
**Computer Systems Administrators Conference, April 2016
Outbreak investigation Report
Outbreak 2016-3922**

BACKGROUND

On April 14, 2016, Multnomah County Health Department (MCHD) was notified that approximately 77 of 144 conference attendees were ill after attending the Computer System Administrators (CSA) Conference April 4–7, 2016, at the Hilton Hotel in Portland, Oregon.

METHODS

Environmental Health Inspection of the Hilton Hotel

On April 15, MCHD Environmental Health Manager and Epidemiologist performed a site visit of both restaurant and banquet kitchens, obtained menus for the meals served by the Hilton Hotel during the conference, and inquired about any other parties who had visited the Hilton during the same time period and whether they had reported illness. MCHD also requested aggregate staff absenteeism numbers for the preceding three weeks to determine whether there had been a spike in employee illness at the time of the CSA conference.

On April 18, another site visit was conducted to obtain information concerning the operation and maintenance of the HVAC system along with pest control policies.

Epidemiologic Investigation

MCHD worked with the conference organizers to obtain aggregate symptom profiles, the conference agenda, information about other activities that took place during the week of the conference, and contact information for the conference registrants and vendors.

MCHD e-mailed a secure electronic survey to 207 conference registrants and vendors. The survey asked about symptoms, potential exposures, including meals catered by the Hilton Hotel, other group activities, use of pool or hot tub, and whether ill attendees sought medical care.

MCHD and the Oregon Health Authority (OHA) contacted individuals who reported illness and whose provider ordered testing. MCHD and OHA also contacted ill individuals who agreed to submit specimens for further testing (swab for respiratory illness or a stool sample).

A confirmed case was defined as a CSA conference attendee at the Hilton Hotel, April 4–7, 2016, with laboratory-confirmed influenza infection. A probable case was defined as an attendee with Influenza-like Illness (ILI), i.e., fever and a cough or a sore throat.

RESULTS

One hundred twenty-nine registrants and vendors responded to the survey. Six were excluded because they did not attend the conference, for a response rate of 61% (123 of 201). The median age of all respondents was 46 years, and 82% were male. Age and sex were not significantly different between ILI cases and non-ILI cases. (Table 1.)

MCHD obtained laboratory results from three ill individuals who were tested through their healthcare providers; one was positive for Influenza A, and two others two had negative results (both were negative for rapid flu A and B, and one of the two also had a negative rapid strep test). MCHD contacted two additional individuals who expressed interest in testing. A nasopharyngeal swab collected from one individual was negative by both respiratory virus panel PCR and viral culture, although the negative specimen was collected 9 days after symptom onset. The other individual declined further testing. Other state health departments were also contacted with requests to follow up with residents of their jurisdictions who expressed willingness to provide specimens; results are pending at this time. In all, among the 123 respondents, 48 (39%) met the case definition: 47 probable and one laboratory-confirmed. Symptom profiles are shown in Table 2.

Although a range of symptoms was reported, most ill respondents reported having respiratory illness, reflective of Influenza-like Illness. Twenty-nine respondents (24%) reported gastrointestinal symptoms (diarrhea or vomiting). Nine of those were not classified as cases in our investigation because they did not meet the ILI case definition.

Illness onsets ranged from March 30 to April 13, with 92% of onsets occurring during April 5–7. The duration of illness among cases ranged from 36 hours to 8 days. However, at the time of their interview, sixteen (33%) of the cases reported that their symptoms had not yet resolved. Fourteen people (29%) sought medical care at an urgent care facility. No hospitalizations or visits to the emergency department were reported.

TABLE 1. Demographic characteristics of cases and non-cases,* outbreak of Influenza-like Illness at the CSA Conference, Portland — Oregon, 2016

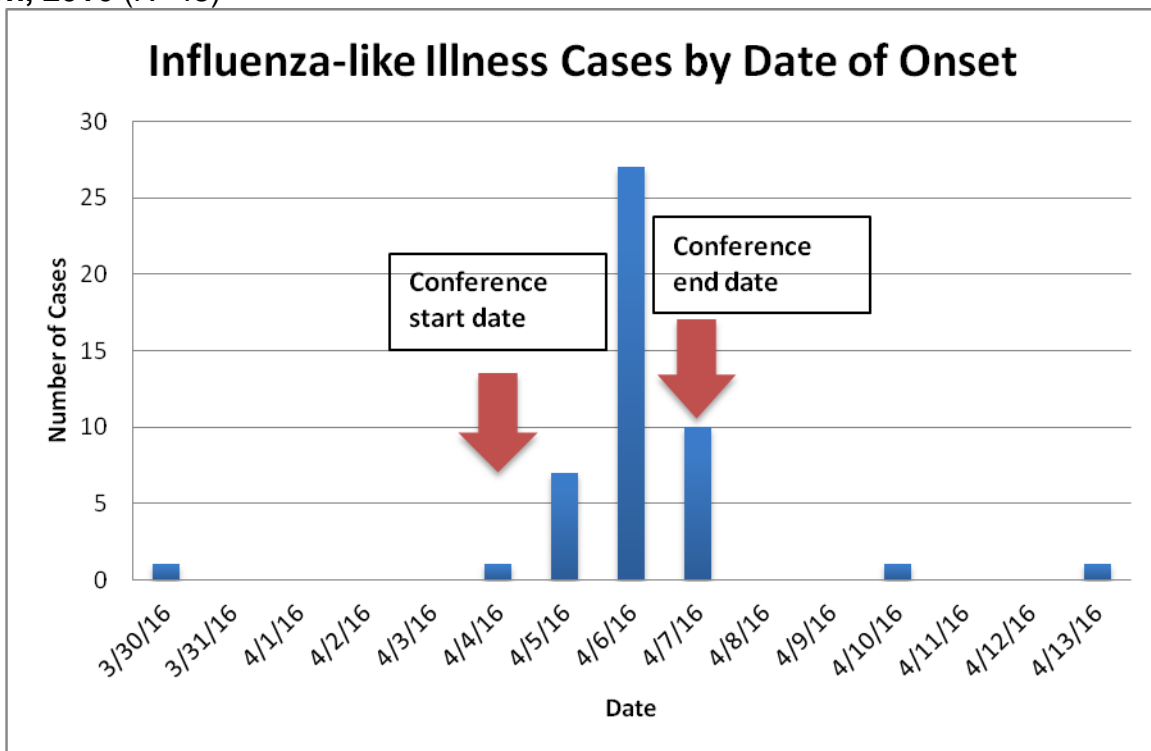
	Cases(n=48)	Non-cases (n=75)	Total (N=123)
Median Age, years (range)	47 (29-64)	44 (29-66)	46 (29-66)
Gender: Female (%)	19	17	18
Gender: Male (%)	81	83	82

*N = 123 individuals responded to the survey. Cases were defined as people meeting the confirmed or presumptive case definition for Influenza-like Illness, defined above.

TABLE 2. Symptom profile among cases and non-cases, outbreak of Influenza-like Illness at the CSA Conference, Portland — Oregon, 2016)

Symptom	Cases # (%) (n=48)	Non-cases # (%) (n= 75)
Cough	48 (100%)	29 (39%)
Fever	48 (100%)	4 (5%)
Body aches	43 (90%)	19 (25%)
Fatigue	41 (85%)	23 (31%)
Headache	40 (83%)	16 (21%)
Sore throat	32 (67%)	22 (29%)
Light-headed or dizzy	28 (58%)	11 (15%)
Coryza (congestion)	28 (58%)	15 (20%)
Diarrhea	20 (42%)	9 (12%)
Nausea	20 (42%)	11 (15%)
Diarrhea ≥3x in 24 hours	12 (25%)	7 (9%)
Stomach cramps	10 (21%)	6 (8%)
Vomiting	4 (8%)	0
Bloody diarrhea	0 (-)	0 (-)

Figure 1. Epidemic Curve: Cases by Date of Illness Onset, CSA Conference — Portland, Oregon, 2016 (N=48)



None of the exposures reported in the questionnaire (e.g., group activities, meals provided by the Hilton Hotel, use of the pool) were significantly associated with illness.

Eleven respondents indicated that a close contact (coworker or household member) was sick within the two weeks before the respondent's illness onset, with contact onsets from March 3, 2016 to April 4, 2016.

In addition, one attendee reported having an onset of ILI and gastrointestinal illness on March 30, 2016, and reported having these symptoms while at the conference.

Environmental Health Investigation Findings

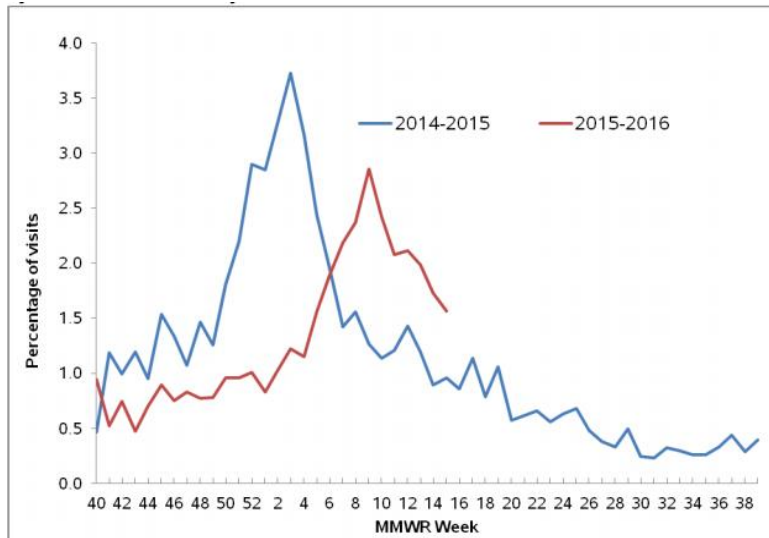
Inspections of the restaurant kitchen, banquet kitchen, and HVAC system were unremarkable. All conference meals were prepared in the banquet kitchen, which has ~6–15 kitchen staff at any given time. Air filters in the HVAC system are changed every month while the HVAC is monitored by Hilton staff and a third-party company. There have been no recent renovations on the Ballroom level floor, where CSA conference activities were held. None of the findings suggested that illness was caused by a chemical exposure or a contaminated food item.

Front staff at the Hilton Hotel anecdotally reported that some employees had reported respiratory illness in March and April, 2016. The general manager reiterated that the Hilton Hotel has a strict policy of sending sick employees home until they have been symptom-free for 24–48 hours. The hotel had not received any reports of foodborne illness, and there had been no other reports of illness from other parties or events at the Hilton Hotel during the same time period as the CSA Conference. Likewise, MCHD Environmental Health had received no complaints about Hilton Hotel during the time period of the CSA Conference.

Trends of Influenza-like Illness in Multnomah County and across the nation: April 3-9, 2016

During the week of the conference (April 3–9, 2016), ILI was prevalent in Multnomah County, according to MCHD and OHA surveillance systems for outpatient visits, Emergency Department visits, and hospitalizations. Approximately 2% of all Emergency Department visits were for ILI-related reasons in Multnomah County during the week of the CSA Conference. During the non-influenza season, this percentage is closer to 0.5%. ILI peaked later this season — a few weeks before the conference — than in preceding years (see Figure 2 below).

Figure 2. Epidemic Curve: Percent of Emergency Department Visits for Influenza-like-Illness, Multnomah County, Oregon ESSENCE Syndromic Surveillance System



Nationwide during the week of April 3–9, multiple regions reported elevated ILI activity, including the East Coast, South, and the Pacific Northwest (Health and Human Services Regions 1, 2, 3, 4, 8, and 10).

CONCLUSIONS

MCHD’s investigation of a cluster of ILI illness among CSA attendees at the Hilton Hotel, April 4–7 did not identify any specific exposures or risk factors that were associated with illness.