Washoe County Health District

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Outbreaks Reported in Washoe County, 2010

Although the number of outbreaks received at Washoe County Health District (WCHD) in 2010 was significantly less than those reported in 2009, several outbreak investigations were resource intensive. The purpose of this article is to provide an overview of outbreaks reported in Washoe County in 2010 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 21 outbreaks were reported to WCHD in 2010. Of 21 outbreaks, 71% (15/21) were gastroenteritis, 14% (3/21) were rash illnesses, 10% (2/21) were respiratory illnesses, and the remaining 5% (1/21) was associated with an occupational exposure. Sixty-two percent (13/21) of outbreaks were laboratory-confirmed. The confirmed or suspected etiology for these outbreaks is as follows:

- *Norovirus 12* (57%)
- *Varicella-zoster Virus* 2 (10%)
- *Salmonella enteritidis* 1 (5%)
- *Giardia* 1 (5%)
- *Unknown 5 (23%)*

Extended care facilities (ECFs), community living facilities (CLFs), childcare centers, and schools were the most commonly affected settings for outbreaks in 2010. A third of outbreaks occurred in ECFs or CLFs; 24% of outbreaks were in childcare facilities or schools. Other settings include workplaces, restaurants, and the community (part of a national outbreak).

Norovirus

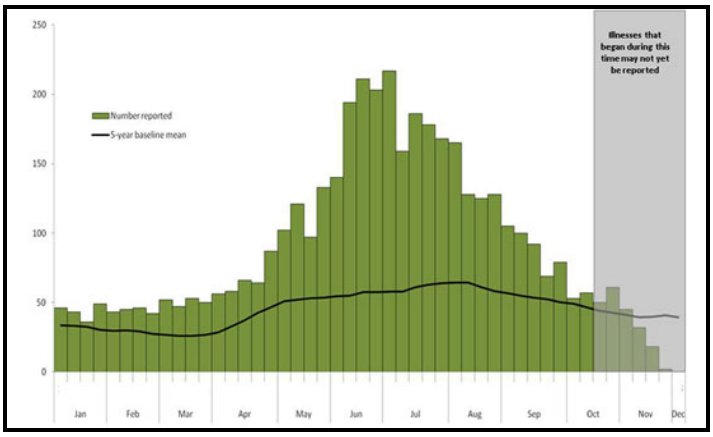
Noroviruses are named after the original strain "Norwalk virus," which caused an outbreak of gastroenteritis in a school in Norwalk, Ohio, in 1968. Noroviruses are highly heterogeneous and can be genetically divided into 5 different genogroups (GI-GV), with human strains classified in genogroups GI, GII, and GIV, and at least 25 genotypes. The majority of norovirus outbreaks are caused by GII viruses.[1] Twelve (12) outbreaks involving 339 ill individuals were reported in Washoe County in 2010, which accounted for 57% of all reported outbreaks and 75% of reported illness from all outbreaks. Nine (9) of these outbreaks were laboratory confirmed, the remainder were suspect norovirus. Reported outbreak settings include extended care facilities, child care facilities, an acute care hospital, a workplace, and associated with restaurants. One outbreak may have been foodborne; the remaining 11 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., extended care facilities, child care facilities, and schools), WCHD recommends that ill persons stay home (or in the case of institutional settings remain in their rooms) 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 or school 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. A norovirus vaccine is under research.[1] 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).

Salmonella Enteritidis

One salmonellosis outbreak was reported in 2010. This outbreak was associated with the nationwide *Salmonella* enteritidis outbreak linked to shell eggs. From May 1 to November 30, 2010, approximately 1,939 illnesses were reported that are likely to be associated with this outbreak in the nation (see following graph for epidemic curve of this outbreak. Source: www.cdc.gov dated on 12/02/2010). The outbreak was declared to be over nationwide on December 2, 2010 because reported illness levels returned to the normal baseline. In Washoe County, a total of 33 laboratory-confirmed *Salmonella* enteritidis cases were reported in July and August of 2010, far above the expected baseline for that time period. Intensive investigations were conducted. Of 33 confirmed cases, 30 were likely associated with this national outbreak because of epidemiological link to

[1] Jan Vinje. A Norovirus Vaccine on the Horizon? JID 2010:202 (1 December)

the shell eggs recalled in August 2010 by the Food and Drug Administration (FDA).



Giardia

An outbreak of giardiasis associated with a local golf course was identified through a traditional CD investigation of several reported laboratory-confirmed cases with common exposure histories. Subsequent epidemiological and environmental investigations found that 19 laboratory confirmed cases were associated with this outbreak. Onset dates were between July 11 and August 28, 2010 with a peak of onset dates between July 25 and 31. Although a definitive source of infection could not be determined, the investigation indicated the most likely source was non-potable water from surrounding ditches used to irrigate the golf course. Appropriate control measures were implemented and no further cases associated with the golf course were identified.

Varicella

A varicella outbreak is defined as the occurrence of five (5) or more varicella cases that are related in place and epidemiologically linked.[2] Two varicella outbreaks were reported from two schools (School A and B). During the period of January 13 through April 20, 2010, 13 cases were reported from school A, which represented an attack rate of 5.4% among students. Of 13, one (1) was a severe case (skin lesions >=500), three (3) were moderate cases (skin lesions 50-500), and nine (9) were mild cases (skin lesions <50). Eight (8) cases sought medical care and none were hospitalized. Ten (10) of 13 cases received one dose of vaccine prior to illness and three (3) had no prior history of chickenpox disease and had never received varicella vaccine. Investigation revealed that many students were under vaccinated or lacked documentation of immunization records. A total of 112 doses of varicella vaccine were given to students who were susceptible or under-vaccinated resulting from this outbreak investigation.

[2] National Center for Immunization and Respiratory Diseases. CDC. Strategies for the Control and Investigations of Varicella Outbreaks 2008.

During the period of March 16 through May 24, 2010, six (6) cases were reported from school B, which represented an attack rate of 1% among all school students but 4% among students residing in one particular dorm. Five of six cases were foreign born. Four of six had no history of chickenpox disease or prior varicella vaccination, one had unknown history of chickenpox and no varicella vaccination, and one had no history of chickenpox and questionable record for varicella vaccination. Varicella-zoster virus DNA was detected from a skin lesion specimen from one patient. A total of 43 doses of varicella vaccine were given to unvaccinated or under vaccinated students.

According to the *Recommended Immunization Schedule for Persons Aged 7 through 18 Years*, children aged 7 through 18 years without evidence of immunity should be given 2 doses of varicella vaccine if not previously vaccinated, or should be given a second dose if only 1 dose has been administered.[3] **Beginning with the 2011-2012 school year, 2 doses of varicella vaccine is required prior to school entry for all K-12 students new to the school district.** [4]

Other Outbreaks

- A skilled nursing facility reported a cluster of suspect scabies among five (5) residents.
- An outbreak of upper respiratory illness was reported by an office.
- An elementary school reported greater than 10% school absenteeism due to symptoms of cough and vomiting; etiology was not identified.
- A cluster of elevated blood arsenic level among persons who engage in a special occupation was reported. Further laboratory evaluation revealed no anomalies among those individuals.
- A total of 12 persons ill with gastrointestinal symptoms were reported after media reported a local water district detected *E. coli* in routinely collected water samples and a boil water order was issued. Investigation from routine surveillance systems did not detect increased illness activities in the affected area.

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 promptly implement prevention and control measures.

[3] http://www.cdc.gov/vaccines/recs/schedules/downloads/child/7-18yrs-schedule-pr.pdf

[4] Nevada State Health Division. Nevada Laws Requiring Immunization of Children in Public Schools, and Private Schools. Technical Bulletin. December 7, 2010.