

# Four factors influence social media reach of public health tweets, study says

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New research co-written by U. of I. psychology professor Dolores Albarracin, right, found that four factors lead to the retransmission of public health tweets from expert accounts on Twitter. Albarracin's co-authors include U. of I. graduate students Benjamin X. White, left, and Sophie Lohmann. Credit: L. Brian Stauffer

A new paper co-written by a University of Illinois scholar who studies social psychology identifies four factors that lead to the retransmission of social media messages from expert accounts, creating data-driven recommendations for online public health messaging.

Fear-related language; longer messages; the lack of outbound links to another website; and images – photos, videos or a GIF – were the strongest predictors of whether a [public health](#) message about HIV was retweeted, said Sophie Lohmann, a graduate student in psychology at Illinois.

"Posting messages on Twitter is free, fast and holds the potential of reaching hundreds of millions of users," she said. "Social media messages have been increasingly used in [health](#) campaigns about the prevention, testing and treatment of HIV, so it's no wonder that health professionals are using Twitter and other [social media platforms](#) to disseminate public health messages about HIV."

"We wanted to gauge which of those message factors was able to amplify the message and get a larger audience through retweets," said Dolores Albarracín, a professor of psychology at Illinois, a co-author of the study and the director of the Social Action Lab.

The researchers sampled more than 20,000 HIV-related [tweets](#) posted between 2010-17 from 37 HIV experts. Potential predictors of message retransmission were identified based on prior literature and machine-learning methods, and were subsequently analyzed.

The researchers found that when experts posted their own messages and followed the four recommendations – employing three fear-related terms, using 30 words instead of 10, including a visual but not offering a link to click through – lead to a three-fold increase in expected retweets.

"We found that higher word counts were associated with more retweets, and we think that might be because short tweets don't contain a lot of information," Lohmann said. "On Twitter, the character limits do come into play, but even the longer tweets weren't so long that people would lose interest."

The findings were similar for messages authored by HIV experts as well as messages retransmitted by experts but created by nonexperts – for example, celebrities, politicians or thought leaders ranging from Rihanna to Bill Gates.

"Messages featured on these accounts are then retweeted by experts or are endorsed by experts, which may make them more reliable than messages posted by lay users," Lohmann said. "But no study has systematically examined how much these expert-vetted messages in the area of HIV are broadcast online. Because sharing health content is critical to public health, messages need to be disseminated widely for audiences to receive them in the first place. Reposting and thus retransmitting content is the hallmark of a successful posting."

The fear appeal finding aligns very much with what scholars would expect based on the psychological literature, "where if there's anything that communicates a danger, that tends to lead to increased behavior change and, in this case, more message dissemination on Twitter," Albarracin said.

"If you talk about how this is a disease, it's an epidemic and how you can protect yourself – those tweets were related to a higher retweet rate," she said.

Messages that linked to an external website tended to receive fewer retweets, which may seem surprising until one considers that, with the character limits on Twitter, many tweets with links function as "teasers"

rather than full-fledged messages, Lohmann said.

"If there was a URL, that [tweet](#) fared worse for some tweets," she said. "There's a multitude of reasons for that, but we think the main reason is: If there's something that's really important, it needs to be in the tweet itself, and not hidden behind an additional click."

More hashtags also were sometimes associated with higher retweet counts, according to the paper.

"Hashtags allowed more people to find that conversation, and then spread it," Lohmann said. "There's an impetus in public health campaigns to keep the hashtag consistent in order to tap into a larger conversation. For the average user, more hashtags translates into more entry points for your message. But if you're an influencer, you wouldn't want to litter your tweets with hashtags and distract from your message."

The study has larger implications for [public health campaigns](#), said Albarracin, also a professor of business administration with the Gies College of Business.

"Based on the findings, we see no reason why our recommendations wouldn't translate to other diseases or public health crises," she said. "Fear appeals have been found useful across a variety of domains, but I would certainly expect them to be useful for other diseases."

Albarracin and Lohmann's co-authors are Man-pui Sally Chan, Bo Li, Alex Morales, Benjamin X. White, Chengxiang Zhai and Zhen Zuo, all of the University of Illinois.

The paper will be published in the journal *AIDS*.

Provided by University of Illinois at Urbana-Champaign

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