Do awareness days make a difference? Yes, at least one
31 March 2016

Break out the brochures: World Autism Awareness Day is just around the corner. As is World Health Day, World Dolphin Day, Earth Day, World Lupus Day, and the list goes on and on. One federal catalog includes 212 separate health-focused awareness days.

Despite their ubiquity, it's hard to know whether awareness days actually make a difference. That's because traditional methods, like telephone surveys, cannot be linked to a single event occurring on a single day. A recent review of awareness days, for instance, found that there was next to no evidence on their impact.

A new study led by San Diego State University Graduate School of Public Health research professor John W. Ayers, just published by *JMIR Public Health and Surveillance*, showcases a method for teasing out the impacts of awareness days using big data and finds that at least one awareness day is having a big impact.

Evaluating awareness days

The team of public health and computer science experts measured the impact of the Great American Smokeout, one of the longest running awareness events held annually on the third Thursday of November to promote smoking cessation. Since 2009, the team analyzed news reports on smoking cessation and Tweets encouraging cessation emerging from the United States to see if the Great American Smokeout's message was heard and shared.

They then checked if Americans engaged with that message by seeking resources to aid smoking cessation on Google and Wikipedia, or by calling quitlines that offer live counseling on how to quit.

"This strategy allowed us to observe how awareness days typically unfold in both the media and in the minds and actions of individuals," said study co-author Benjamin Althouse, a research scientist at the Institute for Disease Modeling and the Santa Fe Institute, and lead analyst for the study. "We can track how a cessation message moves across news and social media, and ultimately how the public reacts by seeking out additional information on how to quit."

Compared to what would be expected on a normal day, the Great American Smokeout typically coincided with a 61-percent increase in news reports on cessation and a 13-percent increase in tweets encouraging cessation. In practical terms, this was the second-highest daily news coverage of smoking cessation in several years, only falling short of New Year's Day.

Cessation-related Google searches, like "help quit smoking," typically increased by 25 percent on the Great American Smokeout, with visits to the Wikipedia cessation page and calls to quitlines typically increasing by 22 and 42 percent, respectively. This public engagement with smoking cessation translated into about 61,000 more instances of unique Google searches, Wikipedia visits, and calls to quitlines annually than expected.

Improving awareness days

"The Great American Smokeout is having a significant impact that far eclipsed our expectations for awareness days," Ayers said. "But just as important, our study shows how we can rapidly and efficiently evaluate hundreds of awareness days, many for the first time."

Lee Westmaas, a scientist with the American Cancer Society and coauthor of the study, added that newly available data mean awareness days can have even larger impacts going forward.

"The Great American Smokeout is one of the nation's oldest and most well known awareness days," Westmaas said. "Yet, these data finally allow
The advent of the big data era not only impacted the team’s ability to understand awareness days, but also potentially increased their impact.

"For the first time in history, the public can access and share information immediately, and instantaneously engage in improving their health via their smartphones," said Mark Dredze, assistant research professor at Johns Hopkins University and data architect for the study.

These findings, moreover, reinforce the role of awareness days. "A cost-efficient and well-focussed message coming from the public on a single day, like the Great American Smokeout, can potentially yield impacts just as large as paid media campaigns," said Eric Leas, a student of health communication at the University of California San Diego and study coauthor.

For example, Google searches for cessation during the Great American Smokeout rivaled those observed in the team's latest evaluation of the CDC's Tips from Former Smokers campaign.

"More work remains ahead, but these are some optimistic findings and implications."

Still, not all awareness days may be similarly impactful. For instance, there are nearly a half dozen awareness days that promote smoking cessation alone, like Kick Butts Day. What is the impact of replicate days? Do all awareness topics similarly resonate across the public? These and similar questions are now open to study for the first time, according to Adrian Benton, a computer science student at Johns Hopkins University and study coauthor.

"Public health can readily adopt and expand our approach to evaluate like campaigns, and make data-driven decisions for planning and targeting awareness days."

The team is crowdsourcing funds to continue investigating additional awareness days through Benefunder.