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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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. This time frame is for convenience since Google Insights was not available prior to 2004. The histories of the other campaigns are still not discussed, but the authors have qualified the choice of comparison based on the volume of search activity instead of another campaign-based criteria.

Minor Essential Revisions (which the author can be trusted to correct)

1. Since the authors acknowledge that the commercialization of breast cancer and the historical context of National Breast Cancer Awareness Month may also be contributing to increased online activity in October and in the background, I recommend that the title be changed. The 'effect of NBCAM' on Internet activity suggests a direct correlation between the campaign itself and the activity. But this is not the case, at least not anymore. Part of the confusion here is that the campaign (NBCAM) has become part of a generalized constellation of 'awareness/breast cancer/cause related activities' throughout the year. It is no longer that singular campaign. (Note: the official campaign is National Breast Cancer Awareness Month (NBCAM).

2. Since the authors do not wish to speculate on the possible lessons to be learned from NBCAM, the conclusion should be adjusted. ‘May hold useful lessons for other initiatives’ should be qualified.

3. The statement that NBCAM is designed to raise ‘awareness and funds for ongoing research’ (1st para) is slightly misleading. The campaign is for ‘awareness’ and related behaviors narrowly defined, and the national campaign focuses specifically on screening mammography. BSE isn’t even recommended anymore, but is considered to be ‘optional.’ Has the ACS update its NBCAM materials in accord with this? Also, the ubiquitous engine of pink awareness hitching its wagon on NBCAM focuses on a variety of things, of which research is actually the most minor. Please clarify this point.

4. The mention of ‘in situ tumors’ in the discussion section should define this term. ‘Precancerous cells’ and/or ‘risk factor for the development of an invasive breast cancer in the future’ would both be acceptable.
5. P. 7 “high levels of interest demonstrated in relation to both the campaign and its associated initiatives ‘breast cancer walk’, ‘breast cancer NFL’), and indeed to the disease itself (‘breast cancer symptoms’). Please elaborate on this statement in relation to the types of search items found with the other two malignancies. They are interesting, and qualitatively different.

6. The added discussion of the NPCC (p. 7) is helpful. Important to note, however, that their focus on NCI research allocations do not take into account the considerable cause-marketing dollars and added visibility to breast cancer via products. The NBCC was instrumental in increasing federal research funds for breast cancer. This stands alongside, and outside, of mainstream fund-raising/publicity/sales of breast cancer related merchandise. Again, the research related allocations stemming from THESE added monies are minimal.

7. P. 9 The statement that “pink culture” has had undeniable benefits for the breast cancer movement in general…” More accurately, it has had benefits for the more mainstream components of the breast cancer movement, but not the movement in general. There is indeed a split in the movement (which began in the early 1990s) and is more virulent today. The mainstream public wouldn’t necessarily know this from media portrayals of a consensual pink movement. So, the dis-ease is not only among advocates of ‘other causes’ but of breast cancer advocates as well. (See Barbara Ley, From Pink to Green).

8. P. 9 Other deleterious consequences: commercialization of breast cancer means that significant funds are raised but literally go nowhere. Thus, exploitation of good will and waste of resources (See King). Also, the specific kinds of fundraising activities spread misinformation. You mention the probability of 1 in 9 in the UK. 1 in 8 in the U.S. is used frequently, but countless reporters say that 1 in 8 women EACH year are diagnosed with breast cancer. That’s just wrong. It’s 1 in 8 women in a lifetime of over 80 years. And, as you mention in the UK, this is for older women, not younger women. Excessive focus on screening also detracts attention from research and causation.

9. P. 10 “it is too early to conclude that the success of BCAM in stimulating online activity may be taken as a proxy for concluding that BCAM raises awareness of, or motivates offline activity in relation to avoidance of breast cancer.” Huge caveat. What if the strategies promoted by BCAM, even if followed religiously, do not lead to an avoidance of breast cancer? Check out this study from Univ. Cal. If screening mammograms (even with the help of CAD) are not better at finding invasive breast cancer, then why are campaigns still promoting it as the means to avoid breast cancer?

a. There is a major disconnection between encouraging people to learn information and engage in particular behaviors to avoid a disease when that information and those behaviors do not actually result in the avoidance of the disease. How do we measure success of BCAM? Less Breast Cancer, or more people participating in ‘awareness’ activities and searching on line? It’s a tangled
10. Final statement that, ‘there are perhaps lessons to be learned from the BCAM campaign which might usefully be adapted for other cancer awareness initiatives.’ It might be prudent to suggest that some of the strategies might usefully be avoided as well, reminding the reader of the caveats you suggested throughout the paper. Of course, breast cancer advocates/supporters could learn from these too.

11. That is all!

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:
I declare that I have no competing interests