Ebola and the social media

In October 2014, during heightened news coverage about cases of Ebola in the USA, anecdotal observations suggested that many Americans were anxious about Ebola. Given the negligible risk of infection, their anxiety was arguably driven by perceived rather than actual risk. Exaggeration or reassurance from the media can inflame or subdue people's perceived risk of Ebola infection.[1] Fear can also be acquired by observation of other people's experiences, as expressed on social media.[2] Thus, social media amplified fear about the imported Ebola case.[3]

As discussed in The Lancet Editorial (Nov 8, 2014),[4] Twitter traffic shows an imbalance across the digital divide; there were more tweets about Ebola in the USA, where transmission was contained, than in Guinea, Liberia, and Sierra Leone, where there was and remains a continuing epidemic. Despite the risk to most Americans being negligible, many people expressed anxiety. The figure shows how worldwide traffic on Twitter and Google about Ebola increased as news spread about the first US case and how they compare with influenza (flu)-related searches and tweets. Similar peaks were observed when other news about Ebola was released. In a random sample of tweets, we observed that the frequency of Ebola-related tweets associated with negative emotions, anxiety, anger, swearing, and death, as well as discrepant thinking (eg, shouldn't),[5] were higher than those associated with influenza (see figure in appendix). Twitter data can provide public health practitioners with a quantitative indicator of anxiety, anger, or negative emotions in the general public where Twitter penetration is high. This indicator could help to alleviate anxiety and correctly communicate the risk associated with Ebola.

*Isaac Chun-Hai Fung, Zion Tsz Ho Tse, Chi-Ngai Cheung, Adriana S Miu, King-Wa Fu
cfung@georgiasouthern.edu

Department of Epidemiology, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro, GA 30458, USA (IC-HF); College of Engineering, University of Georgia, Athens, GA, USA (ZTHT); Department of Psychology, Emory University, Atlanta, GA, USA (C-NC, ASM); and Journalism and Media Studies Centre, University of Hong Kong, Hong Kong Special Administrative Region, China (K-WF)

1 Lazarus RS, Folkman S. Stress, appraisal, and coping. New York: Springer, 1984.
2 Bandura A. Social learning theory. Englewood Cliffs: Prentice Hall, 1977.
3 Pidgeon N, Kasperson RE, Slovic P. The social amplification of risk. Cambridge: Cambridge University Press, 2003.
4 The Lancet. The medium and the message of Ebola. Lancet 2014; 384: 1641.
5 Pennebaker JW, Chung CK, Ireland M, Gonzales A, Booth RJ. The development of psychometric properties of LIWC. 2007. http://www.liwc.net/LIWC2007LanguageManual.pdf (accessed Nov 18, 2014).

See Online for appendix

Ebola: national health stakeholders are the cornerstones of the response

The failure of the international response to the Ebola outbreak in Africa is sadly obvious. Without denying the commitment or the goodwill of non-governmental organisations, international agencies, and governments, or the substantial funding available, the results have clearly fallen short because the methods being used are not suited to the problem posed by this epidemic.[1] Indeed, with an informed population and an effective health-care system, Ebola is not very contagious, as shown by the swift control of cases in Nigeria, Europe, and the USA. But the health-care systems in the hardest-hit countries are in such poor shape that (under-equipped and severely short of health-care personnel) they are unable to respond to the emergency, no matter how much funding is placed at their disposal.

To use a war metaphor: there are not enough troops on the ground, particularly at the front-line, where new infections are occurring. There are 0·1 doctors per 10 000 people in Liberia and Côte d'Ivoire (compared with 32 in France and 25 in the USA),
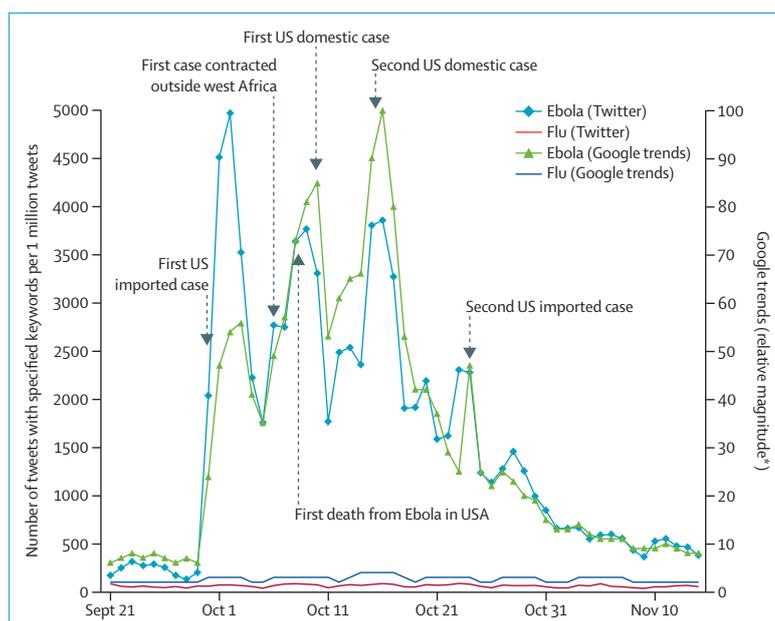

Figure: Temporal trends on Twitter and Google about Ebola and influenza (flu) before, during, and after Ebola cases in the USA, September to November, 2014
*Numbers are relative to the highest number of searches done on Google (for Ebola on Oct 16).