

When Public Health meets Twitter:

Communicating #globalhealth issues across the globe

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Study Summary

Little is known about Twitter use of public health departments across different nations. Our team in 2016 conducted a study on which the current manuscript was based: a content analysis of 1,200 tweets by 12 public health departments. This previous study found that tweets from these agencies tended to lack broad coverage of health issues.

Method

A quantitative content analysis was carried out of 1,200 randomly selected tweets by 12 national health departments: the USA, Canada, Brazil, Chile, Italy, Germany, Nigeria, South Africa, India, Singapore, Australia, and New Zealand.

Results

RQ1: What do tweets by national health departments look like in different nations?

RQ2: Are there differences in engagement among national health department tweets?

A little under half (47.3%) of the tweets in the sample included a hyperlink, and the majority of those pointed either to the organization's own website (48.9%) or to another, related, government website (27.8%). In addition, 64.3% of tweets mentioned a specific health issue. A plurality, 41.9%, fit into the "other" category (including issues such as breastfeeding and blood donation); followed by infectious diseases (18.2%), substance use (9.3%), mental health (7.7%), and HIV/AIDS (7.3%). Cardiovascular disease was only mentioned in 2.3% of the tweets. Of the total sample, 21.1% referred to prevention, 2.8% to screening, and 6.5% to treatment.

Brazil, Germany, and New Zealand used a great breadth of websites. In contrast, Canada almost exclusively linked to its own website, and the U.S. account almost exclusively linked to government websites other than their own; never sharing news websites or major medical organization hyperlinks.

For the complete sample, the median number of retweets was 7, the median like frequency was 14, and the median number of replies was 0.

Health Belief Model (HBM)

One of the primary models used to explain why individuals do or do not engage in a variety of health-related actions, consisting of six constructs: perceived susceptibility, severity, benefits, barriers, self-efficacy, cues to action.

affordability... can I do it? Trigger

Figure 1. Example of infographic



Figure 2. Example of perceived benefits

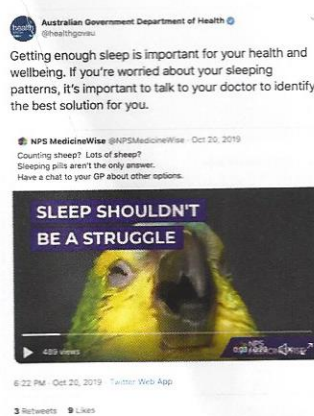
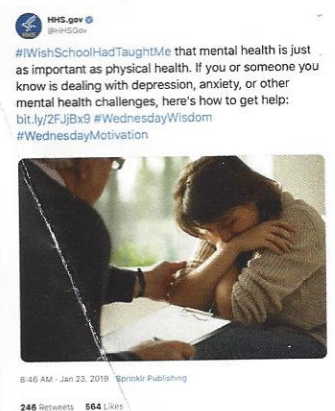


Figure 3. Example of perceived benefits



Figure 4. Example of mental health



RQ3: How are HBM constructs used in national health department tweets?

RQ4: Does the presence of HBM constructs in tweets impact Twitter engagement?

12.7% of tweets mentioned the severity of a health issue, 9.6% susceptibility to a disease or health issue, 16.5% benefits of a recommended action, 3.1% barriers to a recommended action, 2.0% self-efficacy, and 29.8% cues to action.

South Africa, Nigeria, and Singapore used these constructs in fewer than 12% of their tweets, and none of the departments address perceived barriers in more than 9% of their posts. Cues to action were present most frequently, however, Nigeria only used this in 2% and Singapore in 1% of its tweets. While the U.S. and Italy used the susceptibility construct in 24% and 19% of tweets, half of the health departments referred to susceptibility to a specific health issue in fewer than 10% of their tweets. In general, benefits and cues to action were the most frequently used constructs (see Table 3).

Except for barriers and self-efficacy, all HBM constructs were at least associated with a statistically significant change in median engagement in at least one instance, and in most cases this was associated with higher engagement. Finally, there were no significant differences associated with the presence of any of the HBM constructs for Canada, India, Nigeria, and South Africa, and tests were not carried out for any of Singapore's HBM constructs (see Table 4).

RQ5: To what extent are visuals used, and did this presence impact Twitter engagement?

79.1% of the tweets contained a visual. Of those, 47.1% consisted of primarily an image, 20.7% a mix of image and text, and 13.4% primarily text. Most countries used visuals in 69% or more of their tweets, except for Singapore, which only included them in 10%. Tweets with a visual produced more engagement than tweets lacking one.

Discussion

While there was a marginal increase in tweets mentioning cardiovascular disease in this sample compared to the previous sample, the issue is still barely mentioned. Most tweets addressing a specific topic focused on infectious diseases. All countries mentioned infectious diseases in their tweets, but Brazil and India each dedicated 19% or more of their messages to this issue. Topics such as infectious disease should be covered, but the lack of focus on cardiovascular disease is still cause for concern, particularly since it is the leading cause of death worldwide.

video?