



UNIVERSITÀ
DEGLI STUDI
FIRENZE

FLORE

Repository istituzionale dell'Università degli Studi di Firenze

Google needs better control of its advertisements and suggested links

Questa è la Versione finale referata (Post print/Accepted manuscript) della seguente pubblicazione:

Original Citation:

Google needs better control of its advertisements and suggested links / M. Masoni; MR Guelfi; GF Gensini.
- In: BMJ. BRITISH MEDICAL JOURNAL. - ISSN 0959-8138. - STAMPA. - 338:(2009), pp. 0-0.
[10.1136/bmj.b1083]

Availability:

The webpage <https://hdl.handle.net/2158/392981> of the repository was last updated on

Published version:

DOI: 10.1136/bmj.b1083

Terms of use:

Open Access

La pubblicazione è resa disponibile sotto le norme e i termini della licenza di deposito, secondo quanto stabilito dalla Policy per l'accesso aperto dell'Università degli Studi di Firenze (<https://www.sba.unifi.it/upload/policy-oa-2016-1.pdf>)

Publisher copyright claim:

La data sopra indicata si riferisce all'ultimo aggiornamento della scheda del Repository FloRe - The above-mentioned date refers to the last update of the record in the Institutional Repository FloRe

(Article begins on next page)



Google needs better control of its advertisements

PERSONAL VIEW **Marco Masoni, Maria Renza Guelfi, Gian Franco Gensini**

Searching for information is one of the most popular uses of the internet, and medical information is among the types of information that are most sought. Therefore how internet search engines present sources of information to users is important. As the internet is not well policed and regulated, it is up to members of the medical community to be vigilant and to suggest improvements.

Google, the most popular internet search engine, earns much of its revenue from advertisements related to search terms entered into it. We have noticed that Google's sponsored links are sometimes to web pages that contain worrying medical claims. On 19 January 2009 we used Google Italia to search on the keyword "aloe." On the first page of results two sponsored links appeared at the top of the page. The first one said (in Italian): "Aloe vera or arborescens? <http://www.aziendaagricolaghignone.it>. To purify use aloe [*Aloe vera*], but in chemotherapy it must be arborescens [*Aloe arborescens*]."

Visiting this website, we found the following statement: "The most important use of Aloe arborescens is as an adjuvant treatment with chemotherapy: it is recommended for preparation as a traditional therapy or when other therapies give no results. Aloe is also recommended as a prevention strategy for people predisposed to this type of pathology."

From the same website you can buy a litre of "Aloe Arborescens Superior," a mixture of extracts from three species of Aloe, for €130 (£120; \$170).

AdWords (<http://adwords.google.com>) is "Google's flagship advertising product" and was its "main source of revenue in 2007" (<http://en.wikipedia.org/wiki/>



Surfers beware

AdWords). The software is used by those who want to display advertisements on Google and on its advertising network. Through it users can create advertisements, choose their own key words, and decide which Google queries their advertisements should match. Google decides on placement on its pages of search results: which advertisements to show and in what order.

But Google's automated matching to search terms sometimes places inappropriate advertisements. For example Google Guide (which is neither affiliated with nor endorsed by Google), says: "In September of 2003, adjacent to a *New York Post* article about a gruesome murder in which the victim's body parts were stashed in a suitcase, Google listed an ad for suitcases. Since that incident, Google has improved its filters and automatically pulls ads from pages with disturbing content" (www.googleguide.com/ads.html).

We think that Google's filters must be

Adjacent to a *New York Post* article about a gruesome murder in which the victim's body parts were stashed in a suitcase, Google listed an ad for suitcases

improved further. Showing an advertisement that links aloe and cancer in response to a query with only the single keyword "aloe" is inappropriate. Worse yet is when the website linked to has false medical claims. If improving the filter is too complex, it would be better simply not to display sponsored links in results of searches on medical terms or products.

But there's a further problem. Appearing immediately under the sponsored links in our search was a short list of "related searches." Such suggested alternative search terms, which don't appear on every search in Google, are automatically generated by an algorithm determining terms related to the search that may be useful to refine the query. In our case, the related link "Padre romano zago" connected us to a website (<http://aloearborescens.tripod.com/>) that contains statements such as: "Cancer can be cured! Padre Romano Zago's cure, Aloe Arborescens, cured many people's cancer!" The site has further pages full of statements and "proofs" aiming to show that *Aloe arborescens* can cure many types of cancer.

Google has often said that it wishes to enter the healthcare arena in many ways. We think that a necessary first step for Google is to improve its filters and algorithms so as to prevent possible harm to its users.

Marco Masoni and Maria Renza Guelfi are researchers, Faculty of Medicine, University of Florence m.masoni@med.unifi.it

Gian Franco Gensini is dean, Department of Critical and Surgical Care, University of Florence

Editorial note: In the past, *bmj.com* has carried advertisements on its pages provided through Google's AdWords service, but this was discontinued after complaints from readers about inappropriate matches between editorial content and advertisements.

Cite this as: *BMJ* 2009;338:b1083

A reformation for our times

PERSONAL VIEW **Joanne Shaw**

We are experiencing a healthcare reformation. Traditional paternalistic relationships between patients and doctors are being undermined in much the same way as the religious Reformation of the 16th century empowered the laity and threatened the 1000 year old hierarchy of the Catholic church in Europe. The Reformation had irreversible consequences for Western society; the implications of the healthcare reformation could also be profound.

Before Martin Luther it was the custom for everyone in Catholic Europe to attend church at least weekly. Although church going was an essential part of everyday life, lay people could not participate in services in any meaningful way. Services were held in Latin, not the local language. Bibles were objects of great beauty, hand written by highly skilled craftsmen in monasteries, enormously expensive—and only available in Latin. Nearly all copies of the Bible remained in the hands of monks and priests.

An educated priesthood was seen as essential to explain the meaning of the Bible to ordinary people, who could not be trusted to interpret it for themselves. Indeed, it was believed that if lay people were to have direct access to the word of God, misunderstanding and misinterpretation would lead to dire consequences, potentially placing their immortal souls in jeopardy. Years of training as a priest were required to understand and explain the text correctly. Letting the general public loose on such material was positively dangerous.

This dominant paradigm was overturned by a combination of radical thinking and new technology: the printing press. In the 16th century vernacular Bibles began to be printed in great numbers, first in German and then, largely thanks to William Tyndale, in English. Initially printed on the Continent, copies were smuggled into England through rapidly developing international trade routes. Thus the Bible became accessible to ordinary people, at the same time as more people were learning to read as a requirement of technical occupations such as ship building. In England the first reaction was suppression. Copies of Tyndale's Bible were bought up and destroyed by agents of the crown, and Tyndale himself was burned at the stake

for heresy. But later the established church embraced the idea of public accessibility, and every church provided a copy of the Bible for the congregation to read. .

In our age, the "bible" is medical information, the technology is the internet, and the priests are the medical profession. The internet has brought the canon of medical knowledge—previously accessible only in expensive textbooks, subscription journals, and libraries—into the hands and homes of ordinary people. Searching online for medical and health information is normal behaviour (www.pewinternet.org/pdfs/EPatients_Chronic_Conditions_2007.pdf), and using Google to find diagnoses is now commonplace. This phenomenon was documented in a widely quoted *BMJ* paper (2006;333:1143-5) and further explored in a more recent *Times* article, "Google was my doctor" (www.timesonline.co.uk/tol/life_and_style/health/article5369960.ece).

Many doctors regard such trends as highly threatening and react to them with outright horror or with resignation, as a necessary evil. The first letter published in response to the *BMJ* paper exemplifies the fear and loathing felt by many medics, describing the use of Google as a diagnostic tool as "laughable and bordering on dangerous" (www.bmj.com/cgi/letters/333/7579/1143#148937).

Such responses carry echoes of the arguments of the clergy in the Reformation.



With the internet, is medicine going through its Lutheran transformation?

In our age, the "bible" is medical information, the technology is the internet, and the priests are the medical profession

Patients should not look for medical information on the internet because much is of dubious origin and quality, and they are not equipped to tell the difference between good and bad. Patients who rely on medical information from the internet, especially that emanating from

overseas, will be misled and put themselves at risk. Patients who confront their doctors with "evidence" from the internet waste doctors' time and implicitly challenge their authority.

Readers may recoil at equating medical science with religion (although in certain areas of medicine, where definitive evidence is lacking, different schools of thought exhibit many of the characteristics of religious believers: allergy may be one example, thyroid disease another (www.onmedica.com/BlogView.aspx?blogId=9183e08b-e64b-402c-a05f-47fd7f1736ff&postId=b83ef721-b6f0-4da7-a172-579a5b4806e5)).

Although the reformation analogy is clearly imperfect, it can be instructive. Not only is the demand for online health information unstoppable, it should be welcomed and encouraged as good for patients and doctors alike. We need people to be more prepared to take responsibility for their own health, work out what may be wrong with them, and research how best to care for themselves. Many minor ailments can be safely and cost effectively managed in this way.

It is true that the internet may be a further source of alarm for the worried well, but equally it encourages early presentation and action that could improve survival and reduce complications. The internet does not diminish the role of doctors but casts them as expert advisers rather than authoritarian figures with exclusive guardianship of special knowledge. Many doctors already act according to those principles, and many patients will continue to want a more traditional style of relationship with their doctors. But people who look to the internet as a legitimate tool to help them with their health may already be in the majority, and this is something for us to celebrate.

Joanne Shaw is chair, NHS Direct NHS Trust
joanne.shaw@healthstrategy.org

Cite this as: *BMJ* 2009;338:b1080