



## Social Media May Hold Clues to Health Information



Many patients are willing to share and link their social media data with electronic medical record (EMR) data for research purposes, finds a first-of-its-kind study published in the journal *BMJ Quality & Safety*. A databank that merges social media with EMR data may be able to provide insights about individuals' health and health outcomes, according to researchers from the Perelman School of Medicine at the University of Pennsylvania.

"We don't often think of our social media content as data, but the language we use and the information we post may offer valuable insights into the relationship between our everyday lives and our health," says senior author Raina M. Merchant, MD, MSHP, director of the Social Media and Health Innovation Lab and an assistant professor of Emergency Medicine at Penn Medicine. "Finding ways to effectively harness and mine that data could prove to be a valuable source of information about how and why patients communicate about their health."

In the study, patients visiting an emergency department were asked if they used social media, and if they would be willing to share their social media data and EMR data with health researchers, for the purpose of building a research database. More than 1,000 participants consented to share their social media and medical data over seven months. The shared social media data consisted of nearly 1.4 million posts and tweets to Facebook and Twitter, comprising almost 12 million words.

Some of the information is explicit like "I forgot to take my water pill for my heart failure today," and others are more subtle like a series of photos with salty foods. Variations in word complexity could suggest cognitive decline, or a change in the number of words per post or network size might be indicative of a depressed mental status, according to researchers. Posted content could also reveal information about adherence to prescribed medications, new medical conditions, or health behaviours like exercise and diets.

Data analysis also revealed that individuals with a given diagnosis in their EMR were more likely to use terms related to that diagnosis on Facebook than patients without that diagnosis in their EMR. For example, among individuals diagnosed with abdominal pain, 21 percent used terms such as "stomach pain" and "belly ache" on Facebook compared to eight percent of individuals without that diagnosis who used those terms.

"The social media and health databank, which we are continuing to build, serves a valuable purpose in helping us think about health in new ways, some of which we haven't even begun to consider," Dr. Merchant points out. "Just as genetic information is banked to track potential future health, previously unobservable social media postings — made up of words, language, and conversations — may also be banked from consenting individuals and evaluated for potential correlations with health and health outcomes."

Patient confidentiality was an important consideration in conducting the study, the research team says, adding that strict policies for protecting health record data were adhered to.

Source: [Perelman School of Medicine, University of Pennsylvania](#)

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Published on : Wed, 14 Oct 2015