Quality of medical information on the Internet

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After the recent US Food and Drug Administration approval of Viagra (sildenafil), the male erectile dysfunction drug, several Web sites came online and began marketing products with names such as 'Vaegra' and 'Viagro'. Though these were in reality nothing more than herbal supplements, by using a similar sounding name and citing the promotional data published by Pfizer Pharmaceuticals the purveyors were trying to mislead potential patients[1]. When Pfizer began filing law suits, these Web sites quickly disappeared.

More distressing are the Web sites that offer 'miracle cures' to people with chronic diseases. The Web pages of the Royal Rife Research Society, for example, have details of an electromagnetic 'frequency instrument' that can destroy cancer, and 'nearly every affliction known to man'[2]. Moreover, it is 'rapid, completely harmless [and has] no side effects'. In one study, or so the site informs the reader, 'every patient recovered without side effects of any kind'. Details of the study are vague, and a search of the MEDLINE database (1996–April 1998), CancerLit and the Cochrane Library yields no mention of the research Rife conducted or any clear evidence to support the claims made by this site.

These two examples demonstrate the potential danger of using the Internet as a source of medical information. However, this does not mean we should stop using the Internet. Just as we appraise stories we read in our newspapers—perhaps giving more credence to an editorial in *The Times* than we would to a reader's letter in a tabloid newspaper–we need to apply the same methodologies to the resources we find on the Internet. With this purpose in mind this article highlights several tools you can use to help ensure that you—or your patients—are not subjected to inaccurate or fraudulent medical information on the Internet.

QUALITY SEARCH FILTERS

OMNI

http://www.omni.ac.uk

Health on the Net

http://www.hon.ch/

Research undertaken by RelevantKnowledge shows that the most visited sites on the Internet are the big non-subject-specific search tools such as Yahoo! and Excite[3]. Though these search tools can be useful, their functionality for retrieving medical information is somewhat limited, for the reasons set out below:

- Too many resources are retrieved. Even when searching for the relatively rare condition 'juvenile arthritis' Excite still identified over 600 Internet resources
- No quality filters are applied. As search engines try to index as much of the Web as possible (large indexes attract a large number of visitors which in turn ensures that the owners can charge high rates for their advertising space), any search is likely to retrieve a mix of authoritative, speculative, and dubious information. Sifting the good from the bad can be difficult and time-consuming

Such problems can be negated by using specialty search tools, such as OMNI and Health on the Net, that have predetermined quality filters. For example, resources only get included in the OMNI database if 'they contain substantive information, of relevance to the OMNI user community. Personal pages or simply collections of pointers to other resources do not meet this requirement and are *de facto* excluded'. A detailed evaluation checklist provides further guidance on how sites are selected[4].

The Health on the Net Foundation have devised their own 'HONoured database' which includes *only* those resources that comply with the Foundation's Code of Conduct. Central to this code is the requirement that any medical information or advice hosted on a Web site must be authored by 'medically/health trained and qualified professionals'. If this condition can not be met then there must be a 'clear statement . . . that a piece of advice offered is from a non-medically/health qualified individual or organisation'.

Details of the search capabilities of these two services can be found in the earlier column 'How to get medical information from the Internet'[5].

CRITICAL APPRAISAL

One of the underlying attractions of the Web is the way you can move seamlessly from one Web site to another, simply by following a hypertext link. However, in doing this it is easy to move from a quality-assured resource to a site where the data may be less reliable or even inaccurate. Consequently, as you navigate through the Web you must

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keep your critical faculties about you. According to Silberg[6] this appraisal can be distilled to four basic questions:

- Are the authors of the Web site clearly stated, along with details of their affiliations and credentials?
- Is the owner of the Web site prominently displayed, along with any sponsorship or advertising deals that could constitute a conflict of interest?
- Are any claims made by the site supported by research findings, and if so are details given to the original source of this data?
- Does the Web page contain details of when it was created and last updated?

If the answers to these questions are not readily available—or not disclosed at all—then any medical/health information given at such sites should be disregarded.

CURRENT INITIATIVES

Health Information Technology Institute

http://www.mitretek.org/hiti/showcase/index.html

MedPICS

http://www.derma.med.uni-erlangen.de/medpics/index.htm

Several initiatives, once developed, may greatly reduce the amount of inaccurate, dubious, and fraudulent health information on the Internet. The Health Information Technology Institute has devised a detailed set of criteria for measuring the quality of any medical Web site. Though this work is still ongoing, HITU hope to produce a checklist that will allow you to assign a score to any Web site. Sites that scored below a defined threshold would be deemed unsuitable as a source for health information.

A more revolutionary approach to quality is being developed by a team of German doctors who have devised medPICS. Based on the PICS (Platform for Internet Content and Selection) standard—originally devised to protect minors from accessing 'adult' sites—medPICS uses electronic tags as a way of filtering the medical information you retrieve from the Internet. These electronic tags could, for example, indicate who the intended audience is (consumers or professionals), whether the information is educational or promotional, and for which countries the information is suitable. Personal preferences are defined within your Web browser (Figure 1).

If this initiative succeeds—and organizations such as the American Medical Association and the World Health Organization agree to become independent rating bureaux—every time you subsequently access a medical Web site the medPICS filter would check to see what labels had been assigned. Dependent upon what these were, and how the browser has been configured, the filter could either block access to the site or display some disclaimer or warning.

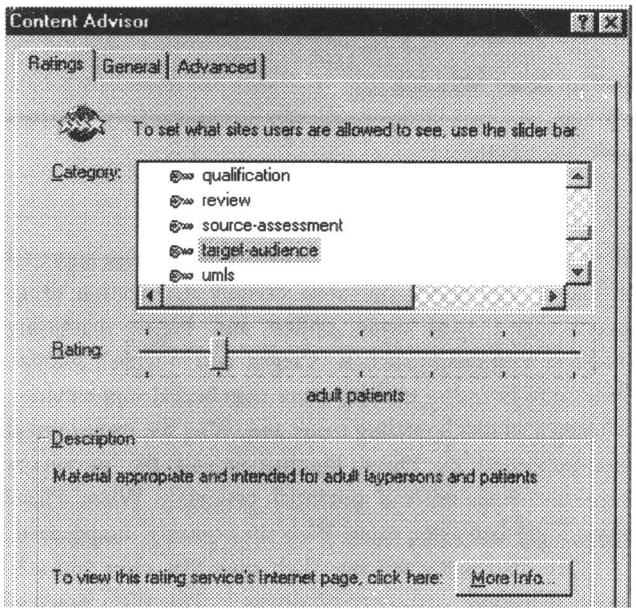

Figure 1 **medPICS—defining the target audience**

ENDPIECE

If you are planning a foreign trip there are numerous sites on the Internet where you can check flight times and availability (http://www.british-airways.com/bookonline/), book hotels (http://www.hotelworld.com), and arrange car hire (http://www.avis.com/reserve-a-car/). One site that brings together a whole range of useful travel information is Yahoo! Travel (http://travel.yahoo.com). From these pages you can quickly identify the prevailing weather conditions, the current rate of exchange, and travellers' health information for numerous destinations throughout the world. A travel guide—from the *Lonely Planet* series—gives additional background information and a flavour of the country or city you intend to visit.

Robert Kiley is editor of *He@lth Information on the Internet: a bimonthly newsletter for health professionals*. (RSM Press). For more details see http://www.wellcome.ac.uk/healthinfo

REFERENCES

1 Ostom C. For new impotence drug, success breeds imitators. *Seattle Times* 22 April 1998. <URL: http://www.seattletimes.com/sbin/iarecord?NS-search-set=/354c4/aaaa003.d4c4698&NS-doc-offset=1&> [Accessed 2 May 1998]

2 <URL: http://www.rrrs.com> [Accessed 28 April 1998]

3 <URL: http://www.relevantknowledge.com/Press/release.html> [Accessed 28 April 1998]

4 <URL: http://www.omni.ac.uk/agec/evalguid.html> [Accessed 28 April 1998]

5 Kiley R. How to get medical information from the Internet. *JRSM*. 1997;**90**:488–90

6 Silberg J. Assessing, controlling and assuring the quality of medical information on the Internet: *Caveat Lector*—let the reader and viewer beware. *JAMA* 1997;**277**:1244–5