Supporting Temporal Analytics for Health-Related Events in Microblogs

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CHALLENGES:
• Automatically detecting public health-related events is crucially important for early warning, which helps health authorities to prevent and/or mitigate public health threats.
• Twitter messages (or tweets) can be used to infer the existence and magnitude of real-world health-related events, for example: (a) I have the mumps...am I alone?; or (2) #Cholera breaks out in #Dadaab refugee camp in #Kenya http://t.co/....
• None of these previous work focused on an temporal analysis of Twitter data for general diseases that are not only seasonal, but also sporadic diseases that occur in low tweet-density areas like Kenya or Bangladesh, as we perform in this work.

APPROACH:
Temporal analytics tool for supporting a temporal, retrospective analysis of infectious disease outbreaks mentioned in Twitter. Our tool will help medical professionals to analyze disease outbreaks with real-time, social media data. In addition, we provide a means of comparing the temporal development of an outbreak event mentioned in social media against official outbreak reports.

The functionalities of our temporal analytics tool include:
1) Automatically extract outbreak events from official health reports from World Health Organization and ProMED-mail
2) Generate time series data of Twitter for corresponding real-world outbreak events
3) Visualize/correlate the time series of Twitter vs. official sources in different temporal granularities (daily, weekly, monthly) and location granularities (country, continent, latitude, worldwide)

The system retrieves and displays results related to the event.

The system returns the list of all documents related to the event.