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## The physician-patient relationship in an electronic environment: a regional snapshot

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### INTRODUCTION

The widespread availability of medical information on the Internet and the impact of this on the physician-patient relationship was a significant development in health care in the 1990s. It has been estimated that more than 40% of searches on the Internet are for health-related information [1]. An estimated sixty million patients annually turn to the Internet, sometimes instead of a family physician, for health care information [2]. It is safe to say that the volume of health and medical information accessible to patients and

physicians at the turn of the century far exceeds that anticipated by all sectors of health care.

Without question, access to information on the Internet is having a profound effect on the practice of medicine. Patients now have access to information heretofore available only to health care professionals. Although data are not readily available, evidently, “many clinicians are finding themselves upstaged and ill prepared to cope with patients who bring along information downloaded from the Internet” [3]. With Web technology becoming increasingly pervasive, not knowing the information-seeking patterns of patients puts physicians at a distinct disadvantage [4].

### BACKGROUND

A review of the literature reveals that a number of articles have been published in recent years on topics relating to the physician-patient relationship in the electronic environment; for example, articles focusing on how individual practitioners can manage such an environment by communicating effectively with Internet-literate patients [5], setting up Websites for patients [6, 7], advising patients in evaluating information found on the Web [8], or helping them understand the opportunities and pitfalls in the electronic environment [9]. What is not as clear is the magnitude of use of electronic information by individual health care professionals in actual practice or the degree of physician-patient interaction in discussing information found on the Internet. Likewise, little is known about the opinions or attitudes of health care professionals regarding patient use of the Internet to find medical information. Much of what is known has been reported online and reflects results of “quick surveys” or short commentaries on this topic. For example, Doctor’s Guide to the Internet† periodically queries visitors to the site to gather information on such topics as patients sharing health-related information found on the Internet with health care professionals and practices among health care professionals in referring patients to a specific health-related Website. Likewise, Medscape.com reports in the results of a survey by Healthon Corp (now Healthon/WebMD), that 85% of physicians now use the Internet [10].

### PURPOSE/METHODOLOGY

In this context, the authors sought information from health care providers associated with the University of Illinois at Chicago (UIC) College of Medicine in Rockford to learn more about their actual use of MEDLINE and other Web-based resources to seek patient infor-

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\* Lanier retired from this position on January 31, 2000; Hollander assumed the position of acting health sciences librarian at this time.

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† Doctor’s Guide to the Internet may be viewed at <http://docguide.com>.

mation, their awareness or assessment of patient use of the Internet to locate health information, and their opinion of patients who seek medical or health information via the Internet on their own behalf.

In late 1999, a short questionnaire was mailed, along with a cover letter explaining the purpose of the inquiry and a list of health-related Websites, to 599 health care providers (physicians, nurses, pharmacists, and psychologists or social workers) affiliated with the UIC College of Medicine in Rockford and involved in some aspect of patient care. Providers represented all medical specialties and included community physicians practicing in Northwest Illinois and holding adjunct faculty appointments because they work with UIC students. It also included physicians, nurses, and family practice residents staffing UIC owned and operated primary care clinics.

**RESULTS**

One hundred and fifty health care providers completed and returned the questionnaire. Nineteen responses were considered not usable and were eliminated, resulting in a usable response rate of 21.8%. A majority of respondents (88.4%) were physicians; nurses comprised the second largest group (7.8%). Approximately one-half of respondents graduated from professional programs before 1980 and one-half after that time.

All of the respondents included in the analysis indicated they had access to a computer with Internet access either at home (22.1%), at the office (5.3%), or both at home and at the office (72.5%). Most (82.4%) used a computer daily; the rest were weekly users. Almost all respondents (95.4%) used email, primarily to correspond with friends and family. A little more than half (52.7%) used email to communicate with colleagues. Only a small group of fifteen reported they used email to communicate with patients.

A sizeable percentage of this group of health care providers indicated they *personally* search MEDLINE (61.1%) and/or the Internet (81.6%) for medical information relating to patient care. Approximately half of the group considered themselves novice searchers, and half considered themselves experienced searchers; a very small number considered themselves expert in searching MEDLINE or the Internet generally.

One set of questions related to patient use of the Internet to search for health information and the health care professional's response to this practice. A little more than one-third (35.9%) of respondents felt many (defined as > 10) of their patients searched for medical information on the Internet; 41.2% perceived only a few patients were doing this. The majority of respondents (78.8%) could not determine whether their patients were searching MEDLINE for health information. A little more than half of the providers occasionally encouraged their patients to search the In-

**Table 1**  
Physician attitudes or opinions regarding patient use of the Internet to locate health information

	Strongly agree or Agree	Neutral	Disagree or Strongly disagree
Patients who secure information on their own communicate better with health care providers.	69.0	26.4	4.7
Patients who find health information on their own are generally more compliant.	40.0	38.5	21.5
Patients who find health information on their own are generally less anxious about their health.	18.4	31.5	50.0
Information brought in by patients sometimes influences my treatment plan.	45.4	34.6	20.0
Physicians or other health care providers should provide patients with a list of reliable Websites.	72.3	29.2	8.5
Patients generally are not knowledgeable enough to understand much of what is in MEDLINE.	43.0	27.3	29.7
Patients should <i>not</i> have access to MEDLINE.	5.5	20.9	73.7
Health professionals do not have the time to answer a lot of questions generated by information patients retrieve from the Internet.	51.5	39.8	8.6
Patients should discuss information from the Internet with their health care providers.	93.0	6.9	0
Information on the Internet may not be reliable.	88.4	10.8	0.8
Health professionals should search the Internet to learn more about what their patients are using to find information to answer their questions.	62.0	31.0	7.0

ternet for information relating to their condition. One-third provided patients with specific Websites; many more were considering this practice in the near future. Most providers (79.1%) cautioned patients regarding the reliability of information found via the Internet and encouraged patients to share this information with them.

Providers were asked to rate a number of statements pertaining to patient use of the Internet and how the providers felt this practice might affect the physician-patient relationship and influence treatments. A 5-point Likert scale was used to rank responses from "Strongly Agree" to "Strongly Disagree." Responses to these statements are summarized in Table 1.

Several comments were offered that shed additional light on how health care providers in Northwest Illinois felt about the electronic information age and its impact on the physician-patient relationship. Most would agree they needed to know more about what was available on the Web, so that they could advise patients. Many also acknowledged that the one obstacle to this happening was time.

**DISCUSSION/CONCLUSIONS**

John H. Renner, M.D., president of the National Council for Reliable Health Care Information, states, "With over 10 million resources on the Internet, consumer

health information and patient education programs are the most rapidly expanding segment of the World Wide Web . . . as a health care professional, steering your [patients] to accurate information is a significant obligation" [11]. While recognizing this obligation, most physicians lack time to keep up with the burgeoning medical literature in their field, let alone time to search the Internet to view what their patients may be viewing.

This survey of health care providers in Northwest Illinois indicates they recognize the Internet is helping to create a group of more informed (or misinformed) and empowered patients and acknowledge this will change the physician-patient relationship. Many of these practitioners themselves search MEDLINE or the Internet for patient information. Close to two-thirds of those participating in this study agree they need to make time to learn more about what types of medical and health information are found on the Internet, and they need to advise patients of reliable Websites to search. One respondent aptly sums it up, "Information technology, when used appropriately, can be an excellent resource for both physician and patient alike. Despite its shortcomings (misinformation [that] can lead to premature or inappropriate conclusions), the Internet can offer a depth of information, discussion, and support that the physician rarely has time for in the office visit setting." It is likely many would agree with their colleague's assessment that the Internet provides an opportunity for establishing direct communication with patients and, at the same time, it may bring home the message that it is impossible for physicians to keep up with all of the latest in medicine.

The evolving physician-patient relationship in an electronic environment poses many questions and has implications for practice, policy, medical education, continuing medical education, and beyond. This environment provides exciting opportunities for collaboration between health care practitioners and their patients. Pemberton and Goldblatt suggest this calls for a revised physician-patient relationship based on trust and teamwork. While many, if not most, physicians lack the time to routinely search for patient information on the Web, patients often not only have the time but the desire to search for information regarding their own health problems. Pemberton and Goldblatt advise, "rather than being intimidated by information overload, doctors may do well to acknowledge the problem and cooperate with patients in changing the concept of whose responsibility it is to 'own' the information" [12]. One author, a physician, states "as clinicians we must become comfortable in a new role, that of intermediary between patients and the information they obtain from other sources . . . by taking a non-judgmental stance, we thus enable them to par-

ticipate more in their own health care while avoiding potentially harmful advice" [13].

While results of this survey reflect a relatively small number of respondents and may overestimate physicians' interest in this topic, they suggest an expanding role for librarians and information specialists in medical settings, both academic and clinical. For example, in training students and practitioners to search the medical literature (specifically, MEDLINE), we may also introduce MEDLINE<sup>plus</sup>, the National Library of Medicine's consumer-oriented Website that links to MEDLINE as well as Websites of interest to both health care professionals and patients, including the American Medical Association, medical specialty sites, government agencies, and more. We must emphasize outreach within our institutions as well as in the broader community and share our skills and knowledge with health care providers, their staff, and patients to enable them to search the Internet more effectively and evaluate the information they find wisely. We must take greater strides in building partnerships with public libraries and others who have an interest in disseminating medical information. Opportunities for enhancing access to reliable health information available via the Internet are endless.

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