

KNOWING YOUR COMMUNITY

Overview of Reported Infectious Diseases in Washoe County, 2012

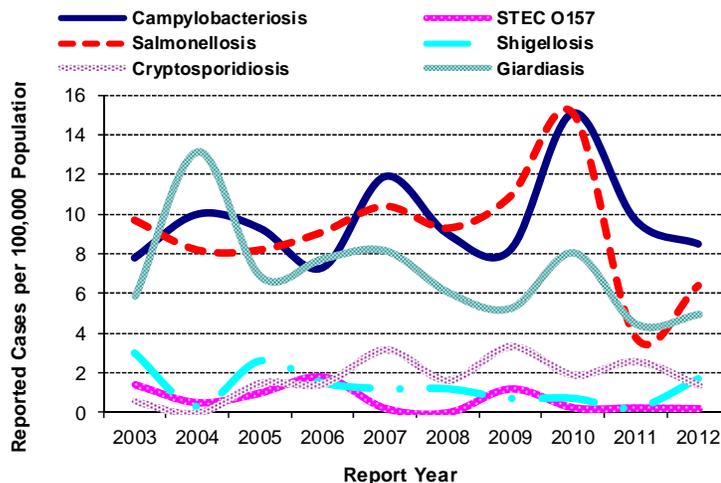
Introduction

The state of Nevada was ranked 38th in the nation for overall health in 2012 by the United Health Foundation¹. Infectious disease (expressed in cases per 100,000 population) is one measure used to describe the 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 2012 was 6.1 cases per 100,000 population, ranked No. 8 in the nation.

The Washoe County Health District (WCHD) 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 2012. Please check the Health District's website at www.washoecounty.us/health for the latest report as well as historical reports.

Enteric Diseases

Figure 1. Incidence Rate of Reported Enteric Diseases, Washoe County, 2003-2012



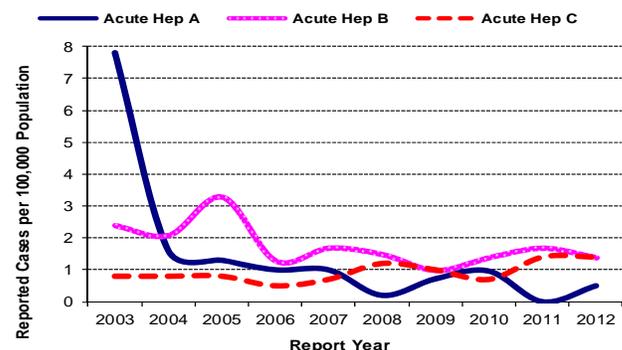
Of 104 cases with gastroenteritis reported in 2012, 90 cases (87%) were caused by *Campylobacter* spp., *Salmonella*, *cryptosporidium*, and *Giardia*. The remaining cases were caused by *Shigella*, Shiga toxin producing *E. coli* including *E. coli* O157:H7, *Vibrio* spp., and other organisms. The trend of incidence for

commonly reported enteric diseases is shown above in Figure 1. Washoe County met the Healthy People (HP) 2020 objective for Campylobacteriosis and Salmonellosis, which is 8.5 cases per 100,000 population and 11.4 cases per 100,000 population, respectively. However, enteric diseases are most likely under-detected and under-reported. For example, only 5% of the estimated level of Salmonellosis gets reported each year.² Therefore the reported rates may underestimate the actual incidence in Washoe County. 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-patient works in a sensitive occupation such as food handling, child care, or healthcare.

Hepatitis

Although reported cases of acute hepatitis A, B and C have been relatively stable in recent years (See Figure 2), Washoe County did not meet the HP 2020 objectives for acute hepatitis A (0.3 cases per 100,000), acute hepatitis B (1.5 cases per 100,000 adults aged 19 and older), and acute hepatitis C (0.2 cases per 100,000) in 2012. 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, 2003-2012



¹ www.unitedhealthfoundation.org

² <http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html>

From 1990-2012, 1,323 unique cases (0.3% of the county's population) of chronic hepatitis B were reported. From May 2002-December 2012, 6,633 unique cases (1.6% of the county's population) of hepatitis C were reported. The chronic hepatitis B and hepatitis C surveillance systems enable WCHD 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 WCHD's Perinatal Hepatitis B Prevention Program also works closely with obstetrics, 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)

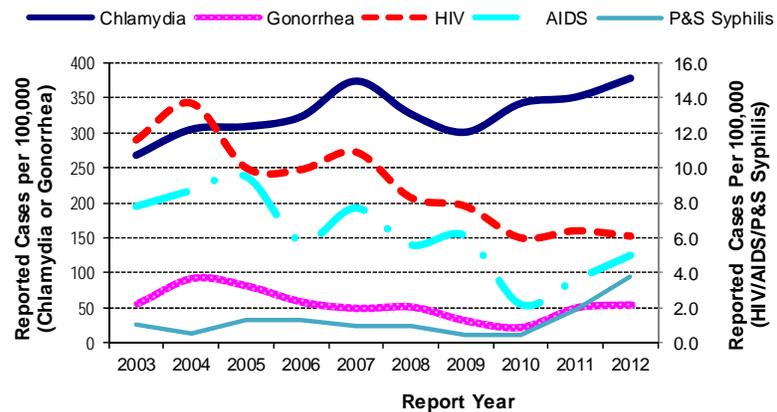
Chlamydia infection is the most commonly reported STD in Washoe County. Expansion of *Chlamydia* screening and the increased use of more sensitive diagnostic tests are likely to have contributed to the increased incidence rate. Because the majority of *Chlamydia* infections are asymptomatic, morbidity reporting may not reflect actual disease burden. The WCHD has collaborated with LabCorp during 2005--2009 to monitor *Chlamydia* test positivity data. From 2005-2009, the test positivity rate among all age groups was 3% (1,653/54,683) and the rate among the 15-25 year-old age group was 4.5% (1126/24,812). 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 cause. The HP 2020 objectives for the incidence of gonorrhea, primary and secondary syphilis, AIDS, and deaths due to HIV have been met in 2012 in Washoe County. The HP 2020 objective for the incidence of chlamydia has not been met. The incidence of syphilis has been increased significantly during the past two years. The trend of frequently reported sexually transmitted diseases is seen in Figure 3.

Tuberculosis

The incidence of active TB in 2012 was 1.9 cases per 100,000 population, which did not meet the HP 2020 objective of 1.0 case per 100,000. All reported cases were foreign born. Treating Latent TB Infection (LTBI) can effectively reduce a person's risk of ever

developing TB disease. The overall completion rate for treatment of LTBI among all persons who started treatment in 2011 was 89% (55/62), which met the HP 2020 objective of 79%. It is hoped that the completion rates with the new 12-dose regimen beginning on December 9, 2011 for LTBI treatment will be higher.

Figure 3. Incidence Rate of Reported Sexually Transmitted Diseases, Washoe County, 2003-2012.



Vaccine Preventable Diseases

In 2012, an assessment of vaccine coverage showed that 67.4% of children aged 19-35 month had received age-appropriate vaccinations at the time of their visiting the WCHD Immunization Clinic or healthcare providers located in Washoe County. The HP 2020 objective for vaccine coverage among this age group is 80%. The vaccines include DTaP (4 doses), polio (3 doses), MMR (1 dose), Hib (3 doses), hepatitis B (3 doses), varicella (1 dose), and PCV (4 doses). These are highly effective vaccines against diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, *Haemophilus influenzae* type b (Hib) disease, hepatitis B, chickenpox, and invasive pneumococcal disease. Due to the mandatory implementation of a statewide immunization registration system in 2010, a systematic assessment of vaccine coverage among children aged 19-35 month in Washoe County will be performed in the future when comprehensive data become available.

No cases of Diphtheria, Measles, Polio, or Rubella were reported during 2002-2012. One case of Tetanus was reported in 2009 in an adult. Reported cases of pertussis, meningococcal disease, and pneumococcal meningitis in recent years have been relatively stable. Sixty-one percent (61%, 36/59) of pertussis cases reported during 2007-2012 had received the recommended doses of pertussis-containing vaccine. During 1995-2012, Meningococcal serogroups among 58 reported cases were group B (27%), C (28%), Y (21%), unknown group (21%). In 2012, the incidence of invasive pneumococcal diseases among children

under 5 years and persons aged 65 years or older met the HP 2020 objectives. WCHD also received occasional reports of mumps and invasive *Haemophilus influenzae* type b (Hib) during 2002-2012. No outbreaks of these diseases occurred. The incidence of rotavirus among children under 2 years of age decreased significantly during 2009-2012. This likely is attributed to the increased vaccination against rotavirus among children.

The WCHD'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.

Vector-borne Diseases

Two cases of Malaria and two cases of Lyme disease were reported in 2012. All these cases most likely acquired the infection while they were traveling. No cases of plague, Hantavirus infection, West Nile viral infection, and relapsing fever were reported in 2012.

In 2012, nine of 41 bats tested (22%) were positive for rabies in Washoe County. Statewide, 22% (13/59) of bats tested were positive for rabies. No cases of rabies in domestic animals were reported.

In 2012, about 47% (411/880) of reported biting dogs and 24% (36/151) of reported biting cats were vaccinated against rabies (Figure 4).

Outbreaks

The WCDHD received 69 outbreak reports with 4398 ill persons. Of 69 outbreaks, 29 (42%) were gastroenteritis caused by norovirus or sapovirus and 33 (48%) were Hand, Foot, and Mouth Disease (HFMD)

caused by *coxsackie* virus type A6. It was the first time for Washoe County to identify sapovirus and *coxsackie* virus type A6 (CVA6) in the community. Other outbreaks included influenza like illness, pertussis, and unknown etiologies. Of the 29 norovirus/sapovirus outbreaks reported, 66% (19/29) occurred in schools; 27% (7/29) occurred in day care or community living facilities; 7% (2/29) occurred in a food establishment/casino. The transmission modes were primarily person-to-person.

Extraordinary Occurrence of Illness

Nevada law (NAC 441A.525) requires healthcare providers to report any extraordinary occurrence of illness to the local health authority. WCHD investigated the first HFMD outbreak associated with a local daycare facility and the causative agent was identified as a novel strain of *coxsackie* virus type A, i.e., CVA 6, by the Centers for Disease Control and Prevention. This strain circulated in Asia and began circulating in the US since the later part of 2011. CVA6 was identified in Washoe County in February of 2012.

CD Reporting

The list of reportable communicable diseases and reporting forms can be found at www.washoecounty.us/health/cdpp/reporting.html or call 775-328-2447. To report a communicable disease, please fax your report to the WCHD at 775-328-3764.

Acknowledgement

We are grateful to all health care providers, infection control practitioners and laboratory staff for their reporting and collaboration with disease investigation to make this work possible.

Figure 4. Animal bite Incidence & Vaccination Status, Washoe County, 2003-2012

