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Editorial: Googling a diagnosis

Sue Childs, Editor

sue.childs@northumbria.ac.uk

'How good is Google in helping doctors to reach the correct diagnosis?'

A recent article in the *BMJ*¹ has caused much interest. The study looked at the use of Google to diagnose a patient's condition. There is anecdotal evidence of members of the public putting in a list of their symptoms into the Google search box and seeing if any of the results can help them identify their complaint. I will put up my own hand – I've done this!

The authors of the *BMJ* article decided to explore the question: 'How good is Google in helping doctors to reach the correct diagnosis?'. They selected 26 diagnostic cases from the 2005 case records of the New England Journal of Medicine. Blinded to the correct diagnosis, the authors selected 3–5 search terms from each record, did a Google search, selected the three most prominent diagnoses that seemed to fit the case, then checked against the correct diagnosis. Google came up with the correct answer in 15 cases (58%, 95% confidence interval 38–77%). The authors concluded that: 'Searching with Google may help doctors to formulate a differential diagnosis in difficult diagnostic cases'.

The *BMJ* received a large number of 'Rapid Responses' to this article.

Some were supportive of the idea, as the following comments illustrate:

- *This approach is essentially undertaking a full-text search of a giant database. Full-text searching can be very powerful;*
- *Other respondents pointed out that full-text searching of more health-related resources such as eMedicine or PubMed is more effective. eMedicine <www.emedicine.com/> is a clinical knowledge base for healthcare professionals comprising articles, textbooks and databases. PubMed <www.ncbi.nlm.nih.gov/entrez/query.fcgi> provides free access to the US National Library of*

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Medicine databases, including Medline. One respondent replicated the searches on PubMed and obtained a better success rate;

- *Such an approach may be particularly useful to doctors in developing countries who do not have ready access to information resources: the Web is effectively a free medical library;*
- *Such an approach should be used with caution, and with the normal processes used to arrive at a diagnosis.*

Others were critical, as the following comments illustrate:

- *The research study was poorly designed;*
- *Such an approach goes against the idea of evidence-based practice (EBP). [However, other respondents thought that using Google as one source amongst many others can be part of an EBP approach];*
- *Google is a poor diagnosis decision support system (DDSS). Purpose designed DDSS exist, e.g. Isabel <www.isabelhealthcare.com>, a Web-based system that 'uses natural language processing algorithms that searches by context and meaning a database of medical textbooks and journals – to "understand" rather than just "find";*
- *Use of such a technique by members of the public who lack expert clinical knowledge is worrying. They could be led astray, incorrectly believing they were suffering from a serious disease. One respondent wondered what would happen if the same study was repeated with patients or members of the public.*

The authors' reply to the Rapid Responses noted that: "The intended message of our paper was that in cases of "mystery illnesses", a Web search may be fruitful in finding articles which may suggest a diagnosis which would not otherwise be considered because of its rarity and unfamiliarity with its symptoms and signs. Any article located from the Web should be critically appraised in the usual manner. We are less concerned about the philosophical objections of how an article is located than with its usefulness in patient care."

Of course such a story appealed to the media and was picked up by a number of newspapers and other

news media. News media often over interpret scientific stories – Google will not make doctors instant expert diagnosticians, let alone members of the public!

So what can we conclude from all this debate? It seems to me that it confirms what has often been said about the Web as a source of health information: it is a marvellous resource, but the searcher has to be able to separate the 'wheat from the chaff'. I particularly liked one respondent's comment: 'So, can Mark Twain's remark "Be careful about reading health books. You may die of a misprint" be applied to Google?'. We're back to the need to teach doctors, medical students and members of the public about effective searching techniques and ways of evaluating the quality of Web sites and resources. They also need pointers to the good quality sources of health information so they can concentrate their efforts there.

Reference

1. Tang H, Ng JHK. Googling for a diagnosis – use of Google as a diagnostic aid: internet based study. *BMJ* 2006; 333: 1143–1145 <www.bmj.com/cgi/content/abstract/333/7579/1143>.

Find out about health events online

Did you know that December was **Children's Cancer Month**, and that a **Meningitis Winter Awareness Campaign** is being run?

To find out about such events look on the **Count Me In Calendar** <www.countmeincalendar.info/> or the **UK Fundraising Calendar** <www.fundraising.co.uk/calendar.php>.

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Contributions

Articles and editorial correspondence should be sent to: **Susan Childs**, Information, Knowledge and Systems Research Group, School of Computing, Engineering and Information Sciences, Room 007, Pandon Building, Northumbria University, Camden Street, Newcastle upon Tyne NE2 1XE, UK. Tel: +44 (0)191 227 3761, Fax: +44 (0)191 243 7630. Email: sue.childs@northumbria.ac.uk

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