The Role of Informal Data Aggregated from Social Media Platforms in Disease Surveillance and Epidemiological Research

The use of informal data aggregated from social media in disease surveillance is a relatively unexplored topic in public health and bioethics. Analyzing informal data from social media platforms will allow public health officials to gain early insight into an evolving epidemic in near real-time in order to help plan a response weeks sooner than formal routes. Furthermore, developing risk prediction models from data aggregated from informal sources such as social media has great potential to supplement to formal data sources in predicting disease spread. Earlier intervention and control measures from this information can mean the difference between containment and epidemic.

As mobile technology continues to offer cheaper and more accessible forms of disease surveillance and warning systems, this paper discusses what role this technology should play in public health. Data mining social media sources to track the early stages of an infectious disease outbreak has the great potential in developing countries which often lack strong public health infrastructure but often have a burgeoning mobile communication infrastructure. Bearing this in mind, this paper will explore how social media and mobile technology can be used as a valuable tool to collect data and allocate resources in emergency health situations in a manner that is quicker and more effective than traditional forms of data collection and disease tracking. It is necessary to systematically harness informal data aggregated from social media sources in compliance with ethical principles. This paper analyzes the ethical concerns surrounding the use social media in epidemiological tracking, including issues of access, informed consent, privacy, and individual autonomy. This paper offers policy suggestions and concludes that these concerns can and must be surmounted as the utilization of social media has the capacity to transform disease surveillance and how healthcare workers respond to public health emergencies.

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