

Are you an 'anti-vaxxer'? Your friends are on Twitter

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(HealthDay) —American parents who oppose childhood vaccines often

take to Twitter to vent, share and seek reinforcement for the widely disproven notion that these shots can trigger autism, new research shows.

But the phenomenon is unevenly spread, the researchers noted, with states such as California, Connecticut, Massachusetts, New York and Pennsylvania leading the pack when it comes to the highest prevalence of Twitter-based vaccine-bashing.

The findings stem from the sifting of roughly 550,000 tweets posted between 2009 and 2015. All of the tweets contained at least one reference to both autism and vaccines, and about half were found to express anti-vaccine sentiments.

"Unfortunately, these results were not terribly unexpected," said study author Theodore Tomeny.

Why? Tomeny suggested "that sites primarily based on user-generated information, like Twitter, may be popular sounding boards for these types of issues because they are uncensored and there is little oversight of the information that is posted."

Tomeny is an assistant professor in the department of psychology at the University of Alabama in Tuscaloosa.

He and his colleagues, Christopher Vargo of the University of Colorado-Boulder and Sherine El-Toukhy of the U.S. National Institutes of Health, reported their findings in the October issue of *Social Science and Medicine*.

The research team said that groups that include the U.S. Centers for Disease Control and Prevention, the American Academy of Pediatrics, the U.S. Public Health Service and the Institute of Medicine Board on Health Promotion and Disease Prevention have all stressed that there's

no validity to the theory that autism risk is linked to childhood immunizations.

What's more, the small (12 child) 1998 British study most often-cited as "evidence" of an autism-vaccine link was retracted in 2010 by its publisher *The Lancet* as an example of faulty science.

But given the controversy's persistence, the researchers decided to explore the frequency and nature of the Twitter-based anti-vaccine conversation.

From the larger pool of tweets, 550 were randomly selected for in-depth analysis. That included coding for content, point of view and geographical origin, as well as matching up posts with publicly available census data. The trending popularity of anti-vaccine Twitter postings was also assessed, based on the dating of about 108,000 tweets.

The researchers found that the inclination to use Twitter as a preferred [social media](#) platform for discrediting the safety of standard immunization protocols held more or less steady between 2009 and 2014, before spiking several times throughout 2015.

The timing of those spikes closely tracked a highly publicized measles outbreak in California that began in December 2014, the study authors noted. That outbreak was ultimately attributed to California's relatively active anti-vaccine community.

The analysis further revealed that anti-vaccine tweeting appears to be particularly strong in relatively wealthy regions (household incomes north of \$200,000), urban areas and locales that are home to large populations of new moms. Posting was also more common among men between the ages of 40 and 44, as well as among men who had only a minimal amount of college education.

Dr. Paul Offit, director of the Vaccine Education Center at the Children's Hospital of Philadelphia, expressed a measure of sympathy for anti-vaccine concerns, while acknowledging the grave threat such misinformation poses.

"We ask parents in this country to give vaccines to prevent 14 different diseases in the first years of life," Offit said. "That can mean 26 inoculations over time, and sometimes five shots at once, all to prevent diseases that most people don't see, and with vaccines that most people don't understand. That can be pretty hard for people to take or watch," he added.

"So it's understandable there would be some pushback and that social media would be an outlet, a pop-off valve and a complaint department for such concerns," according to Offit.

"Unfortunately, while public health people like myself can and do make the case for vaccine safety, it is only when we have an outbreak like the one in California that people really start to understand the value and importance of immunizations. Sadly, the virus itself is a much better educator than I am," Offit pointed out.

More information: Theodore Tomeny, Ph.D., assistant professor, department of psychology, University of Alabama, Tuscaloosa; Chris Vargo, Ph.D., assistant professor, College of Media, Communication and Information, University of Colorado-Boulder; Paul Offit, M.D., professor, pediatrics, and director, Vaccine Education Center, Children's Hospital of Philadelphia; October 2017, *Social Science and Medicine*

There's more on vaccine safety and autism at [U.S. National Institute of Mental Health](#).

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