Washoe County Health District

EPI - NEWS

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Outbreaks Reported in Washoe County, 2009

2009 was a very busy year for the Epi Team, an outbreak response team consisting of staff from various divisions at the Washoe County Health District (WCHD). In addition to commonly reported gastroenteritis outbreaks (N=15) which occurred among facilities with susceptible populations in congregate settings (child care facilities, schools, extended care facilities and assisted living facilities), influenza outbreaks accounted for nearly 60% (24/41) of all outbreaks reported in Washoe County in 2009. The purpose of this article is to provide an overview of outbreaks reported in Washoe County in 2009 and to make recommendations for healthcare providers in an effort to assist the Health District in the early detection and rapid control of outbreaks.

Summary

A total of 41 outbreaks were reported to WCHD in 2009. Of 41 outbreaks, 37% (15/41) were gastroenteritis, 59% (24/41) were influenza or influenza-like-illness, and the remaining 4% (2/41) included typhoid fever associated with international travel and a suspected group A *streptococcal* infection. Thirty (30) of 41 outbreaks were laboratory-confirmed. The confirmed or suspected etiology for these outbreaks is as follows:

- *Influenza* 24 (59%)
- *Norovirus* 13 (32%)
- *Salmonella rissen* 1 (2.4%)
- *Salmonella typhi* 1 (2.4%)
- *E. coli O157:H7* 1 (2.4%)
- *Group A Streptococcus* 1 (2.4%)

Schools, child care, and extended care facilities were the most commonly affected settings for outbreaks in 2009. Schools accounted for 44% of all reported outbreaks, followed by child care facilities (24%), extended care facilities (15%) and event related (5%).

Norovirus

Noroviruses are named after the original strain "Norwalk virus," which caused an outbreak of gastroenteritis in a school in Norwalk, Ohio, in 1968. Currently, there are at least five norovirus genogroups (GI, GII, GIII, GIV, and GV), which in turn are divided into at least 31 genetic clusters. GII is the most common genogroup seen in our community (verbal communication with Dr. Sergey Morzunov, Nevada State Health Laboratory, 2/24/09). Thirteen outbreaks involving 436 ill individuals were reported in Washoe County in 2009, which accounted for over 32% of all reported outbreaks. Nine of these outbreaks were laboratory confirmed, the remainder were suspect norovirus. Reported outbreak settings include child care facilities, extended care facilities, event related, and a school. Three outbreaks may have been food borne; the remaining 10 outbreaks were most likely transmitted person-to-person. Norovirus is highly contagious and as few as 10 viral particles may be sufficient to infect an individual. During outbreaks of norovirus gastroenteritis in congregate settings (i.e., child care facilities, extended care facilities, and schools), WCHD recommends that ill persons stay home for 72 hours after their last symptom (i.e., vomiting or diarrhea). Health care providers should encourage their patients who work in sensitive occupations (food handlers, health care workers, child care providers, etc.) to stay home from work for 72 hours after their symptoms resolve in the presence of an outbreak. Health care providers should also encourage parents to keep their children home from child care for 72 hours after the child's symptoms resolve in the presence of an outbreak. Given the genetic variability of noroviruses, individuals are likely to be repeatedly infected throughout their lifetime. Reverse transcriptase polymerase chain reaction (RT-PCR) can be used to identify the organism in the stool. This test is available at commercial laboratories (LabCorp, Quest) and the Nevada State Public Health Laboratory (NSPHL).

Please share this document with all physicians & staff in your facility/office.

Salmonella

Two salmonellosis outbreaks were reported in 2009. One outbreak involving seven laboratory-confirmed cases was part of a western states outbreak of *Salmonella rissen* infections associated with contaminated ground white pepper. There are approximately 2500 identified salmonella serotypes. In Washoe County between 1996-2009 a total of 501 laboratory-confirmed salmonellosis cases with 76 different serotypes were reported. In that time period none of the *Salmonella* isolates were identified as *Salmonella rissen* before 2009. In March 2009, NSPHL was the first State lab to make an announcement in the nation that three isolates from Northern Nevada residents were identified as *Salmonella rissen*, which was a very usual finding. Subsequent joint investigations in the following three months conducted by four States (California, Nevada, Oregon and Washington) identified 85 additional cases; 11 of which were from Nevada and 7 of the 11 cases were Washoe County residents. Interesting findings for this particular *Salmonella* serotype include a longer incubation period and, in nearly 40% of cases, the pathogen was isolated from a urine specimen rather than from stool. Within three weeks of outbreak detection, a vehicle for this outbreak was finally identified. The "culprit" for this outbreak was Lian How ground white pepper processed and distributed by a company located in Union City, California. Because of the prompt identification of a "culprit," the outbreak was soon halted after the affected products were recalled.

The other salmonellosis outbreak was *Salmonella typhi* infection among two siblings with a history of international travel during their incubation period. Neither case received typhoid vaccination prior to travel.

Healthcare providers are encouraged to collect stool specimens from patients presenting with diarrheal illness to allow for identification of the specific etiology.

Influenza and Novel H1N1

Laboratory-confirmed influenza is a reportable condition in Nevada. In 2009, 2559 lab-confirmed influenza cases were reported in Washoe County, a 586% increase than the average annual reported cases during the period 2005 through 2008. The graph at the bottom of this page describes a time-series trend of emergency room visits for influenza related illness at all hospitals in the community. Influenza presents a strong seasonal effect, with peaks typically observed during January-March. However, in 2009 additional peaks were observed during April-May and September-October due to novel H1N1 influenza A outbreaks. Schools, especially middle schools, were affected the most during the novel H1N1 outbreak in 2009. In May 2009, one middle school had an absenteeism rate over 18% in one day due to influenza-like-illness and resulted in school closure for two days. Effective with the 2009-2010 school year, WCHD has been collaborating with the Washoe County School District to implement a School Absenteeism Monitoring System (SAMS) into daily practice. This system monitors medical reason related daily absences by each school with the purpose of early detection of outbreaks and monitoring trends during an outbreak investigation. In addition to school settings, seven (7) day care facilities and a correctional facility also experienced novel influenza A H1N1 or influenza-like-illness outbreaks in 2009.

When you SUSPECT a disease outbreak, please report it to the Health District at 775-328-2447 immediately. Your early recognition and timely reporting is a critical step for the Health District to implement prevention and control measures in a timely fashion.