Path to Obtaining Health Insurance Information from the Internet: A Preliminary Observational Study

Kui Chun Su \textsuperscript{1,2}, M.L.I.S., MaryEllen C. Sievert\textsuperscript{1,2}, Ph.D.

\textsuperscript{1}Department of Health Management and Informatics, School of Medicine
\textsuperscript{2}School of Information Science and Learning Technology
University of Missouri, Columbia, MO, USA

Abstract
Search terms were formulated and executed on Google to retrieve health insurance information. Search results were then examined to identify those web sites that were health plan web sites, "quote" web sites, "list" web sites (list of quote web sites or health plan web sites), or "other." 46 search sets yielded 19,578,694 hits. However, only the first 100 hits from each set were included in the final analysis (3,955 sites). Among those, 834 (21.1\%) were health plan web sites, 275 (7.0\%) were "quote" web sites, and 251 (6.4\%) were "list" web sites, while 2,595 (65.6\%) were "other" web sites.

Background
Consumers very often need to look for health plans when they experience life changes. In advising consumers on how to select and purchase the best health plan, the American Association of Health Plans (AAHP) emphasizes that one of the most important steps is to assemble as much useful information as possible. The internet has become the favorite place for consumers to look for health related information, including health insurance information. However, no research has conducted to systematically study health insurance web sites. Thus this study was to systematically locate health insurance web sites by using search terms that contained the concept of health plans and the internet.

Methods
A series of search terms with the common concept of health plans and the internet was developed by the authors prior to or evolved during the search sessions. Search templates were divided into various technology concept groups such as digital, e-health, internet-based, online, or web-based, and were combined with terms such as health insurance, health plan, healthcare insurance, or healthcare insurance plan, in singular or plural form, with or without a proximity operator (quotation marks or hyphens). Then searches were carried out on Google.

Some search terms yielded a large quantity of search results. In those cases, only the first 100 search results were included in the final analysis. This was based on the assumption that Google’s PageRank ranked the relevance of a site according to a site’s linkages and authority, thus, the further down the list of search results, the less relevant.

Data were then assessed for accessibility to health insurance plan information on the internet in terms of searching. Various search templates were compared to identify which search terms could retrieve the highest number of health plan web sites (web sites that are sponsored by health plans). A health plan is any individual or group plan, (or combination of individual and group plans), that provides or pays for the cost of medical care. In addition, data were analyzed to calculate the proportion of web sites that were “quote” web sites, (web sites that provide comparison information on a number of health plans), “list” web sites, (web sites that refer users to either a list of health plan web sites or a list of quote web sites), or “other” web sites (newsletters, consumer web sites, library holdings, stock performance, consulting firms, and so on).

Results
A total of 49 search terms were examined. Three search terms yielded zero results and thus 46 search terms entered the final analysis. Among the search sets that had non-zero search results, the total number of hits was 19,578,694, with an average of 425,624 hits per set, ranging from 4 ("online health insurance plans") to 3.25 million (health plan).

Since only the first 100 search results were included whenever a search set contained more than 100 hits, the total number of web sites evaluated was 3,955. Among the 3,955 web sites, only 834 (21.1\%) were health care plan web sites. 275 (7.0\%) were “quote” sites. 251(6.4\%) were “list” web sites that referred consumers to either a list of health plans (with or without web links) or a list of quote web sites. The majority of the web sites -- 2,595 (65.6\%) -- fell into the category of “other,” indicating that the useful information about health plans was scarce.

Conclusions
In conclusion, health plan web sites are available and accessible on the internet though the path to get there may not be straightforward. The proportion of health plan web sites seems rather small in relation to the total amount of information.