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Social media surveillance: Using twitter to track influenza in Canada

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Tracking self-reported health information using the Internet, also known as “infodemiology”, provides public health researchers a unique opportunity to enhance communicable disease surveillance. The purpose of this study is to elucidate the utility of using Twitter traffic to strengthen both temporal and spatial surveillance of human and zoonotic influenza in Canada. Tweets (n=417,411) containing one or more of the following keywords: Cough, fever, flu, swine, swine flu, influenza, vaccine, Tamiflu, H1N1, pneumonia, avian flu, H3N2, H1N2, H5N2, flu shot, bird flu, grippe from Canadian-based accounts sent between August 2013 and July 2014 were collected and compared to laboratory-confirmed influenza cases as reported by FluWatch (Public Health Agency of Canada) for the same timeframe. The most commonly used influenza-related keywords were flu (32%), cough (23%), fever (21%), vaccine (9%), and flu shot (5%). The influenza-related keywords most strongly correlated with FluWatch reports from the same time period were: Flu, grippe, H1N1, influenza, and vaccine. A number of keywords (fever, cough, Tamiflu) were not well correlated with FluWatch reports. Lagged variable linear regression shows that Twitter keywords can predict national influenza trends prior to traditional influenza surveillance reports. This research will present the utility and limitations of using Twitter to enhance communicable disease surveillance in Canada.

Biography

Beswick A graduated with a Bachelor's degree in Biomedical Science from the University of Guelph in 2014. He is presently completing a Master's of Science in Epidemiology with the Department of Population Medicine at the Ontario Veterinary College. He has been awarded the Canadian Institute of Health Research Graduate Scholarship (2014 – 2015) and the Ontario Veterinary College Graduate Fellowship (2014 – 2016). He was recently published in the Canadian *Journal of Aboriginal Community-Based HIV/AIDS Research* for his work examining the role of social support in determining health outcomes of HIV-Positive Aboriginal populations in Ontario.

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