

Innovative use of social media platform WhatsApp during influenza outbreak in Gujarat, India

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Between November 2014 and April 2015, India experienced a severe outbreak of influenza A(H1N1)pdm.¹ The state of Gujarat was especially affected. Between 1 January and 22 February 2015, there were 3107 reported A(H1N1)pdm cases and 207 reported deaths, with more believed to be unreported. By comparison, during the whole of 2014, there were 157 cases and 55 deaths reported.²

The state capital of Ahmedabad is a major health-care centre for western India, and is well connected with neighbouring states such as Rajasthan and Madhya Pradesh, which were also severely affected by the influenza outbreak. At the beginning of November 2014, Ahmedabad had about 100 isolation beds in government-run hospitals, about 25 isolation beds in major private hospitals and fewer than 20 paediatric isolation beds in the private and public sectors combined.

By January 2015, the number of cases confirmed by real-time reverse transcriptase polymerase chain reaction was increasing by almost 90 daily, and an additional 100 cases were being referred each day to Ahmedabad from other cities or states. Public anxiety was high, and newspapers were publishing daily updates on numbers of cases, deaths and hospital discharges, from the government registry. The state government policy was to allocate isolation beds to patients with severe disease requiring hospital admission. The state government increased the number of isolation beds to more than 600 in Ahmedabad and was coordinating with private hospital managers and doctors to help increase capacity. Private hospitals increased their capacity to around 100 isolation beds. The resultant situation was extremely challenging with regard to coordination of patients and availability of isolation beds.

As an innovative solution to the immediate needs for coordination, a group of private intensive-care physicians decided to use the WhatsApp Messenger cross-platform application to facilitate communication between key stakeholders. WhatsApp is a smartphone app in which up to 100 people can be part of one group and one person can be part of any number of groups. The app allows sharing of links, pictures and other media, in addition to live chat and call facilities. We selected WhatsApp because it is widely used in India. Four administrators controlled overall data-sharing, to ensure maintenance of patient privacy. We created a core group, consisting of 16 adult and paediatric intensivists and

other doctors in private hospitals involved in managing patients infected with influenza A(H1N1)pdm. Each core-group doctor created their own WhatsApp group of their referring physicians/paediatricians, including those from outside Ahmedabad. Around 100 doctors used the service of this WhatsApp system. The core group coordinated with government hospitals equipped with isolation and testing facilities. Through this two-tier network, a range of information was shared, including: daily updates on the number of isolation beds available in all major hospitals, with near real-time updates of empty-bed status; daily updates on the availability of invasive/non-invasive ventilators and extracorporeal membrane oxygenation machines; regular updates on and discussion of complex cases; a list of pharmacies with stocks of oseltamivir and influenza vaccine; and a list of government hospitals testing for influenza A(H1N1)pdm, together with their batch timings.

Patients' privacy was protected by sharing only non-identifiable laboratory and imaging reports. Use of WhatsApp enabled easy information-sharing among doctors – and even with patients – in real time. We found we could share radiographs and computed tomography scan reports more efficiently than by, for example, email. In addition, the WhatsApp system facilitated discussion of results with specialists.

In this example, social media provided a simple information-sharing platform between practitioners. Anecdotally, we are aware that the strategy helped many doctors and patients, through improved coordination. The outbreak underscored India's need for strong influenza surveillance, outbreak preparedness and response, plus vaccination for high-risk groups.¹

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There has been an increased interest in use of social media as an effective communication tool for crisis and risk management.³ Regulatory issues and a lack of guidance on appropriate use have perhaps led to reluctance to use social media. For example, in the context of social media in clinical care, key concerns about the privacy of patient data have been debated and the need for bespoke, secure platforms emphasized.⁴

Use of social media for disease surveillance and outbreak management was the subject of a recent systematic literature review.⁵ The authors identified only a few scientific studies published to assess the performance of social media in this context. The review authors suggested that this may be because of difficulties in translating research that uses social media for biosurveillance into practice, plus the current lack of an ethical framework to integrate social media into public health surveillance. Nevertheless, the review demonstrated some evidence that data on social media could facilitate real-time surveillance of health issues and outbreak management.

We plan to keep the WhatsApp groups active and develop more formal protocols to facilitate responses to future emergencies; we would also like to involve more doctors across neighbouring states. Based on our experiences, we recommend further investigation of the potential role of social media during such public health events.

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