Internet search data provide timely, accurate picture of health behavior

Between half and two-thirds of people use the Internet to find health information, studies show. Quicker and more finely tuned analysis of those searches can provide meaningful information for public health surveillance, policy and delivery of services.

Kurt Ribisl, PhD, and colleagues from Johns Hopkins and Harvard universities, use Google searches as a tool to obtain valuable real-time information about health information-seeking behaviors. Their analysis has implications, not only for the specific health issue which they studied – online searches for e-cigarettes – but also for potential surveillance practices across other issues.

E-cigarettes are battery-operated electronic devices that contain liquid nicotine cartridges. When heated, they emit water vapor rather than smoke.

Rather than wait months to receive data from phone surveys with increasingly limited response rates, they analyzed – unobtrusively, at minimal cost and in real time – individuals' search behaviors for e-cigarettes, compared to searches for smoking cessation products (e.g., the nicotine patch) and alternative smoking products (e.g., snus, a powdered tobacco used by placing it under one's lip). This enabled researchers to confirm hypotheses about the impact of strict tobacco control laws on the public's search for cessation products or smoking alternatives. The rapid rise in popularity of e-cigarettes compared to other products over the period also points to the need for greater oversight of these products. The Food and Drug Administration (FDA) tested several e-cigarettes and detected the presence of carcinogens and diethylene glycol, a chemical used in antifreeze that is toxic to humans. However, in April 2011, the agency announced plans to regulate e-cigarettes as tobacco products rather than under stricter rules for drug-delivery devices.

Ribisl, associate professor of health behavior and health education in the Gillings School of Global Public Health, with John W. Ayers, MA, of Johns Hopkins Bloomberg School of Public Health, and John S. Brownstein, PhD, of Harvard University Medical School, published their findings recently in the *American Journal of Preventive Medicine*.

PHOTO BY WILL OWENS

Dr. Kurt Ribisl

"We think this method could become part of routine surveillance employed by state and federal public health agencies so as to quickly reallocate resources where they are needed most, across a range of emerging public health issues," Ribisl says.

– Elizabeth Witherspoon