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KNOWING YOUR COMMUNITY

Overview of Infectious Diseases in Washoe County, 2007

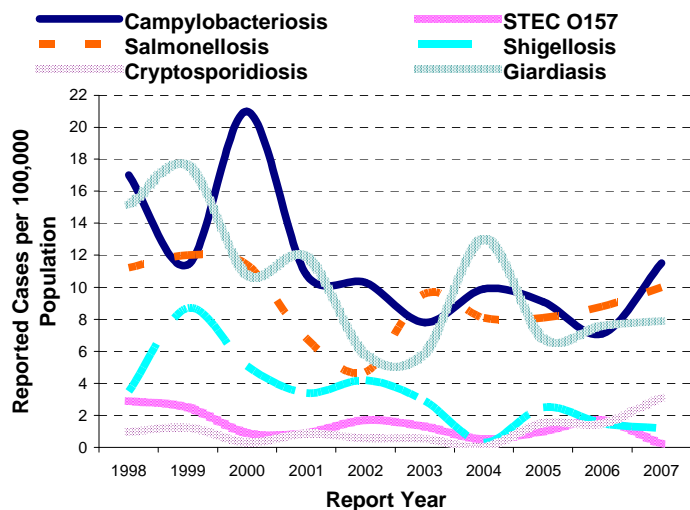
Introduction

The state of Nevada was ranked 39th in the nation for overall health in 2007 by the United Health Foundation¹. Infectious disease (expressed in cases per 100,000 population), is one measure used to describe community environment, which is one of the four groups of health determinants evaluated in the report. Despite Nevada's poor overall ranking, incidence of infectious disease in 2007 was 20.0 per 100,000 population, down from 43.6 in 2000.

The Washoe County District Health Department (WCDHD) has been compiling the Annual Communicable Diseases (CD) Summary since the 1980s. The purpose of this article is to describe infectious diseases reported in Washoe County in 2007. Please check the Health Department's website at <http://www.co.washoe.nv.us/health/cdpp/home.html> for the complete report and reports for previous years.

Enteric Diseases

Figure 1. Incidence Rate of Reported Enteric Diseases, Washoe County, 1998-2007



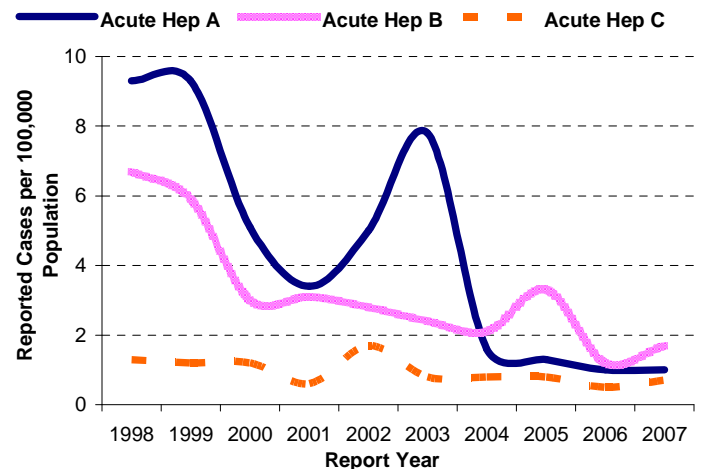
Of 147 cases with gastroenteritis reported in 2007, 123 cases (84%) were caused by *Campylobacter* spp., *Salmonella*, and *Giardia*. The remaining cases were caused by *Shigella*, Shiga toxin producing *E. coli* including *E. coli* O157:H7, *Cryptosporidium*, and *Vibrio parahaemolyticus*. The trend of incidence for commonly reported enteric diseases is shown above in Figure 1. Washoe County did not meet the Healthy People (HP) 2010 objective for Salmonellosis, which is 6.8 cases per 100,000 population. However, enteric diseases are most likely under-detected and under-reported (unpublished data) therefore the reported rates may underestimate the actual incidence. Healthcare providers are encouraged to collect stool

specimens for a routine stool culture or rapid antigen test to identify pathogens for patients with a diarrheal illness. Doing so will improve case identification and potential outbreak detection, assist in disease control and prevent further transmission, especially if the case works in a sensitive occupation such as food handling, child care, or healthcare.

Hepatitis

In 2007, each of the reported incidence rates of acute hepatitis (A, B, C) were less than 2 cases per 100,000 population (See Figure 2, below). Washoe County met the HP 2010 objectives for all three diseases. The significant reduction of acute hepatitis A since 2004 is most likely attributed to mandatory immunization against hepatitis A virus for children entering a Nevada school for the first time beginning in July 1, 2002.

Figure 2. Incidence Rate of Reported Acute Hepatitis, Washoe County, 1998-2007



From 1990-2007, 1,109 unique cases (0.27% of the county's population) of chronic hepatitis B were reported. From May 2002-December 2007, 4,116 unique cases (1% of the county's population) of hepatitis C were reported. The chronic hepatitis B and hepatitis C surveillance systems enable WCDHD to monitor the disease burden, to identify close contacts to chronic hepatitis B cases and provide testing and prophylaxis for them, and to increase detection of acute hepatitis cases not reported by healthcare providers. The WCDHD's Perinatal Hepatitis B Prevention Program also works closely with obstetric, hospital and pediatric providers in Washoe County to prevent the transmission of HBV to newborns and to household and sexual contacts of HBsAg-positive pregnant women.

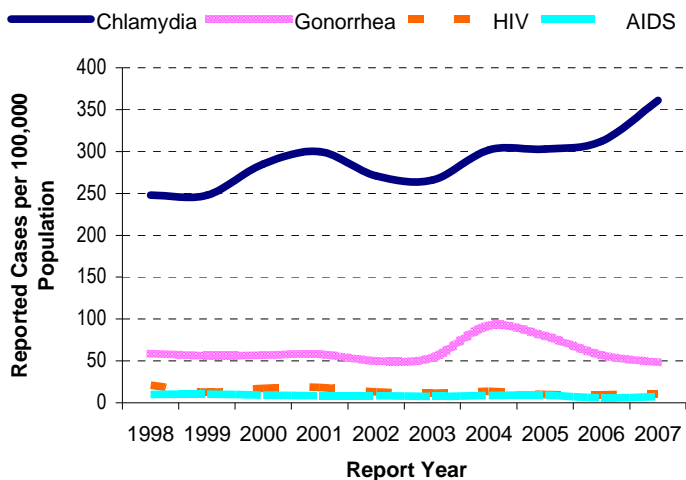
Sexually Transmitted Diseases (STD)

Chlamydia infection is the most commonly reported STD in Washoe County. Expansion of *Chlamydia* screening and the increased use of more sensitive diagnostic tests is likely to have contributed to the increased incidence rate. Because

¹ www.unitedhealthfoundation.org

the majority of *Chlamydia* infections are asymptomatic, morbidity reporting may not reflect actual disease burden. The WCDHD has collaborated with LabCorp during the past three years to monitor *Chlamydia* test positivity data. From 2005-2007, the test positivity rate among all age groups was 3.4% (1,188/34,865) and the rate among the 15-25 year-old age group was 4.9% (797/16,265). The U.S. Preventive Services Task Force (USPSTF) recommends that **clinicians routinely screen all sexually active women aged 25 and younger** and all women who may otherwise be at risk—whether or not they are pregnant—for *Chlamydia* infection. Early detection is the most effective way to prevent the serious health problems in women and newborn babies that this often "silent disease" can cause². The incidence of Gonorrhea is far above the HP 2010 Objective which is 19 cases per 100,000 populations. The HP 2010 Objectives for primary & secondary syphilis, age-adjusted death rate due to HIV infection (data not shown), and incidence rate of AIDS were not met in Washoe County in 2007.

Figure 3. Incidence Rate of Reported Sexually Transmitted Diseases, Washoe County, 1998-2007



Tuberculosis

Although the incidence of active TB in 2007 was 1.7 cases per 100,000 population, the lowest incidence in the past 10 years, the HP 2010 objective of 1.0 case per 100,000 was still not achieved.

Vaccine Preventable Diseases

In 2007, 73.4% of children aged 19-35 months receiving vaccinations at the WCDHD were appropriately immunized. The HP 2010 objective for vaccine coverage among this age group is 90%. No cases of Diphtheria, Polio, Rubella, or Tetanus were reported between 1998 and 2007. There were several cases of pertussis, meningococcal disease, and pneumococcal meningitis each year. More than 50% of pertussis cases reported from 2003-2007 had received the recommended doses of pertussis-containing vaccine. Meningococcal serogroups among reported cases were group B, C, or Y. In 2007, the incidence of invasive pneumococcal diseases among children under 5 years and persons aged 65 years or older met the HP 2010 objectives³. WCDHD also received occasional reports of mumps and invasive

² <http://www.ahrq.gov/clinic/prev/chlamwh.htm>

³ WCDHD. *Streptococcus pneumoniae* surveillance 2003-2007. EpiNews, Vol. 28. No. 6.

Haemophilus influenzae type b (Hib) between 1998 and 2007. The WCDHD's Influenza Sentinel Surveillance Program has been in place since 1984. This program works closely with hospital emergency departments, private providers, and University of Nevada-Reno Student Health Services. The surveillance program monitors the proportion of patients seen with influenza-like-illness on a weekly basis. If your office would like to participate in this surveillance system, please call the WCDHD Influenza Surveillance Program at 775-328-2447.

Vector-borne Diseases

Three cases of Malaria and one case of WNV were reported. All of them acquired infection out of country and out of state, respectively. No cases of plague, relapsing fever, Hantavirus infection, or human rabies were reported in 2007. Three bats were positive for rabies in Washoe County. Statewide, 12.2% (13/107) of bats tested were positive for rabies. No cases of rabies in domestic animals were reported. In Washoe County, about 56% (330/585) of reported biting dogs and 29% (47/162) of reported biting cats were vaccinated against rabies. Six cases of Lyme disease were reported. Three cases acquired the disease outside of Nevada and the remaining three cases were unknown as to the location of exposure.

Outbreaks

The WCDHD received 23 outbreak reports with 805 ill persons. Of 23 outbreaks, 20 (87%) were gastroenteritis and 3 (13%) were other diseases. Of 20 gastroenteritis outbreaks, etiologies were laboratory-confirmed among 14 outbreaks. These included norovirus, *Salmonella*, *Shigella*, and *Campylobacter*. A case control study and cohort study were conducted for two large outbreaks to identify the cause of the outbreaks. Norovirus accounted for 14 outbreaks (nine confirmed, five suspect) and more than half of these norovirus outbreaks occurred in child care facilities or schools.

Extraordinary Occurrence of Illness

Nevada law (NAC 441A.525) requires healthcare providers to report any extraordinary occurrence of illness to the local health authority. In 2007, WCDHD investigated several infrequently reported diseases. One case of **Anisakiasis** occurred in an adult who had an out of country travel history and consumed raw seafood. One case of **Brucellosis** occurred in an adult who consumed raw goat milk from a private farm out of state. One case of **Denque Fever** occurred in an adolescent who was bitten by mosquitoes while traveling in Costa Rica. One case of **Hansen's Disease** occurred in a foreign-born adult.

CD Reporting

The list of reportable communicable diseases and reporting forms can be found at <http://www.co.washoe.nv.us/health/cdpp/reporting.html> or call 775-328-2447. To report a communicable disease, please fax your report to the WCDHD at 775-328-3764.

Acknowledgement

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