Researchers see an increase in fraudulent COVID-19 posts on social media

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During the SARS-CoV-2 pandemic, social media platforms have played a major role in conveying information from health care leaders and government officials to communities about how to help stop the spread of COVID-19. Yet as quickly as new and accurate information on the virus becomes available, so, too do counterfeit health products, such as illegal or unapproved testing kits, untested treatments and purported cures.

In a new study published in the *Journal of Medical Internet Research Public Health and Surveillance* on August 25, 2020, researchers at University of California San Diego School of Medicine found thousands of [social media posts](link) on two popular platforms—Twitter and Instagram—tied to financial scams and possible counterfeit goods specific to COVID-19 products and unapproved treatments

"We started this work with the opioid crisis and have been performing research like this for many years in order to detect illicit drug dealers," said Timothy Mackey, Ph.D., associate adjunct professor at UC San Diego School of Medicine and lead author of the study. "We are now using some of those same techniques in this study to identify fake COVID-19 products for sale. From March to May 2020, we have identified nearly 2,000 fraudulent postings likely tied to fake COVID-19 [health](link) products, financial scams, and other consumer risk."

According to Mackey, the fraudulent posts came in two waves focused on unproven marketing claims for prevention or cures and fake testing kits. He said a third wave of fake pharmaceutical treatments is now materializing and will worsen when public health officials announce development of an effective vaccine or other therapeutic treatments.

The researchers identified suspected posts through a combination of Natural Language Processing and machine learning. Topic model clusters were transferred into a deep learning algorithm to detect fraudulent posts. The findings were customized to a data dashboard in order to enable public health intelligence and provide reports to authorities, including the World Health Organization and U.S. Food & Drug Administration (FDA).

"We're in a post-digital era and as this boom of digital adoption continues, we will see more of these fraudulent postings targeting consumers as criminals seek to take advantage of those in need during

times of a crisis," said Mackey.

Mackey provided three key tips to help identify a fraudulent post or scam:

1. If it's too good to be true, it probably is. Look out for mentions of bulk or rapid sales, cheap pricing and questionable claims such as FDA approval or specific certifications.
2. Importing products from another country. If you're a United States consumer, it is likely illegal to import products such as COVID-19 tests from another country. Such purchases should be considered risky.
3. Illegitimate contact methods. If the seller is conducting business or a transaction through social media direct messages or another non-traditional communications application, including Skype or WhatsApp, it probably isn't legitimate.

"We recommend that anyone concerned of contracting COVID-19 or hoping to be tested first work with their personal health care provider or local public health agency to ensure safe access to testing or treatment, and report any suspicious activity to federal authorities," said Mackey.

"Our hope is that the results from this study will better inform social media users so they can better decipher between fraudulent and legitimate posts. We conducted this research with the goal that eventually it will lead to improved tools and policy changes so that social media can be used as a force for good."

  More information: Tim Ken Mackey et al, Big Data, Natural Language Processing, and Deep Learning to Detect and Characterize Illicit COVID-19 Product Sales: Infoveillance Study on Twitter and Instagram, *JMIR Public Health and Surveillance* (2020). DOI: 10.2196/20794

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