a college degree	89
Internet users with 2-3 years of online experience	62
Internet users with 6+ years of online experience	86
Internet users with a dial-up connection at home	75
Internet users with a broadband connection at home	86

Source: Pew Internet & American Life Project August 2006 Survey (N=1,990). Margin of error for the entire sample of internet users is +/- 3%. Margins of error for comparison of subgroups are higher.

High school graduates have surged online and more internet users than ever have broadband connections at home.

At the time of this survey, August 2006, 70% of American adults say they have internet access. The percentage of high school graduates who go online has increased in the past two years, as has the percentage of internet users who have a broadband connection at home.⁵ The base of the internet population is broadening, as is the base of the broadband-connected health seeker population which turns first to the internet when they have a health question.

⁵ "Home Broadband Adoption 2006" (Pew Internet & American Life Project, May 28, 2006). Available at: http://www.pewinternet.org/PPF/r/184/report_display.asp

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Profile of the Health Seeker Population			
The health seeker population is characterized by a comparatively greater portion of people with college educations and internet users with at least six years of online experience. For example, the "Health Seekers" column should read as "40% of health seekers have at least a college education and 72% have six or more years of online experience."			
Demographic Group	Health Seekers	Internet Population	U.S. Population
Women	54	52%	53%
Men	46	48	47
Age 18-29	23	24	19
Age 30-49	45	43	37
Age 50-64	23	24	24
Age 65+	6	8	17
Less than a high school education	5	5	12
High school diploma	28	28	33
Some college education	27	27	23
College degree or more	40	35	28
Less than 2 years of online experience	3	4	3
2-3 years of online experience	7	9	6
4-5 years of online experience	16	18	12
6+ years of online experience	72	66	46
Dial-up connection at home	23	25	17
Broadband connection at home	66	61	43

Source: Pew Internet & American Life Project August 2006 Survey (N=2,928). Margin of error for the entire sample is +/- 2%.; for internet users it is +/- 3%. Margins of error for comparison of subgroups are higher.

Fifteen percent of internet users have looked online for information about dental health – a new topic in our list.

This year we expanded the list of health topics to include dental health, which garnered 15% of internet users but did not change the overall percentage of "health seekers." Internet users with home broadband connections are more likely than dial-up users to seek dental health information (17% vs. 11%). Sixteen percent of internet users who have seen a doctor in the past year have sought dental health information online, compared with 8% of internet users who have not seen a doctor.

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Health Topics: 2006										
In all, 80% of internet users have looked online for at least one of 17 health topics. Certain subgroups reported significantly higher interest in some topics and are marked in bold/blue type. For example, when compared to online men, online women reported significantly more interest in information about specific diseases, certain treatments, diet, and mental health.										
Health topic	All internet users (n=1990)	Online women (n=1116)	Online men (n=874)	18-29 (n=333)	30-49 (n=751)	50-64 (n=579)	65+ (n=277)	High school or less (n=614)	Some college (n=510)	College grad (n=853)
Specific disease or medical problem	64%	69%	58%	61%	67%	64%	54%	52%	65%	74%
Certain medical treatment	51	54	47	45	56	51	40	41	51	62
Diet, nutrition, vitamins	49	53	45	45	55	49	29	40	52	56
Exercise or fitness	44	46	41	55	47	35	24	35	47	51
Prescription or over-the-counter drugs	37	39	35	29	42	40	30	29	38	45
A particular doctor or hospital	29	31	27	27	33	26	18	21	25	40
Health insurance	28	27	29	23	34	27	12	20	28	37
Alternative treatments or medicines	27	29	25	25	29	29	14	22	29	31
Depression, anxiety, stress, or mental health issues	22	26	17	25	24	20	7	21	24	22
Environmental health hazards	22	21	22	25	23	22	10	16	23	26
Experimental treatments or medicines	18	18	19	18	19	18	14	15	21	20
Immunizations or vaccinations	16	15	17	18	18	12	7	13	15	19
Dental health information	15	14	15	17	16	12	6	13	14	16
Medicare or Medicaid	13	13	13	10	11	15	22	12	14	13
Sexual health information	11	11	12	21	10	7	2	10	15	10
How to quit smoking	9	10	8	13	8	9	3	11	10	7
Problems with drugs or alcohol	8	9	8	14	6	7	2	8	10	7

Source: Pew Internet & American Life Project August 2006 Survey (N=1,990). Margin of error for the entire sample of internet users is +/- 3%. Margins of error for comparison of subgroups are higher. Significant differences between demographic groups are in **bold** type.

Part 2.

A Typical Search for Health Information

We asked respondents to think about the last time they went online for health or medical information, hoping to capture a portrait of a typical health search. As in past surveys,⁶ the typical online health information session is often undertaken on behalf of someone else, starts at a search engine, includes multiple sites, and has a minor impact on the person's health care routine or the way they care for someone else.

Half of health searches are on behalf of someone else.

When someone gets sick, it is often the case that friends and loved ones help out by bringing food, taking care of household chores, or sending their best wishes. It seems that the internet provides another way for Americans to show the love: Serving as an online research assistant.

Forty-eight percent of health seekers say the last time they went online for health or medical information, their quest was related to someone else's situation. Eight percent say their last search was for both themselves *and* for someone else. Thirty-six percent of health seekers say their last search was in relation to their own health or medical situation. Eight percent say they do not remember or did not answer the question.

Parents are more likely than non-parents to look for health information on behalf of someone else: 54% of health seekers with a child under 18 living at home did their last health search on behalf of someone else, compared with 44% of health seekers who do not have children living at home.

Two-thirds of health information queries start at a search engine.

In 2005, the Pew Internet Project reported that search dominates the typical online day and internet searchers' success generates a remarkable sense of confidence and trust in search engines.⁷

This study builds on those findings by showing that 66% of health seekers say their last query began at a general search engine like Google or Yahoo. Twenty-seven percent of health seekers say their last health information session began by going to a specific website they know provides health information and 3% volunteered that it began some

⁶ "Vital Decisions: How internet users decide what information to trust when they or their loved ones are sick" (Pew Internet & American Life Project, May 22, 2002). Available at: http://www.pewinternet.org/PPF/r/59/report_display.asp

⁷ "Search Engine Users: Internet searchers are confident, satisfied and trusting – but they are also unaware and naïve" (Pew Internet & American Life Project, January 23, 2005). Available at: http://www.pewinternet.org/PPF/r/146/report_display.asp

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other way. Five percent of health seekers do not remember or did not answer the question.

Younger health seekers are the most likely age group to start at a search engine. Three-quarters (74%) of health seekers age 18-29 started at a search engine, compared with 65% of e-patients age 30-49 years old. Older health seekers are the most likely age group to start at a specific website they know provides health information: 34% of those age 65 and older did so.

There is a new crop of medical search engines which hope to change the way internet users approach health information online, but since they are so new we did not include them in our survey. Some examples of these “vertical” search engines include: Healthline.com, Healia.com, Kosmix.com, Mammahealth.com, and Medstory.com but the industry also awaits word on Google’s plans for expanding this category of search.

Most visit two or more sites in a typical health information session.

The great majority of health seekers visited at least two websites the last time they got health information online. Only one in five (22%) health seekers say they visited one site. Forty percent say they visited two or three sites. Another fifth of health seekers (21%) visited four or five sites during their last health information session. Eight percent visited six to ten sites and 2% visited between 11 and 20 sites. A stalwart 1% of health seekers visited more than 20 sites the last time they sought health information online. Six percent of health seekers do not remember or did not answer the question.

One-third later talked to a doctor about what they found online. Two-thirds did not.

One of the concerns that the medical community expresses about online health seekers is whether they are self-diagnosing and self-medicating based on the material they find online and without consultation with medical experts. It has probably always been the case that people do not discuss every book, magazine article, or health-related conversation with their doctor. But interest in the typical online health information session persists. This study finds that 33% of health seekers later talked with a doctor or other health professional about the information they found online during their most recent search. Sixty-six percent of health seekers did not talk with a health professional.

In our survey, e-patients whose last search was on behalf of themselves were more likely than those who searched on behalf of someone else to later talk with a doctor about what they found (42% vs. 31%). This makes sense; an internet user might deliver a packet of online health research to a loved one and not accompany that person to her doctor’s appointment to discuss the material.

Indeed, those who have had relatively recent contact with doctors are more likely to have discussed online health information with them. Thirty-five percent of health seekers who

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have seen a doctor in the past year discussed what they found online during their last health information session with a health professional, compared with 23% of those who have not visited a doctor in the past year.

An April 2006 article in the journal *Preventing Chronic Disease* provides an interesting comparison to our question about a respondent's most recent health-related query by asking a more general question. Fifty-three percent of e-patients in their survey said they "sometimes" shared the information they find online with their doctors.⁸

Doctors may play a role in an e-patient's decision to bring up online health information during a clinical conversation. Marc Siegel, an internist and associate professor of medicine at the New York University School of Medicine, recently wrote about his own attitudes toward "know-it-all" patients. A series of bold e-patients who insisted on being partners in their care inspired a profound realization: "Whatever the source of a patient's information, a physician is most effective when he or she isn't defensive, but acts as an interpreter of information and guide of treatment, leaving the ultimate control to the patient."⁹ Doctors who do not reach this conclusion may feel the effects of a changing market. Our 2003 report, "Internet Health Resources," chronicled the way some e-patients respond to doctors who reject their online research: They leave that doctor's practice if they can.

Half of health searches have an impact on the person's own health care routine or the way they care for someone else. But only one in ten health seekers say the effect was major.

Forty-two percent of health seekers report that the health information they found in their last search online had a *minor* impact on their own health care or the way they care for someone else. Eleven percent of health seekers report a *major* impact. Forty-two percent of health seekers report that the information they found in their last search had no impact at all on their own care or how they help someone else.

The impact was most deeply felt by internet users who had received a serious diagnosis or experienced a health crisis in the past year, either their own or that of someone close to them. Fourteen percent of these hard-hit health seekers say their last search had a major impact, compared with 7% of health seekers who had not received a diagnosis or dealt with a health crisis in the past year.

⁸ "Health-related Information on the Web: Results from the HealthStyles Survey, 2002-2003" (*Preventing Chronic Disease*, Vol. 3: No. 2, April 2006). Available at: <http://www.cdc.gov/PCD/issues/2006/apr/toc.htm>

⁹ "Who's in Charge? It's Your Care, Take Control of It, Recommends One Physician" (Washington Post, July 11, 2006). Available at: <http://www.washingtonpost.com/>

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A study of 498 newly diagnosed cancer patients published in the March 2006 *Journal of Health Communication* measured the internet's impact on people facing a health crisis.¹⁰ Patients who used the internet to gather health information were more likely than non-users to be confident about participating in treatment decisions, asking questions, and sharing feelings of concern with their doctors. However, the impact is not always positive according to a July 2006 article in *The Oncologist*: “[T]he risks associated with the use of the internet as an information source for and retailer of [complementary and alternative medicine], whether as preventive, curative, or palliative treatment, should be more explicitly brought to the attention of cancer patients.”¹¹

In our survey, 53% of health seekers reported some kind of impact. This group was asked a series of follow-up questions to elucidate the information's consequence. Since health information can have multiple effects on people's behavior and decision-making, we allowed multiple responses.

Among the internet users who say their last search had either a major or a minor impact:

- 58% say the information they found in their last search affected a decision about how to treat an illness or condition.
- 55% say the information changed their overall approach to maintaining their health or the health of someone they help take care of.
- 54% say the information lead them to ask a doctor new questions or to get a second opinion from another doctor.
- 44% say the information changed the way they think about diet, exercise, or stress management.
- 39% say the information changed the way they cope with a chronic condition or manage pain.
- 35% say the information affected a decision about whether to see a doctor.

In general, few say they are harmed and many are helped by following medical advice or health information found on the internet.

In addition to the impact felt by their last online health information search, 31% of health seekers say they or someone they know has been significantly helped by following medical advice or health information found on the internet. That translates to about 35 million adults who report knowing about a significantly positive effect. Just 3% of health seekers, or about 3 million adults, say they or someone they know has been seriously harmed by following the advice or information they found online.

¹⁰ “Relationship of Internet Health Information Use with Patient Behavior and Self-Efficacy: Experiences of Newly Diagnosed Cancer Patients Who Contact the National Cancer Institute's Cancer Information Service.” (*Journal of Health Communication*, March 20, 2006). Abstract available at: <http://www.gwu.edu/~cih/journal/>

¹¹ “Complementary and Alternative Medicine During Cancer Treatment: Beyond Innocence” (*The Oncologist*, July 2006). Abstract available at: <http://theoncologist.alphamedpress.org/>

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These findings build on previous Pew Internet & American Life Project surveys which have found that the vast majority of health seekers say the benefits of online information outweigh the risks. In a February-March 2005 survey, we asked respondents first whether they had helped someone deal with a major illness or health condition within the past two years and, if they had, whether the internet played a crucial role, an important one, a minor role, or no role at all in this event. E-caregivers who said the internet played a crucial or important role were then asked if they got bad information or advice online that made their experience more difficult. Six percent of these respondents said yes; 91% of e-caregivers said that was not a problem for them.¹²

Health seekers feel mostly reassured, confident, and comforted by what they find online.

We gave respondents eight different ways – four positive and four negative – to describe how they felt during their last search for health information online. People were much more inclined to identify with the positive descriptions. By far the most popular choice read as follows: “At any point, did you feel reassured that you could make appropriate health care decisions?” Fully 74% of health seekers said yes, that described how they felt during their last online health information session.

In addition:

- 56% say they felt confident to raise new questions or concerns about a health issue with their doctor.
- 56% say they felt relieved or comforted by the information they found online.
- 51% say they felt eager to share their new health or medical knowledge with others.

On the other hand:

- 25% say they felt overwhelmed by the amount of information they found online.
- 22% say they felt frustrated by a lack of information or an inability to find what they were looking for online.
- 18% say they felt confused by the information they found online.
- 10% say they felt frightened by the serious or graphic nature of the information they found online.

Health seekers with a high school education or less are more likely than those who graduated from college to say they were relieved or comforted by the information they found online during their last health query. Health seekers with a high school education or less are also more likely than those with a college degree to say they felt eager to share their new health or medical knowledge with others. Yet health seekers with less

¹² “Finding Answers Online in Sickness and in Health” (Pew Internet & American Life Project, May 2, 2006)
Available at: http://www.pewinternet.org/PPF/r/183/report_display.asp

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education are also more likely than college graduates to express negative feelings about the information they found online (see chart below).

Health Seekers: Mostly reassured, some overwhelmed			
Feelings About Last Health Search	All Health Seekers	Health Seekers with HS Diploma or Less	Health Seekers with College Degree
Reassured that you could make appropriate health care decisions	74%	77%	72%
Confident to raise new questions or concerns about a health issue with their doctor	56	54	57
Relieved or comforted by the information they found online	56	64	53
Eager to share their new health or medical knowledge with others	51	57	45
Overwhelmed by the amount of information they found online	25	33	20
Frustrated by a lack of information or an inability to find what they were looking for online	22	27	18
Confused by the information they found online	18	24	15
Frightened by the serious or graphic nature of the information they found online	10	13	8

Source: Pew Internet & American Life Project August 2006 Survey. Margin of error for health seekers (N=1,594) is +/- 3%. Margin of error for comparing education categories is +/- 6%.

Part 3.

Eroding Attention to the Details of Information Quality

Three-quarters of health seekers do not consistently check the source and date of the health information they find online.

In 2001, the Pew Internet & American Life Project collaborated with the Medical Library Association¹³ to devise a series of questions about how internet users conduct health information inquiries. At that time, using a somewhat different methodology to identify health seekers and ask in-depth questions of health seekers, we found that only one-quarter were vigilant about following the research protocol recommended by medical librarians, that is, to always check the source and date of the information found online.¹⁴ Another quarter of health seekers checked the source and date of health information online “most of the time.” About half of health seekers reported they “only sometimes, hardly ever, or never” check the source and date of health information online.

We now find that the percentage of “vigilant” health seekers who always check the source and date of health information found online has dropped to about 15%. An additional 10% of health seekers fall into the “concerned” category by reporting that they check these two essential information quality indicators most of the time. Approximately three-quarters of health seekers say they check the source and date only sometimes, hardly ever, or never and therefore fall into the “unconcerned” category. That last group translates to about 85 million Americans who are gathering health advice online without consistently examining two key information quality indicators, as identified by the Medical Library Association.

Few health sites display the source and date, along with other information quality indicators.

Health seekers might be forgiven if they give up what at times is a search for a needle in a haystack. A recent study commissioned by the U.S. Department of Health and Human Services (HHS) finds that a tiny percentage of health sites display the source and date of the information on their pages.¹⁵

¹³ Medical Library Association: A User’s Guide to Finding and Evaluating Health Information on the Web. Available at: <http://www.mlanet.org/resources/userguide.html>

¹⁴ “Vital Decisions” (Pew Internet & American Life Project, 2002). Available at: http://www.pewinternet.org/PPF/r/59/report_display.asp

¹⁵ CDC Wonder Data 2010. Healthy People 2010 Health Communication Focus Area 11, Objective 11-4.

The study is part of Healthy People 2010, an initiative led by HHS to improve the health of all Americans. One goal within Healthy People 2010 is to increase the proportion of health-related websites that disclose information that can be used to assess the quality of the site. HHS's Office of Disease Prevention and Health Promotion, working with industry experts, identified six types of information that should be publicly disclosed to health seekers: the identity of the site's sponsors, the site's purpose, the source of the information provided, privacy policies to protect users' personal information, how users can provide feedback, and how the content is updated. Of the 102 websites reviewed for the report, none met all six of the disclosure criteria and only six complied with more than three criteria. Just 4% of "frequently visited" health websites disclosed the source of the information on their pages and 2% disclosed how the content is updated. Less-popular health sites fared even worse: 0.3% of these sites listed their content's source and only 0.1% disclosed how the content is updated.

Consumers check food labels more often than they check the source and date of health information online.

It is interesting to note that American adults are likely to pay attention to informative labels when they are more readily available. A September 2006 Wall Street Journal/Harris Interactive online survey found that 17% of American adults "always" read food labels that provide nutritional information in order to make informed food choices for themselves or for their family. An additional 34% of adults say they "very often" read labels. Forty-four percent of adults say they read food labels "sometimes" or "hardly ever." Five percent of adults say they "never" read food labels.¹⁶

Demographic shifts are one factor in the erosion of concern about information quality.

One aspect of the landscape that has changed since 2001 is the broadening base of the internet population. In 2001, 46% of high school graduates had access to the internet. In 2006, 60% of high school graduates have access. By contrast, college graduates only modestly increased their numbers online during the same time period (going from 89% to 91%).

While less-educated Americans are increasing their numbers online, they are less likely than college-educated internet users to look online for health information and less likely to check the two information quality indicators included in our survey. Seventy percent of internet users with a high school diploma have looked online for information about at least one of seventeen health topics, compared with 89% of internet users with a college degree. Fully 80% of health seekers with a high school diploma fall into the "unconcerned" category, compared with 64% of health seekers with a college degree. On the other end of the spectrum of vigilance, 9% of health seekers with a high school

¹⁶ "Most Americans Read Labels When Choosing Food, Poll Finds" (Wall Street Journal Online/Harris Interactive Health-Care Poll, September 26, 2006). Available at: <http://online.wsj.com>

diploma say they “always” check the source and date of health information they find online, compared with 20% of health seekers with a college degree.

This gap between Americans with more and less education dovetails with the data laid out in the September 2006 report by the National Center for Education Statistics, “The Health Literacy of America’s Adults.” It found that Americans with less education often lack the skills required to read and understand written health information encountered in daily life.¹⁷ Fully 49% of Americans who had not attended or completed high school have “below basic” health literacy. Fifteen percent of high school graduates have “below basic” health literacy and just 3% of college graduates have such low levels of health literacy. On the other end of the scale, 4% of high school graduates are “proficient” (able to handle more complex health information), compared with 27% of college graduates and 33% of Americans who have done graduate work. In addition, the report found that 80% of people with below basic health literacy do not use the internet for health information, nor do about one-half of people with basic health literacy.

Health seekers’ success may bolster their sense of confidence about what they find online.

Another factor in the eroding attention to information quality indicators is the sense of confidence and efficacy prevalent among most internet users. Recall that only one in five health seekers say they felt “frustrated by a lack of information or an inability to find what they were looking for online” during their last search for health information online. And only 3% of health seekers say they or someone they know has been seriously harmed by following the advice or information they found online.

This echoes what the Digital Future Report found in 2004: Fewer than 20% of health seekers said they wanted more health information, but did not know where to find it online or did not have time to get it. The same study found that about only one in five health seekers said they were concerned about the quality of the health information they encountered online.¹⁸

Many health seekers would likely agree with a September 2005 article in PLoS Medicine which reported that “for many clinical scenarios, Google and other search engines can provide, quickly enough, an answer that is good enough.”¹⁹

¹⁷ “The Health Literacy of America’s Adults: Results from the 2003 National Assessment of Adult Literacy” (National Center for Education Statistics, September 6, 2006) Available at: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006483>

¹⁸ “Surveying the Digital Future: Year Four” (The Center for the Digital Future: <http://www.digitalcenter.org/>).

¹⁹ “Using Search Engines to Find Online Medical Information” (PLoS Medicine, Vol. 2, No. 9, September 2005). Available at: <http://medicine.plosjournals.org>

Methodology

This report is based on the findings of a daily tracking survey on Americans' use of the internet. The results in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International between August 1 to August 31, 2006, among a sample of 2,928 adults, 18 and older. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2.0 percentage points. For results based on internet users (n=1,990), the margin of sampling error is plus or minus 3 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.

The sample for this survey is a random digit sample of telephone numbers selected from telephone exchanges in the continental United States. The random digit aspect of the sample is used to avoid "listing" bias and provides representation of both listed and unlisted numbers (including not-yet-listed numbers). The design of the sample achieves this representation by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange, and bank number.

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 10 attempts were made to complete an interview at sampled households. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each household received at least one daytime call in an attempt to find someone at home. In each contacted household, interviewers asked to speak with the youngest male currently at home. If no male was available, interviewers asked to speak with the youngest female at home. This systematic respondent selection technique has been shown to produce samples that closely mirror the population in terms of age and gender. All interviews completed on any given day were considered to be the final sample for that day.

Non-response in telephone interviews produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population, and these subgroups are likely to vary also on questions of substantive interest. In order to compensate for these known biases, the sample data are weighted in analysis. The demographic weighting parameters are derived from a special analysis of the most recently available Census Bureau's March 2005 Annual Social and Economic Supplement. This analysis produces population parameters for the demographic characteristics of adults age 18 or older, living in households that contain a telephone. These parameters are then compared with the sample characteristics to construct sample weights. The weights are derived using an iterative technique that simultaneously balances the distribution of all weighting parameters.

Following is the full disposition of all sampled telephone numbers:

Table 1: Sample Disposition	
	<u>Final</u>
Total Numbers dialed	23,853
Business	1,996
Computer/Fax	1,473
Cell phone	15
Other Not-Working	4,084
Additional projected NW	3,754
Working numbers	12,531
Working Rate	52.5%
No Answer	337
Busy	65
Answering Machine	1,297
Callbacks	304
Other Non-Contacts	1,042
Contacted numbers	9,487
Contact Rate	75.7%
Initial Refusals	4,823
Second Refusals	1,034
Cooperating numbers	3,630
Cooperation Rate	38.3%
No Adult in HH	40
Language Barrier	465
Eligible numbers	3,125
Eligibility Rate	86.1%
Interrupted	197
Completes	2,928
Completion Rate	93.7%
Response Rate	27.1%

PSRAI calculates a response rate as the product of three individual rates: the contact rate, the cooperation rate, and the completion rate. Of the residential numbers in the sample, 76 percent were contacted by an interviewer and 39 percent agreed to participate in the survey. Eighty-six percent were found eligible for the interview. Furthermore, 94 percent of eligible respondents completed the interview. Therefore, the final response rate is 27 percent.