
Role of Social Media in Investigating an Outbreak: The Good, the Bad, and the Ugly — Los Angeles, February 2011

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Background: On February 11, 2011, public health officials received a journalist's inquiry about an outbreak of respiratory illness reported through social media by attendees of a conference held during February 1–3. Several attendees indicated a legionellosis diagnosis. We investigated to characterize illnesses, identify etiology, and determine associated exposures.

Methods: We reviewed blogs, Twitter[®], and Facebook[®], and emailed a SurveyMonkey[®] survey to all 715 conference attendees from 30 countries to assess symptoms, illness onset, and exposures. A case was defined as fever and ≥ 1 symptom (headache, cough, dyspnea, or myalgias) with onset after February 1. Specimens from 20 ill attendees were tested for *Legionella* and other respiratory pathogens. Environmental samples from conference venues were tested for *Legionella*.

Results: Seventy-nine persons self-reported illness through social media. Of 715 attendees surveyed, 439 responded, of which 300 responded within 2 days. Of 439 respondents, 123 met the case definition; 69 (56%) reported illness onset on February 5, suggesting a point-source outbreak. The relative risk for illness associated with attending a Venue A party on February 3 was 3.8 (95% confidence interval: 1.9–7.4). *Legionella pneumophila* was isolated from a Venue A whirlpool spa ; however, no case of legionellosis has been confirmed among attendees. Three attendees tested positive for 2009 pandemic influenza A (H1N1). Patient serology for *Legionella* and influenza is pending.

Conclusions: Exposure to Venue A was associated with increased risk for illness; epidemiologic and environmental findings indicate the potential involvement of *Legionella pneumophila* or influenza. Social media helped identify this outbreak among geographically dispersed persons and facilitated rapid survey response. However, unconfirmed social media rumors might have influenced recall among attendees and the public health investigation.

Keywords: blogging, twitter messaging, respiratory disease, *Legionella*, influenza
