

Feeling unwell? Your mobile could be your best defence against infection

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Reporting disease using mobiles and online systems is the next weapon against emerging infectious diseases, a new study suggests.

The paper entitled, 'New technologies for reporting real-time emergent infections' which is published by Cambridge Journals in [Parasitology](#), demonstrates that a potential epidemic, whenever or wherever in the world it appears, is now easier than ever to identify, discover and respond to.

The study examines the range of new technologies which are revolutionising infectious disease surveillance, connecting the public directly to healthcare agencies and [epidemiologists](#).

Using data from social media, blogs and online chats, as well as searching trends, real-time reporting can be monitored so that reports of isolated cases and outbreak detection intelligence can be collated and sorted more quickly. Integrated point-of-care diagnostic tools also provide opportunity for near real-time detection and communication of disease markers. Describing a disease, and the way it might be spreading, allows healthcare to be deployed earlier, and suffering prevented.

Early identification and tracking of [emerging infectious diseases](#) is crucial in catching a potential epidemic or pandemic, like H1N1 ([swine flu](#)) or SARS ([severe acute respiratory syndrome](#), a good example of how quickly modern travel can spread a virus), and preventing transmission.

Although some online reporting systems have been available for a few years in other sectors they are now maturing and have been successfully adapted to healthcare data sources. This transition means they are now being recognised as valuable tools in addition to traditional public health systems by governmental and multi-lateral health bodies such as the [World Health Organisation](#) (WHO) and the Centre for Disease Control (CDC).

Technologies such as HealthMap and initiatives like UN Global Pulse are being assisted by the expansion in the communication infrastructure worldwide, with greater bandwidth availability and wider geographic access, particularly via smartphones. The traditional system has layers of verification and aggregation built in; these characteristics naturally incur delays and rely on specific people for information. Harnessing the benefits of each of the systems in parallel would be optimal. The amount of data available can now also be processed in a more focussed timely way and when combined with geographical, spatial, temporal and socio-economic factors to can help predict infection rates and directions.

The authors of this paper commented, "Patterns of infectious and chronic disease around the world are constantly shifting, so it is important that we make use of new technologies to get better information about the spread of diseases. These tools will enable us to inform effective prevention and control measures as well as learn about aspects of health that previously could not be uncovered."

The research is available in a special issue of *Parasitology*, "Dynamics of parasite distributions: modern analytical approaches," published by Cambridge Journals.

Provided by Cambridge University Press

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