Editorial

How to be Secure and Get Accurate Medical Information from Internet

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Internet has seeped into every corner of medicine. It is one of the most widely used unprecedented mediums of free expression. With the availability of Web server software, anyone can set up a Web site and publish any kind of data, which is then accessible to all. Internet ignores national and cultural boundaries and its technology is developing with bewildering speed. A single Web site can cover a vast array of unrelated subjects. Conventional print and audio-visual media leave a physical record, while net content is volatile: here today, gone tomorrow. For all these reasons and more, there is a need for a code of conduct to maintain the reliability of medical and health information available on the World Wide Web. The best solution to this at present is self-regulation. This article summarizes all related principles that can help in evaluating the reliability and credibility of the medical information available on Web. In health and medical issues, it is crucial that you obtain accurate information or, if you accept unauthenticated information, you do so with your eyes open. So it's worth your time learning a few guidelines in how to assess the "goodness" of the information you retrieve. The basic rules for evaluating information you find on the Internet are essentially the same as those for evaluating information in the print and broadcast media.

 Questions to ask yourself about Internet- retrieved information

- Who provided the information? What is the reputation of the author?
- What are the author's credentials?
- How up to date is the information? When was the Web page or site last updated?
- Is the information provided based on research?
- How does the design and navigability of the site affect your ability to retrieve information from the site?
- What impressions do you get from the look of the site on its authority and the validity of the information?

The consensus among medical information users[1] is that the key criteria for evaluation of health and medical information on the Internet are content quality, authority and disclosure of information source, currency of information and accessibility of Web sites. Reputable Web sites that provide quality health and medical information will reveal their credentials either on the homepage or via a link on the home page to another page on the

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site and often to reviews of their work on other sites. If a health or medical information Web site provides no information about the author or publisher, or if they cite unfamiliar organizations or publications as their credentials, do not use or quote their information until you find out more about them. The Medical Matrix site, for example, provides a link on its homepage to the names and credentials of all its reviewers.

You should be able to determine when the information was last updated by an explicit statement, which includes the date, on the Web page. When it comes to drugs, diseases, and treatments, whether the intended audience of a site is the healthcare consumer or the healthcare provider, it is critical to know how old the information is. Trust only those sources that include dates when articles were written and when the document was updated. Before accepting information as fact, look for references to research reports or findings on which that information is based.

Of course, if you are already an expert on the topic you are researching or conversant with the vocabulary, you would use further criterias for making judgments, such as whether the terminology is appropriate, whether expected references to prior studies are present, and whether counter arguments and contrary evidence are acknowledged and discussed.

Ten strategies for answering the questions to determine quality:

1.   Read through the Web pages associated with the site, looking for the credentials of the author and identification of the site's sponsor.

2.   Look for the date when the page was produced or revised. That information is often in
small typeface at the top or bottom of the page. If you do not find it there, in Netscape you can go to the View menu and choose View/Page Info/Last Modified. If there is a discrepancy between the date on the Web page and the date in the Last Modified field, the latter is usually the more current and correct, since it is automatically supplied when the page is modified, whereas the date on the Web page is entered by the author or editor, who may have forgotten to revise the date.

3.   View the HTML or page source of Web pages to look for author identification and/or
publication date.

4.   If you are not already knowledgeable about the topic, ask someone who is to review
the information.

5.   Find reviews of Internet resources by reviewers in reputable print and online sources,
or use selective subject directory/electronic library collections you trust to identify resources. This can save you lots of hunting.

6. Go to related sites you trust to see whether there is a link to the site you are
    questioning.

7. Email the person or organization identified as responsible and asks them about
    their
    credentials.

8. If you can't find an email address on the page or in the HTML source information,
    try
    emailing: postmaster@<the base URL>, where the base URL is the first part of the
    URL minus the "www" part. For example, if you want to find the contact for
    http://www.uic.com/evaluating.com and do not see an email address on it, then try
    sending an email to postmaster@uic.com.

9. On a newsgroup or discussion list you trust, ask whether anyone knows about the
    site,
    author, or information in question.

10. Search offline in print sources or in commercial databases to identify the
    authority of
    an Internet Information Provider.

Privacy and Security

Two other aspects important in deciding whether to use or access an Internet site
containing health and medical information are privacy and security. Basically, you have
no privacy when using the Internet. Accessing information on the Internet involves a
certain amount of interactivity and interchange of information between the reader's
computer and the computer housing the Web site used by the reader. Unwelcome
problems can arise from this exchange. For example, people who research diseases such
as asthma, AIDS, venereal diseases, mental illness and other such medical conditions
may not be anonymous to insurance companies and employers. Information providers can
monitor everything that you do on their Web sites and are not beyond selling information
about you to commercial or other biased interests. Software can track your movements
through the site, extract your email address from your Web browser, and get the address
of the computer through which you have your Internet connection. One important tip is
that you can analyze your degree of privacy protection by connecting to
http://Privacy.net/. This site will inform you of how much information about you can be
determined from a simple visit to a Web site.

To avoid this cyber-wiretapping, conduct your Internet searches from public computers,
such as those found in libraries or cyber-cafes. (Just be sure that in the public arena, no
one is looking over your shoulder, and when you end your session, delete your searches
from cache). Also, delete from your browser's set-up screens any personal contact

information, such as your name and email address. Check the documentation for your Web browser to see how you can accomplish this.

Rules of Thumb to Protect Privacy

Be sure you are comfortable having your contribution to a discussion list on a health or medical issue aired as if it were headline news. Any correspondence through email is public. Think before you tell that group of 3000 other sufferers that you have got the same problem. Do you really want them to know? E-mail, even privately sent email, can be reprinted and redistributed easily without your permission.

Be aware that email discussion is neither private nor confidential. Healthcare professionals should use the same discretion in these communications as they would in person or on the telephone. They should ask themselves, "How would I feel if my patient came across my discussion of his or her case in the archives of discussion lists or on newsgroups?"

Security of Internet information can be looked at from two points of view. First, any information that you put into a Web form such as when you register for a service or buy something online can be delivered across the Internet either securely or insecurely. Second, a Web site with critical information on it may be prone to "hacking," vandalism or alteration by individuals who can break into the Web server where the page is published. Insecure Web sites can be hacked. Web security ensures that the information you input will get to the individuals for whom you intend it. It is analogous to using a toll-free number to make a purchase from a catalog using your credit card.

To protect yourself from unwanted access to your personal or financial information, follow simple guidelines[2]:

1.   Do not put any financial or personal information into a Web form without verifying that it is secure. Do this by using your Web browser's functions. In Netscape Communicator click on View then Page Info to see a description of the Web form page's security level. In Internet Explorer, use the Preferences setting for security to have an alert message notify you when you are entering or leaving a secure page. Netscape will form a closed padlock in the lower-left corner if the page you are looking at has security.

2.   Web site security may also involve a level of protection that keeps unauthorized individuals from making changes in the site. Finding out about this kind of security usually requires asking your information provider about what precautions they have taken to ensure this degree of security.

In conclusion I would like to say that although there are no defined sets of rules, principles or regulations to be followed for evaluation and rating of web sites, following the above described principles will help users to filter out all fraudulent information.

REFERENCES

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2.	Strauss K. Quality of medical information on the Internet [letter; comment]. J Am Med Assoc 1997;278:632-3.