Reviewer's report

Title: The effect of Breast Cancer Awareness Month on Internet search activity - a comparison with awareness campaigns for lung and prostate cancer

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Reviewer: Gayle Sulik

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REVIEW

This research asks a basic question: Does Breast Cancer Awareness Month lead to increased Internet activity compared to Prostate or lung cancer? The answer: Yes. The authors used Google Insights for Search to analyze the monthly and yearly level of Internet traffic for each of these malignancies from 2004 to 2009.

Major Compulsory Revisions

In the current revision, the breast cancer campaign is more contextualized. However, I think that one of the persistent issues limiting the paper’s argument is that the ‘success’ or ‘failure’ of awareness initiatives has not been defined and operationalized. Likewise, ‘awareness’ is an ambiguous and undefined term. The authors state that the major point “to be taken from the work is that other awareness initiatives are failing, for whatever reason, to be anywhere near as successful.” Does visibility equal success? Does the amount of on-line traffic suggest “success” or “awareness?” Does the amount of commercialization or media attention indicate success? How do the campaigns define success, and do the authors define them in the same ways?

In contextualizing the breast cancer campaigns further, the authors are still able to make the point that breast cancer has been successful in gaining more public attention than the other cancers, and that increased attention is likely to have resulted in increased online traffic. The significance of the paper then is in suggesting that lesser on-line traffic for the other cancers may have negative outcomes in terms of help-seeking. On-line activity seems to be important in promoting help-seeking behaviors be they related to understanding health information, diagnosing or treating a problem, or seeking support from others. Thus, the authors need to elaborate on these points while pointing out that the breast cancer awareness campaigns now have a broader audience than people who are diagnosed with, or who are at an increased risk for, the disease. The commercialization of breast cancer is partly responsible for this. In addition, the authors could then speculate on what the other campaigns could learn from the breast cancer campaign.

For instance, on p. 6 the authors note that increased online traffic may be related to prevalence and perceptions of risk. However, the Lancet article cited in the paper (reference 3) points out that in addition to the “improved care for many
patients by enabling better prevention, screening, knowledge and understanding of treatment options, research funding, and political will,” as the authors note, the campaigns have also “increased many undesirable consequences.” “Breast cancer attracts a large amount of attention—more than might be expected on the basis of incidence and clinical challenge.” The paper goes on to say,

“Various campaigns have led to a misconception that breast cancer is a heritable disease (when only 5—10% of tumours actually are) and direct-to-consumer television advertising in the USA for tests that detect mutations in BRCA1 and BRCA2 take advantage of this fear despite only 2—5% of breast cancers being caused by these genes. Additionally, a large number of companies are selling pink products in support of breast-cancer causes.... Risk is intertwined with the perception of fear, and can be overestimated, especially among people who are susceptible to anxiety. Vulnerability to awareness campaigns can drive positive effects (such as seeking counselling or a change in lifestyle), but can also cause irrational behaviours, such as requests for radical clinical interventions....positive aspects, however, need to be counterbalanced against various negative effects that occur if campaigns are inappropriate or overused.”

The success/failure/awareness context issue once again is crucial. Does an increase in misinformation, fear mongering, and profiteering signify success of the campaign? From a health perspective, probably not. Although the authors point out some key limitations of the campaigns in general later these caveats should be taken into account earlier on when operationalizing the key concepts in the article.

Relatedly, the authors state in the cover letter that “a discussion of the efficacy (or otherwise) of screening mammography, self examination etc. is outwith the scope of this work.” While the discussion of screening and BSE is outside the scope of the data collected, certainly, it is not outside the scope of this paper. The authors acknowledge on p. 3. that, “The campaign, which celebrated its 25th anniversary in the United States in October 2009, is characterised by an effort to underscore the importance of self-examination and screening, whilst promoting existing resources which can assist those motivated by the campaign to adopt these behaviours.” Since the campaign is oriented to self-examination and screening, it behooves the authors to consider the “success” of the campaign and its mission in these terms. [It is also important to note that NBCAM has morphed beyond the original campaign sponsored by the American Cancer Society and AstraZeneca to include a range of events, promotions, products, etc. done in the name of breast cancer but not necessarily having anything to do with the official campaign.] These nuances muddy the waters about success/failure. Perhaps the authors would address them with the concerns about the awareness campaigns discussed with the issues outlined on ~ p. 7.

From the negative effects of the breast cancer campaigns it is quite reasonable for the authors to then speculate on what kinds of lessons might be learned. How might other awareness campaigns take what works in breast cancer awareness and avoid if possible the limitations? On p. 8 the authors write, “In an era of ever
increasing Internet use, the failure of awareness campaigns to register significant levels of online interest must raise concerns for those involved.” This is the crux of the matter. The authors should elaborate on this. What are the concerns? Here it would also be important to point out, once again, a key limitation of the data. It is quite possible that there is no real difference in Internet use among patients and those who need help across the cancers. It could be that the increased Internet activity is related to the commercialization of breast cancer alone and has no effect on help seeking for those who need it. Without knowing who is doing the searches, this remains an open question but one that must be emphasized.

The fact that one of the search terms in table 1 is ‘pink’ for example indicates that Internet users may be looking for something other than health information. It is telling that the breast cancer search terms focus less on symptoms and treatment but instead focus on the campaigns. The authors allude to the fact that the campaign itself is the focus for breast cancer compared to the other two, but elaborating on this would be useful. The fact that Komen, the best known breast cancer organization, is also a search term suggests that there is something about how this organization has gained visibility that is important. The fact that this organization has a greater number of corporate partnership than any other breast cancer advocacy group is probably a factor.

Relatedly, this sentence (~p. 8) is unclear: “These arguments notwithstanding, recent studies have reported that 56-58% of patients with prostate cancer [26, 27], and 68% of those with known or suspected lung cancer access health information on the Internet[28]; this compares with some 48-50% of those with breast cancer [29, 30]. If this is usage, it looks like a greater percentage of patients with the other cancers use the Internet compared to breast cancer. Once again, does this suggest that heightened traffic for breast cancer is not being done by patients?

p. 8 Discuss patient demographics in a new paragraph.

Re: the missing reference on p. 7, the authors may do a search of nonprofit organizations for the three types of cancers on guidestar.org

In closing, the fact that there is heightened Internet usage for breast cancer is notable and discerning whether this traffic is influencing health seeking behaviors would be useful. Since the data collected cannot answer this question, the authors must rely on contextual information and existing research to speculate on the answer and raise new questions. This, I think, is the potential of this paper.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

No competing interests. As stated previously I have written a book on pink ribbon culture and industry (i.e., Pink Ribbon Blues: How Breast Cancer Culture Undermines Women’s Health) that informs my expertise in this area.