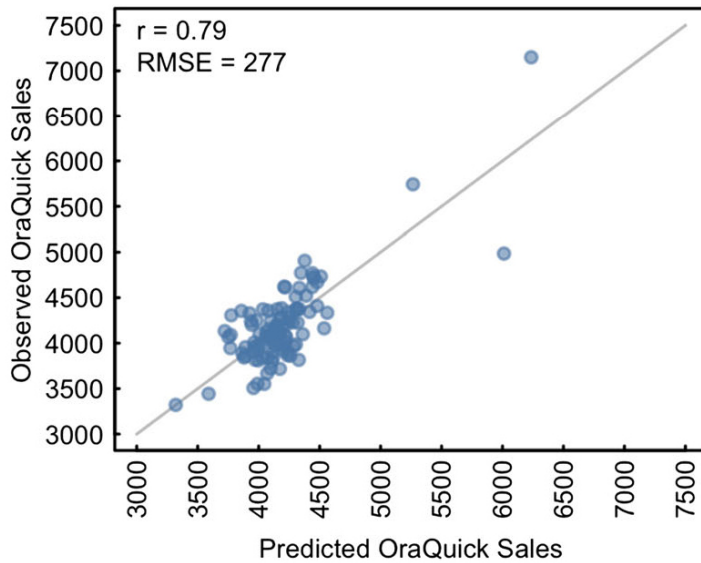
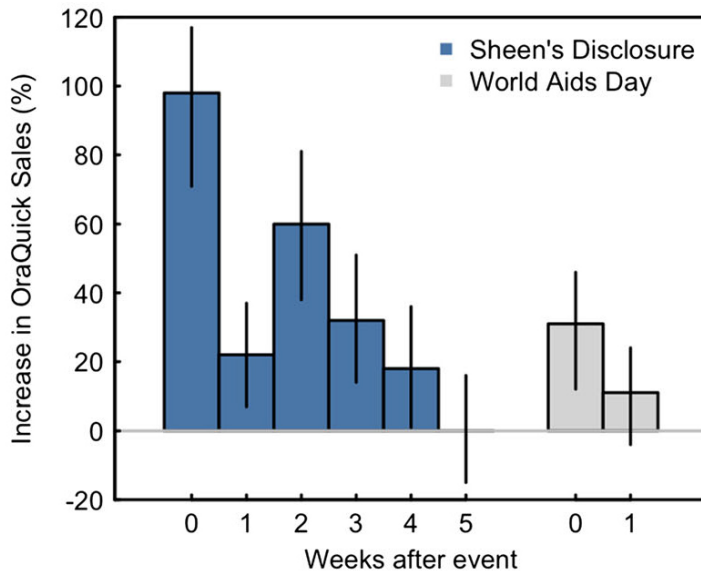
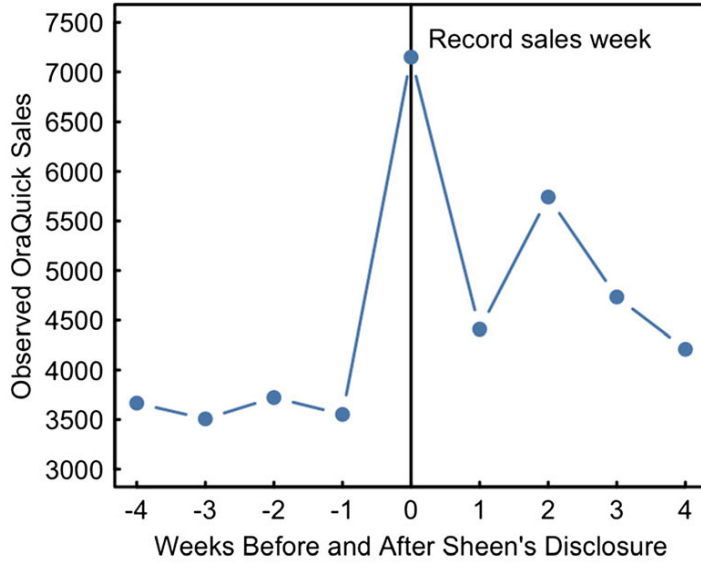


The Charlie Sheen effect on HIV testing

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Top panel shows weekly OraQuick sales focused around the Sheen disclosure. Middle panel shows the effect estimates for sales by week following Sheen's disclosure and World Aids Day until the increase was no longer significant. Bottom panel shows observed weekly sales plotted alongside predicted weekly sales using HIV testing search volume. Credit: John W. Ayers

On November 17, 2015, actor Charlie Sheen publicly disclosed he was HIV-positive on NBC's Today Show. How might such celebrity announcements affect public health in the population at large? That's a question scientists and advocates grappled with in a study published last year in *JAMA Internal Medicine* led by San Diego State University Graduate School of Public Health research professor John W. Ayers. The researchers found that Sheen's disclosure corresponded with millions of online search queries for HIV prevention and testing, even though neither Sheen himself nor public health leaders called for such action at the time.

In a new, follow-up study published in the journal *Prevention Science*, Ayers and colleagues found that not only did Sheen's disclosure lead people to seek information about HIV, it also corresponded with record levels of at-home rapid HIV testing sales.

The team collected data on weekly sales of OraQuick, the only rapid in-home HIV test kit available in the United States, to investigate whether Internet queries (based on Google Trends data on searches with "test," "tests," or "testing" and "HIV") could be correlated with any uptick in HIV testing.

"Our strategy allowed us to provide a real-world estimation of the

'Charlie Sheen effect' on HIV prevention and contrast that effect with our past formative assessment using Internet searches," said study coauthor Eric Leas, a research associate in the SDSU-UCSD joint doctoral program in public [health](#).

The week of Sheen's disclosure coincided with a near doubling in OraQuick sales, which reached an all-time high. Sales remained significantly higher for the following three weeks, with 8,225 more sales than expected.

"In absolute terms, it's hard to appreciate the magnitude of Sheen's disclosure," added study coauthor Benjamin Althouse, research scientist with the Institute of Disease Modeling. "However, when we compared Sheen's disclosure to other traditional awareness campaigns the 'Charlie Sheen effect' is astonishing."

OraQuick sales in the time period around Sheen's disclosure were nearly eight times greater than sales around World Aids Day,, one of the most well-known and longest-running HIV prevention awareness events.

The team's most significant takeaway, however, is that these findings reinforce their past analyses of Google search data. Using Internet searches alone the team was able to predict HIV testing sales within seven percent for any given weeks.

"Public health leaders are often cautious, choosing to wait for traditional data instead of taking reasonable action in response to novel data, like Internet searches," Ayers said. " Our findings underscore the value of big media data for yielding rapid intelligence to make public health actionable and more responsive to the public it serves."

Study coauthor Mark Dredze, a Johns Hopkins University computer scientist, added that "public health must ready itself for the next Sheen-

like event by embracing big media data for decision making." said. Still, it may be the window has not fully closed on the Charlie Sheen effect, he said.

"Our findings build on earlier studies that suggest empathy is easier to motivate others when the empathy is targeted toward an individual versus a group" said coauthor Jon-Patrick Allem, research scientist with the University of Southern California Keck School of Medicine. "It is easy to imagine that a single individual, like Sheen, disclosing his HIV status may be more compelling and motivating for people than an unnamed mass of individuals or a lecture from [public health](#) leaders."

More information: Jon-Patrick Allem et al, The Charlie Sheen Effect on Rapid In-home Human Immunodeficiency Virus Test Sales, *Prevention Science* (2017). [DOI: 10.1007/s11121-017-0792-2](https://doi.org/10.1007/s11121-017-0792-2)

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