

## Special Article: Internet emboldens patients, transforms doctor-patient relationship, new studies suggest

### Summary

New research that examines the Web's influence on healthcare suggests that cancer patients who get health information from the Internet see their relationship with their physicians as a "partnership" that has positive effects on the patients' attitudes towards treatment. Another study shows that increasing numbers of patients want to use email to communicate with their physicians, but physicians are wary of this.

Web pages touting health information are as common as online shopping and sites pitching second mortgages. As people become more Internet-savvy, physicians are seeing a larger share of patients who are better informed about healthcare than they used to be.

Two recent studies suggest that patients who get medical information from the Internet feel more empowered to discuss their condition with their physicians, and that patients want to use email to communicate with physicians. Both studies highlight a new relationship between patients and care givers.

In the first study, published in *The Journal of Health Communication* (2006 Mar;11[2]: 219-36.), researchers at Temple University (Philadelphia, Pennsylvania) followed 498 patients who recently received a first-time diagnosis of cancer.

"It is important to look at this group who never had cancer before, and are in the midst of deciding what to do," says principal investigator Sarah Bass, Ph.D., M.P.H., professor of public health at Temple's School of Public Health.

Bass and colleagues followed patients for the first few months after their diagnoses, at a time when they are consulting

physicians to decide on a treatment plan. Subjects were recruited from a group who called the National Cancer Institute (NCI) 1-800 helpline, a service in which operators answer questions about cancer and direct callers to local cancer care resources. Patients were grouped into three categories: those who used the Internet to search for cancer information (direct users), those who had friends give them information from the Internet (indirect users), and those who received no information from the Internet (non-users). The patients were asked to complete a survey during their initial call to the helpline and at an eight-week follow-up. The survey assessed the patients' task behavior (i.e., how they related to their disease and how they interacted with their care givers), and the patients' reasons for using the Internet.

The patients' task behaviors are related to self-efficacy—a person's perception of their ability to reach a goal. In this case, self-efficacy refers to the patients' attitudes about going through cancer treatment: how they think they will be able deal with the stresses and lifestyle changes that accompany treatment.

"Self-efficacy is the confidence in being able to do something specific, to get

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through treatment, to deal with side effects (of chemotherapy), to talk with friends and family about the disease," Bass told ECRI.

Previous studies have indicated that patient-provider interactions are greatly affected by patient self-efficacy. One goal of the study by Bass and colleagues was to examine the relationship between Internet use and self-efficacy.

Bass' group found that patients who used the Internet showed greater self-efficacy than patients who didn't use the Internet, and that patients increased their Internet use over the eight-week study period.

Investigators measured task behavior by asking patients how they thought they interacted with their physicians in making treatment decisions, what information patients gathered before an appointment, what questions patients asked, if patients carried out their physicians' treatment recommendations, and patients' overall satisfaction with their physicians.

Of all patients surveyed, 74% of direct users, 77% of indirect users, and 57% of non-users said that they had a supportive partnership with their physicians in making treatment decisions, as opposed to either the physician or the patient making all the decisions. More non-users said that their physicians make all the treatment decisions.

Of the patients who asked their physicians questions, 83% of direct users, 66% of indirect users, and 53% of non-users prepared lists of questions ahead of their appointments.

"If [online] information is useful and relevant, it can facilitate discussion between physicians and patients," says Sybil Biermann, M.D., associate professor of orthopedics, University of Michigan Medical School (Ann Arbor, Michigan) and an author of several studies on patients and Internet use, "The challenge is to find the best information available," Biermann told ECRI.

Interestingly, direct users were less likely to carry out their doctors' orders. Although this may seem surprising at first, the researchers suggested that this was because the patients opted for different but presumably effective treatments.

"It seems counterintuitive, but it actually isn't," says Bass. "The patient is saying, 'I have more knowledge, I'm going to make my decision on what happens to my body,'" she notes.

"I'm not sure if it's a good or a bad thing," Bass says. "It's probably a good thing if we're not blindly following doctors' orders, but it could be bad if they're following some bogus Internet treatment that isn't going to help them," she says.

Bass and colleagues found that 19% of the patients increased their Internet use between the initial survey and the eight-week follow-up. That is, 19% of the patients moved from either "non-user" to "indirect user" or "indirect user" to "direct user" of Internet-generated healthcare information.

To understand what motivated patients to turn to the Internet for help, the investigators asked patients a series of yes-or-no questions about why they increased their Internet-based health research. The most common reasons for greater Internet reliance were: because of the diagnosis (82%), to answer questions about treatment options (87%), and because someone offered to help the patient search the Internet (87%). Few patients attributed their greater use of the Internet for researching health information to encouragement from their physicians (5%) or other health care workers (15%).

Patients' responses to questions about participating in treatment decisions, asking questions, and sharing their concern with others showed direct correlation between Internet use and the patients' self-efficacy. This finding is important because medical scientists believe that patients with greater self-efficacy can better change their behavior and become confident that they can stick with their behavioral changes. Previous studies on cancer patients have shown that increased feelings of self-efficacy have related positively to behaviors involving screening and prevention, psychosocial adjustment, and general quality of life.

The study by Bass and colleagues was the first to establish a relationship between self-efficacy and Internet use in cancer patients. The study was not designed to examine the results of patients' self-efficacy

behaviors, including behavioral changes, adjustment and quality of life.

### **Physician perspectives**

A recent report by Biermann and colleagues published in *the Journal of the American Academy of Orthopaedic Surgeons* (2006 Mar;14(3):136-44.) discussed how the Internet can affect physician-patient relationships.

“The availability of medical information on the Internet has changed the whole paradigm between physicians and patients,” Biermann says. “The physician reactions to this run the whole spectrum, but the majority of them realize it can be helpful,” she notes.

One serious concern about Web-based health information that troubles physicians is misleading or inaccurate information, which could have disastrous effects on vulnerable patients. Patients armed with misinformation may feel that their physicians’ advice is wrong, which could result in mistrust and a poor relationship between the physician and patient. To avoid such a conflict, Biermann and colleagues suggest that physicians keep an open mind and have a list of reliable websites to give to patients. Some medical societies have tools to help physicians build their own websites.

Well-informed patients (who gather information from the Internet or otherwise) can use time at office appointments more efficiently if their physician does not have to explain the background and basics of their conditions. Time can be spent asking physicians questions and discussing treatment options.

### **Email**

When used properly, email can provide another time-saving device for patients and their physicians. A 2002 poll by the market research firm Harris Interactive ([http://www.harrisinteractive.com/newsletters/healthnews/HI\\_HealthCareNews2002Vol2\\_Iss08.pdf](http://www.harrisinteractive.com/newsletters/healthnews/HI_HealthCareNews2002Vol2_Iss08.pdf)) found that more than half of people polled said that the willingness to send emails would influence their

choice of physician. However, physicians remain wary of the practice for a few reasons.

First, because email is easy to use and people use it often, physicians are afraid of drastically increased workloads related to answering patients’ email. Second, physicians are worried that they will not be reimbursed for the extra work associated with answering patients’ email. However, several insurers do have pilot programs to investigate how to reimburse clinicians for “e-visits.”

“Offices have to be set up to receive patients emails, otherwise it can be an inefficient conduit of information,” Biermann explains. “A number of good setups can provide a better service for patients, but they may not be applicable to every physician,” she says.

Unsecured Internet connections may result in leaks of confidential medical information. In fact, regular (unencrypted) emails are in violation of HIPAA (Health Insurance Portability and Accountability Act) and several state medical confidentiality laws. The American Medical Association provides encrypted email service with a built in billing feature.

“Over the next couple of decades (physician-patient emails) will be more common,” says Biermann. “Technology will catch up with HIPAA rules and the system will be easier and safer.”

Some experts believe that the Internet has the potential to improve patient care, both through saving time during physician consultations and by empowering patients with basic medical knowledge. Although physicians may have to adapt to some changes that result from greater patient reliance on the Internet as a source of health information, the patient benefits should make this worthwhile.

“Internet use by even indirect users made a difference in how people perceived their doctor and how confident they were to be able to get through treatment,” says Bass.