Original Research

References

- Government Accounting Office. Consumer health informatics: emerging issues. Publication of the Government Accounting Office/Accounting and Information Management Division—96-86, July 1996.
- Robinson TN, Patrick K, Eng TR, Gustafson D for the Science Panel on Interactive Communication and Health. An evidence-based approach to interactive health communication: a challenge to medicine in the information age. *JAMA* 1998; 280:1264-9.
- Eng TR, Maxfield A, Patrick K, Deering MJ, Ratzan S, Gustafson D. Access to health information and support: a public highway or a private road? IAMA 1998: 280:1371-5.
- 4. Coiera E. The internet's challenge to health care provision. *BMJ* 1996; 312:3-4
- 5. The web of information inequality [editorial]. *Lancet* 1997; 349:1781.
- Silberg WM, Lundberg GD, Musacchio RA. Assessing, controlling, and assuring the quality of medical information on the internet. Caveant lector et viewor—let the reader and buyer beware. JAMA 1997; 277:1244-5.
- Sonnenberg FA. Health information on the internet: opportunities and pitfalls [editorial]. Arch Intern Med 1997; 157:151-2.
- Wyatt JC. Commentary: measuring quality and impact of the world wide web. BMJ 1997; 314:1879-81.
- Federal Trade Commission. North American Health Claim Surf Day targets internet ads: hundreds of e-mail messages sent. Press release, Nov. 5, 1997. (www.ftc.gov/opa/9711/hlthsurf.htm [May 12, 1998].)
- Impicciatore P, Pandolfini C, Casella N, Bonati M. Reliability of health information for the public on the world wide web: systematic survey of advice on managing fever in children at home. BMJ 1997; 314:1875-9.
- Food and Drug Administration. FDA warns consumers on dangerous products promoted on the internet. FDA Talk Paper T97-26, June 17, 1997.
- 12. Bower H. Internet sees growth of unverified health claims. BMJ 1996; 313:497.
- 13. Micke MM. The case of hallucinogenic plants and the internet. *J Sch Health* 1996; 66:277-80.
- Weisbord SD, Soule JB, Kimmel PL. Poison on line: acute renal failure caused by oil of wormwood purchased through the internet. N Engl J Med 1997; 337:825-7.

- Jadad AR, Gagliardi A. Rating health information on the internet: navigating to knowledge or to Babel? JAMA 1998; 279:611-4.
- 16. Pealer LN, Dorman SM. Evaluating health-related web sites. J Sch Health 1997; 67:232-5.
- 17. Murray PJ, Rizzolo MA. Web site reviews and evaluations. *Nurs Stand Online* 1997 Jul 30; 11(45). (www.nursing-standard.co.uk/vol11-45/ol-art.htm [January 29, 1998].)
- Krippendorf K. Content analysis: an introduction to its methodology. Beverly Hills, CA: Sage, 1980.
- Kotecki JE, Siegel DE. Electronic notes: use of a criticial thinking/ questioning approach to evaluate WWW information. Am J Health Behav 1998; 22:75-6.
- Bowen JW, Klimczak JC, Ruiz M, Barnes M. Design of access control methods for protecting the confidentiality of patient information in networked systems. Proceedings of the American Medical Informatics Association annual fall symposium. American Medical Informatics Association, 1997:46-50.
- National Research Council, Computer Science and Telecommunications Board (US). For the record: protecting electronic health information. Washington: National Academy Press, 1997.
- Patrick K, Robinson TN, Alemi F, Eng TR for the Science Panel on Interactive Communication and Health. Policy issues relevant to the evaluation of interactive health communication applications. Am J Prev Med 1999; 16:35-42.
- Lawrence S, Giles CL. Searching the world wide web. Science 1998; 280:98-100.
- British Healthcare Internet Association. Quality standards for medical publishing on the web. (www.bhia.org/public/reference/recommendations/medpubstandards.htm [May 26, 1998]).
- Health On the Net Foundation. HON code of conduct for medical and health web sites. (www.hon.ch/HONcode/Conduct.html [January 27, 1998]).
- Health Information Technology Institute, Mitretek Systems. Criteria for assessing the quality of health information on the internet. (www.mitretek.org/hiti/showcase/index.html [January 27, 1998]).

COMMENTARY

How patients use the web for second opinions

Kevin Patrick Student Health Services San Diego State University, San Diego, CA 92182-4701 kpatrick@shsin.sdsu.edu Do I need a prostate-specific antigen test? Should I change my allergy medication? Do I really need surgery for this lump in my breast? Where can I find the best specialist care for my child's illness? Our patients and their families have many important questions. Traditionally, one's personal physician has been the professional source first turned to for answers. The time-honored role of the physician is as a counselor as much as a healer. Information provided by a trusted professional can override uncertainty and confusion and bring peace of mind, hope, and even healing.

Times change, however, and with them the means to answer health and medical related questions. Witness the Internet, increasingly available in homes, workplaces, libraries and schools. A recent Harris poll found that 60 million American adults, 68% of those who use the Internet, have used the World Wide Web to find health information. Who among the practicing medical profession can't describe a recent instance in which a patient begins a question with: "I was reading on the web the other night and..."? Sometimes, this can be a pleasant experience in which both doctor and patient share in mutual edi-



Colonia Weller

fication. On the other hand, sometimes the information the patient gleaned from the Web might vary from the clinician's own knowledge and experience. Time permitting, this presents an excellent opportunity for patient (or doctor) education. Unfortunately, time doesn't always permit, and in some cases, the tone of the clinical encounter goes rapidly downhill leaving both patient and provider dissatisfied.

So how does one respond to the increasing use of the Web for "second opinions?" One way is to become familiar with the criteria by which purveyors of Web-based health information are being judged. This issue of WJM presents a review of these criteria (see p.329). The authors searched for all on-line tools, published reports, and recommendations about how to judge the quality of information on health-related Web sites. What was surprising was that only one paper explicitly mentioned assurances of confidentiality and privacy as a criterion worth considering. Privacy and confidentiality of health information is an ever-present concern at both the national and regional² levels. As the authors and others³ have pointed out, this may be one of the most important issues as Webrelated health information and clinical health information systems increasingly merge in the future.

Familiarity with the criteria outlined in this paper can be valuable. While most health care providers won't have the time to explore even a fraction of the health information on the Web, discussing these criteria with a patient can productively reframe the often uncomfortable "But the web said this" situation. Who said it? What sources did

they site? Did they disclose a financial interest in their point of view? How current was the information? Did they convey that this was an area about which reasonable differences of opinion exist? Evidence-based approaches to assuring the quality of Web and other interactive health communication 4 should be invoked when and where possible. 5 As our patients increasingly turn to the web for information and support, helping them learn the right questions to ask may become one of our most important roles.

References

- Health privacy and confidentiality recommendations, National Committee on Vital and Health Statistics, June 25, 1997. (http://aspe.hhs.gov/ncvhs/privrecs.htm).
- Promoting Health And Protecting Privacy, California Healthcare Foundation and Consumers Union, January 1999 (www.chcf.org).
- Patrick K, Robinson TN, Alemi F, Eng TR, for the Science Panel on Interactive Communication and Health. Policy issues relevant to the evaluation of interactive health communication applications. *Am J Prev Med* 1999; 16: 35-42.
- Robinson TN, Patrick K, Eng TR, Gustafson D, for the Science Panel on Interactive Communication and Health. An evidence-based approach to interactive health communication: a challenge to medicine in the Information Age. JAMA 1998; 280:1264-9.
- Science Panel on Interactive Communication and Health. Wired for Health and Well-Being: the Emergence of Interactive Health Communication. Eng TR, Gustafson DH, editors. Washington, DC: U.S. Department of Health and Human Services, Government Printing Office, April 1999.

Netphiles

Although much associated with modern technology and today's breakthroughs, the internet has not ignored the past, as witnessed by an online exhibition of the history of medicine. The Web site, http://www.nlm.nih.gov/exhibition/exhibition.html, comes from the prestigious U.S. National Library of Medicine. The site contains some fascinating material—for example, a section on the history of the cesarean. There are some superb illustrations and, at the bottom of the page, there are links to other services in this substantial site such as Medline.

The internet is a superb repository of information about rare and unusual diseases, but the problem is often tracking down the relevant data. There are some highly rated search engines around, but a good place to start is rarediseases.info.nih.gov/ord/site@index.html, is the site index of the U.S. based Office of Rare Diseases. From here, readers can rapidly assess the relevance of the site to their information requirements. The site also provides links, each with a brief description of the site, to an array of high quality Web resources where more specific information can be found on a rare disorder.

Similarly, the Web is an ideal medium for publishing databases, and there are plenty available, but finding them can be a problem. An excellent guide can be found at www.shef.ac.uk/~scharr/ir/trawling.html. This first class collection will be of interest to a wide variety of health professionals. Each database merits a concise description with, of course, hypertext links that take you directly to the reviewed site. Usefully, all the sites chosen are free to access.

If you want a good all-round resource for pediatric surgery then look no further than home.coqui.net/titolugo/index.htm. It originates from Puerto Rico and is bristling with useful and relevant information, including a journal and a handbook as well as a links page. There is also information about relevant meetings and bodies such as the associated pædiatric surgical department. All this and more is neatly packaged into a colorful and well designed Web site.

If you use a personal computer regularly or even infrequently then you should be interested in the contents of www.pc.ibm.com/us/healthycomputing/index.html. This site is produced by IBM and is a detailed review of how to look after your own or your staff's health and working environment while using a computer. It is an interesting and educational read, and all computer users would probably benefit from spending time absorbing some of the facts and data highlighted here.

The Johns Hopkins Infectious Disease Web site at hopkins@id.edu has plenty to offer both casual surfers and serious researchers. The home page provides a useful launch pad to explore the various components of the site, and the in-house search engine should help to pinpoint any specific information that you require. Among the more usual material that you would expect to find, the tables of facts and figures in "Bartlett's Top 10" (hopkins@id.edu/idfun/topten/index_topten.html) provide some fascinating insights into the world of infectious diseases.

- Harry Brown, Leeds, DrHarry@dial.pipex.com

We welcome suggestions for Web sites to be included in future Netphiles