

Using social media big data to combat prescription drug crisis

November 16 2017



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Researchers at Dartmouth, Stanford University, and IBM Research, conducted a critical review of existing literature to determine whether



social media big data can be used to understand communication and behavioral patterns related to prescription drug abuse. Their study found that with proper research methods and attention to privacy and ethical issues, social media big data can reveal important information concerning drug abuse, such as user-reported side effects, drug cravings, emotional states, and risky behaviors.

Their work, "Scaling Up Prescription Drug Abuse and Addiction Research Through Social Media Big Data," is reported in the *Journal of Medical Internet Research*.

Prescription drug addiction is a well-known nationwide problem. Many people who are unable to get help for their addiction seek out peer support groups on Facebook or other <u>social media</u> platforms to share stories about their experiences and also provide social peer-based support.

Lead author, Sunny Jung Kim, PhD, an e-health communication scholar in the departments of biomedical data science and psychiatry at Dartmouth's Geisel School of Medicine, says that because we are prolific consumers of social <u>media</u>, which is not limited to geography—globally, people spend more than two hours every day on social media platforms generating vast amounts of big data about our personal communications and activities—we can use these platforms to enhance public health communication strategies to help people on a large scale.

"Harnessing <u>social media platforms</u> and data can provide insight into important novel discoveries of collective public health risk behavior, a better understanding of peoples' struggles with addiction, and their process of recovery," Kim says. "I started this project because there were few studies about why people use <u>social networking sites</u> to share unsolicited, highly personal information about their drug use, nor about



the psychological effects or consequences of this type of user-generated communication."

Co-author Jeffrey Hancock, PhD, a professor in the department of communication and the director of computational social science at Stanford University, says, "Given the importance of this problem for the U.S. population, it's imperative that we understand how social media is playing a role and how it can be part of the solution."

Based on their findings, the researchers designed an evidence-based, multi-level framework to inform future social media-based substance use prevention and recovery intervention programs.

"Our review and typology suggests that social media big data and platforms can be a tremendous resource for monitoring and intervening on behalf of people with <u>drug</u> addiction and abuse problems," Kim says.

More information: Sunny Jung Kim et al, Scaling Up Research on Drug Abuse and Addiction Through Social Media Big Data, *Journal of Medical Internet Research* (2017). DOI: 10.2196/jmir.6426

Provided by The Geisel School of Medicine at Dartmouth

Citation: Using social media big data to combat prescription drug crisis (2017, November 16) retrieved 26 April 2024 from https://medicalxpress.com/news/2017-11-social-media-big-combat-prescription.html

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