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Citation

Published Version
doi:10.1093/ofid/ofu052.1263

Citable link
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Eagle County and Flu Near You: An Innovative Partnership to Implement a Participatory Epidemiology Tool to Enhance Infectious Disease Preparedness Prior to a Mass Gathering Event

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Session: 210. Public Health
Saturday, October 11, 2014: 12:30 PM

Background. Eagle County, CO will host the World Alpine Ski Championships in 2015 during the height of the respiratory illness season. This international event will quadruple the population of our rural community and increase the risk for importation and dissemination of infectious diseases. Traditional public health (PH) surveillance relies on laboratory and healthcare provider reporting. System limitations include delayed reporting, inconsistent population coverage, and poor sensitivity for emerging diseases. Our goals were to test Flu Near You (FNY), a free, participatory mobile disease tracking system using existing staffing and PH resources to determine if the data enhances our surveillance capabilities prior to the 2015 event.

Methods. The confidential participant data collected on a weekly basis through the FNY website is aggregated on a web-based map to show the spread of influenza-like illness (ILI) across the U.S. and locally. Eagle County Public Health (ECPH) and FNY built community-specific recruitment tools to increase participation for our region. Local and national data was reviewed routinely as part of standard PH surveillance during the 2013-2014 season, alongside traditional ILI data.

Results. The FNY data detected the arrival of ILI in our county a week before the first reported hospitalized case. Spikes in FNY reports coincided with community reports of illnesses in schools and workplaces that were not detected using traditional surveillance. Though the results were anecdotal and limited by a small sample size, the early warning allowed ECPH to rapidly disseminate infection prevention messages to community partners. In addition, the novelty of the FNY program opened doors to community groups that traditionally would not have engaged in influenza prevention and control.

Conclusion. The use of a free, participatory epidemiology tool to enhance disease surveillance in a rural community demonstrated promising results. When communities are presented with high-risk events, such as a mass gathering, PH professionals should look outside of their traditional circles to leverage additional resources. With increased adoption, we expect the program will provide sustainable surveillance data to enhance the preparedness of our community for future disease outbreaks.

Disclosures. All authors: No reported disclosures.