

# Chapter 33

## Global Health Google

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### ABSTRACT

*We evaluate and illustrate the utility of Google Tools for assessing research communications in Global Health. Page Ranks (PR) appear to be an important tool or utility for ranking the impact pages with the logic that PR determine which pages will be seen in a search. Google Trends provided very intriguing results as with this one can assess the temporal trends in searching. Google analyses appear to be very powerful to evaluate the translation of scientific knowledge.*

### INTRODUCTION

AIDS, Global Warming, SARS, Avian Flu, Obesity, Drug Addiction: These global conditions reach the front pages of our newspapers and

televisions every day. Global Health impacts us all. Scientists need the latest and most accurate data and information concerning global health. But where can it be found? It cannot be exclusively through journal articles as the information is 1 year old by the time of publication. Citations could be used to find the best quality material (Lundberg,

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G., 2003) however, citations are even more dated than journals, e.g. 2-3 years. Also, citations focus exclusively on journals.

Over the past 15 years, Internet emerged as an alternative way of biomedical information storage. Over the course of the past 10 years we have seen much of our best scientific information exchanged in blogs, emails, chat rooms, etc. We also have been especially interested in PowerPoint on the web as a major carrier of research communications (LaPorte, R. E., Linkov, F., Villasenor, T., Sauer, F., Gamboa, C., Lovalekar, M., et al., 2002) and the use of open source model for scientific information sharing (Sa, E., Sekikawa, A., Linkov, F., Lovalekar, M., & LaPorte, R. E., 2003). Specifically, in our previous studies we evaluated the quality of the Supercourse online lecture library (Linkov, F., LaPorte, R., Lovalekar, M., & Dodani, S., 2005), (Linkov, F., Lovalekar, M., & LaPorte, R., 2007) leading us to the conclusion that online methodologies for quality control need to be evaluated further. Due to the ever growing nature of the Internet, it is hard to evaluate online materials using citations or traditional peer review mechanisms.

As Internet use grows, health interventions are increasingly being delivered online, with pioneering researchers using the networking potential of the Internet (Griffiths, F., Lindenmeyer, A., Powell, J., Lowe, P., & Thorogood, M., 2006). Similarly, the internet has become a frequently used and powerful tool for patients seeking medical information (Selman, T. J., Prakash, T., Khan, K. S., 2006).

An on-line survey of 164 local health departments' staff in five US Northwestern states in 2006-2007 to assess Internet access and use by staff demonstrated that the most important selection criterion for selecting Web sites was credibility of the sponsoring organization (55%). Accuracy (46%), reputable source (30%), and currency of information (19%) were considered most critical for assessing information quality (Turner, A. M., Petrochilos, D., Nelson, D. E., Allen, E., Liddy, E.

D., 2009). Thus, Internet is becoming an important tool that cannot be ignored in today's research environment. Our previous publications emphasized the importance of information sharing using the Internet (LaPorte, R. E., Linkov, F., Villasenor, T., Sauer, F., Gamboa, C., Lovalekar, M., et al., 2002), LaPorte, R. E., Marler, E., Akazawa, S., Sauer, F., Gamboa, C., Shenton, C., et al., 1995, Laporte, R. E., Omenn, G. S., Serageldin, I., Cerf, V. G., Linkov, F., 2006, & Laporte, R. E., Sekikawa, A., Sa, E., Linkov, F., & Lovalekar, M., 2002), however this is the first publication where our group is emphasizing the importance of Google Trends and Page Rank for measuring the impact of online materials. Google Trends and Page Rank are very new tools and virtually unexplored by scientific community. This chapter is emphasizing the need for the use of new technologies in tracking scientific publications and materials online. This article has not been designed as a traditional research articles, it is an exploration of the concept of applicability of Page Ranks to biomedical literature.

## PAGE RANKS

A web revolution has taken place with the development of Google. We are not affiliated with Google, but admire the impact it is having on biomedical science. The use of Google Tools such as Page Rank and Google Trends may be powerful tools for evaluating scientific impact. The concept of Google Page Ranks is straight forward. When one does a Google search on "Global Health," the pages of the search are presented in order. A page that appears as first or second in a search will be seen, one that appears 23,987 will not. The algorithm that Google uses to determine Page Ranks is simple. When one searches on Google using a key word or key phrase, the results are displayed in order of the "Google Page Rank." (Wikipedia, 2006) The Google Page Rank system interprets a link from page A to page B as a vote, by page

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