

with prostate cancer screening through earlier diagnosis.<sup>17</sup> Social and economic benefits of such programmes might be higher in Nigeria, where a rapidly growing and ageing population coupled with aggressive disease diagnosed late has led to increasing morbidity and mortality. Effective screening programmes require substantial resources to reach the target population, provide testing and follow-up, and ensure appropriate management. The situation is more complex in developing countries, such as Nigeria, which lack stable infrastructure and where individuals might not have the necessary financial means or health literacy. This suggests an increased importance for affordable patient navigation. Nigerian men welcomed our navigation programme. Further follow-up will confirm adherence to management recommendations and health economics research will help determine the optimal basket of services

that is affordable and accessible for people in Nigeria. In Nigeria and the rest of Africa, the burden of cancer continues to grow, straining communities, health-care systems, and the economy. NGOs have an important role to play to improve the health of Nigerians, but this alone is not enough to meet national cancer plan targets. Stronger partnerships with the government and other organisations through a unified approach focused on continuous planning, implementation, and evaluation of education, screening, and disease management is vital to controlling prostate and other cancers. Africa has done well with other diseases. Now it is time to collectively take more steps to stop cancer.

*Runcie C W Chidebe, \*Charles T Orjiakor, Ian Pereira, Sampson C Ipiankama, David W Lounsbury, Fabio Y Moraes*

## Digital Oncology

### Cancer awareness crusades—pink ribbons and growing moustaches

Flipping the calendar, Pinktober, the breast cancer awareness month, turns into Movember, the annual global campaign focused on raising awareness of men's wellbeing, prostate cancer, and testicular cancer. On the cries of "Changing the Face of Men's Health", thousands of men grow their moustaches to sensitise people to men's health issues.

Movember was launched in 2003 to encourage people to think about, discuss, and proactively treat diseases that affect men. To make it go viral, handlebar moustaches were proposed as a provocatively distinctive brand. Movember gained remarkable worldwide attention, with millions joining the movement, raising funds of more than US\$700 million since 2003 and delivering breakthrough research and support programmes dedicated to prostate cancer, testicular cancer, mental health, and suicide prevention.<sup>1</sup>

The principal aim of a well-designed cancer awareness campaign is to focus attention on the disease to increase prevention and early detection, relying on the internet to disseminate the awareness messages. The rapid explosion of digital health data has resulted in more people searching online for health care-related topics, making it a primary source of easily accessible and comprehensive information. Scientific information tailored for lay people can be broadly disseminated by means of wikis, social networks, or webpages, overcoming knowledge barriers in an effective and affordable manner. A key question is whether these impressive so-called awareness crusades

are truly working in terms of breast cancer and prostate cancer awareness.<sup>2</sup>

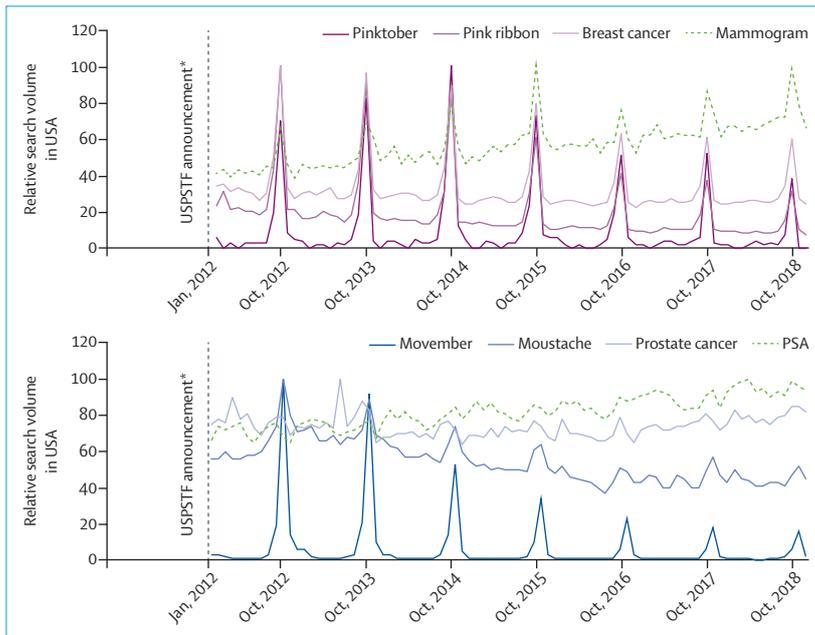
An analysis of web-engine search queries from Oct, 2011, to Dec, 2018 showed that whereas search trends on the two campaigns and their trademarks are similar, reflecting seasonality of interest coinciding with successful seasonal marketing strategies, the Movember campaign was less effective than the Pinktober campaign in translating these searches into web-searches that might signal increased cancer awareness, such as searches for breast cancer (figure; appendix). Peaks in the number of searches for the term "breast cancer" were concordant with the overall Pinktober campaign search peaks, with highest search relative values recorded in October during each year studied. By contrast, the volume of web-searches for the term prostate cancer did not seem to be influenced by the Movember campaign, which showed a decreasing number of searches in the past 6 years (which is coincident with declining yearly donations and registered participants beginning in 2012).<sup>1</sup>

Several factors might explain these findings, and they relate to the population targeted by the health-awareness campaigns. For example, women might be more inclined than men to look for health information, and breast cancer information, on the web, moved by emotional and personal involvement.<sup>3</sup> The increased attention to breast cancer during Pinktober underlines the success of this media campaign in raising awareness of the disease. However, men at risk of prostate cancer are generally



USC Institute of Urology (GEC, MCS, LGM, KG, RS, ISG); and Department of Preventive Medicine (MCS), Norris Comprehensive Cancer Center, University of Southern California, Los Angeles, CA, USA (MCS) [giovanni.cacciamani@med.usc.edu](mailto:giovanni.cacciamani@med.usc.edu)

For a full reference list see Online for appendix



**Figure: Internet search volume for Pinktober and Movember awareness campaigns 2012–18.** Sources of data and a more detailed description of the methods are provided in the appendix. USPSTF=US Preventive Services Task Force. PSA=prostate-specific antigen. \*The USPSTF announcement recommended against PSA-based screening for prostate cancer in men aged 70 years and older.

older than those in the so-called hashtag-generation who grow moustaches in response to Movember, and might not be as connected to the online campaign and therefore awareness about the disease.

These findings could represent a so-called viral campaign syndrome in which the campaign is not effective in reaching the age-target population at risk of developing prostate cancer: the internet might not be the most effective vehicle for the population at risk and perceptions and fears about prostate cancer might not have been captured adequately in the campaign.

We must reflect on how public health awareness campaigns have evolved, and how they could be improved. At the beginning of the 20th century, when the first health-awareness campaigns were designed, posters drawn by artists carrying the words, “A Clean Home Guards Against Tuberculosis!” or “Put an End to Yellow Fever. Be Vaccinated!” and pasted on walls or issued in newspapers, were powerful instruments to spread information about prevention.<sup>4</sup> Today, however, we are surrounded by social media and social networking, which have the potential to be effective and inexpensive tools to transmit health information, targeting the right people and in the right moment. To be effective, these campaigns must be executed carefully to take advantage of the powerful reach of the internet. Google is an excellent indicator of aggregate interest because it works as a reflection of the world’s search for information. It could represent a powerful complementary way to benchmark for assessing the awareness rise by a campaign in a real-time fashion.

It is no surprise that Movember was a successful web-based movement. The iconic crusade calls for action, and men can be part of it by just by keeping their razors in the drawer. Nonetheless, the difference between viral and vital is imperative, not just wordplay. Movember web searches peaked, whereas searches for prostate cancer and prostate-specific antigen test did not. This finding does not necessarily reflect poorly on Movember as a movement in and of itself, but it does highlight how the effective broadcasting of health information is essential to take full advantage of social media interventions so that they can have the desired and maximum effect on cancer awareness.

*\*Giovanni E Cacciamani, Mariana C Stern, Luis G Medina, Karanvir Gill, Rene Sotelo, Inderbir S Gill*