Reviewer’s report

Title: Breast Cancer Awareness - The effect of the October campaign on Internet search activity

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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 article is clearly written and models its methods using similar types of studies of Internet Activity. The context of NBCAM is minimal, and there is no discussion of the context of the other awareness campaigns. Importantly, if the authors conclude that there are lessons to be learned from NBCAM, what are they?

Discretionary Revisions

1. The title should spell out that the “October campaign” is referring to National Breast Cancer Awareness Month compared to awareness campaigns for lung and prostate cancer.

Minor Essential Revisions

1. The Figures should include titles.
2. The Figures are not very clear.
3. There are 5 figures included but only 4 figures are discussed. It appears that Figure 5 should actually be Figure 4, with the current Figure 4 to be deleted.

Major Compulsory Revisions

1. The methods are appropriate, but should be described in greater detail. In addition, the time frame for the data collection is limited.
   a. Be more specific and detailed about the studies after which the methods were modeled.
   b. The time frame for the data is only 5 years, and were chosen for convenience. However, the awareness campaigns for each of the malignancies have had very different histories and longevities. The authors could discuss when each of the awareness campaigns began (NBCAM is the only one mentioned, beginning in 1985), compared to prostate and lung. For example, could it be that NBCAM has been around longer and therefore has a greater following?
c. The search terms are basic: “breast cancer,” “lung cancer,” and “prostate cancer.” The authors acknowledge that there is no information “about the exact nature of the search activity” (p. 7). This is a major limitation and should be elaborated. Is it possible to know the ‘top hits’ for these searches? Without knowing what people were searching for, we can see only an overall quantity of Internet activity, which doesn’t tell us much.

2. Partially due to the limitations above, the data are not very robust.
   a. Please account for the decline in search activity for breast cancer from October to November and November to December given that there is heightened media attention into November.
   b. There was a rise in search activity in September and spike in October for prostate cancer though this is not discussed.
   c. There is no discussion of Figure 5. Figures 4 and 5 appear to be confused.

3. The context and limitations of the findings need to be elaborated significantly. Some additional literature about key breast cancer issues are needed:
   i. Women in the U.S. overestimate their risk for breast cancer.
   ii. Evidence-based information about breast cancer is lacking despite heightened visibility of the cause. E.g., the mammography controversy continues despite the body of evidence questioning its efficacy; similarly, many women don’t know that DCIS is not an invasive cancer and that it is not life-threatening.
   iii. Breast Self Exam is still promoted in the broader culture even though the National Cancer Institute and the Women’s Health Organization have found that the practice does not find tumors early or reduce mortality.
   iv. The statement on p. 3 that “It is accepted that these campaigns have improved care for patients by enabling better prevention, screening, knowledge and understanding of treatment options, research funding and political will (p. 3) does not take the above information into account. A recent study at the University of Oregon examined more than 30 years of cancer registry data to determine if October events related to NBCAM) lead to increases in breast cancer diagnoses in the following month of November. It found that the benefit of the awareness campaign has leveled off in terms of leading to diagnoses of invasive breast cancer.

b. Since the pink ribbon extends beyond NBCAM to include major nonprofit organizations (e.g. 1451 for breast cancer, compared to 231 organizations for prostate cancer and only 151 organizations for lung cancer), this must also be taken into account and discussed.

c. In addition, the number of nonprofits using corporate partnerships and cause-marketing campaigns to spread the message of “awareness” through considerable advertising of products and services (beginning in the 1990s) is also responsible for the heightened visibility and attention to breast cancer compared to the others. Every year in the U.S., about $6 billion is raised in the Name of breast cancer. With these dollars comes public attention and
commitment to the cause.

d. Breast cancer has also been popularized not only through the nonprofits but also through the products. Many, many products. Pink ribbons are plastered on goods in grocery stores, malls, et cetera, and there is no real equivalent for the other cancers. With the products comes the slogans. Though there are no “I heart lungs bracelets” or “save the testicles t-shirts,” there is a large array of popularized slogans such as “save the tatas.” Breast cancer is the new American past-time. Of course, there would be a HUGE amount of Internet activity. If the authors explain this activity in terms of the context, the findings would be more useful.

4. The discussion and conclusions should elaborate on the findings in the context of these cancers.
   a. Importantly, if lessons are to be learned from NBCA, what are they?

5. Key literature should be added to better understand the ‘awareness’ campaigns. If breast cancer is the focal point, then consider the following books and articles.

Books

• Pink Ribbons, Inc.: Breast Cancer and the Politics of Philanthropy by Samantha King (University of Minnesota, 2006).
• Cancer Activism: Gender, Media, and Public Policy by Karen Kedrowski and Marilyn Sarow (University of Illinois Press, 2007).

Articles

• P. C. Gotzsche & M. Nielsen, “Screening for Breast Cancer with


**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I have no competing interests. I have written a book on breast cancer culture (Pink Ribbon Blues) that I include in the list of recommended literature.