

IN THIS ISSUE: Overview of Reported Infectious Diseases in Washoe County, 2016

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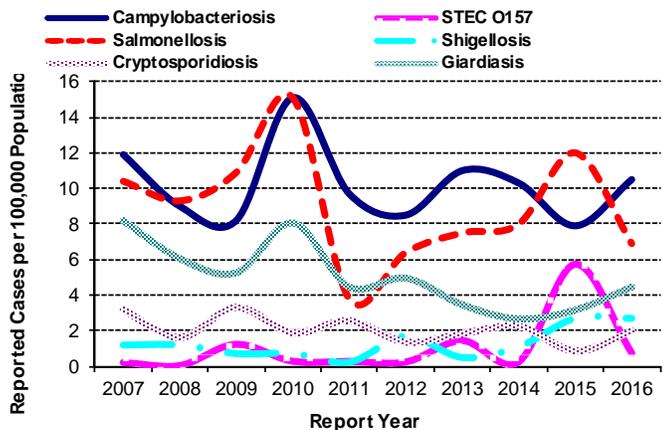
Introduction

The state of Nevada was ranked 35th in the nation for overall health in 2016 by the United Health Foundation¹. Infectious disease 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 2016 was ranked No. 2 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 2016. Please check the Health District's website at www.tinyurl.com/WashoeAnnualCDSummary for the latest report as well as historical reports.

Enteric Diseases

Figure 1. Incidence Rate of Reported Enteric Diseases, Washoe County, 2007-2016



Of 118 cases with gastroenteritis reported in 2016, 105 cases (89%) were caused by *Campylobacter* spp., *Salmonella*, *cryptosporidium*, *Giardia*, *Shigella* and *E. coli* including *E. coli* O157:H7. The remaining cases were caused by *Vibrio* spp., *Yersinia*, and *Amoeba*. The trend of incidence for commonly reported enteric diseases is shown above in Figure 1.

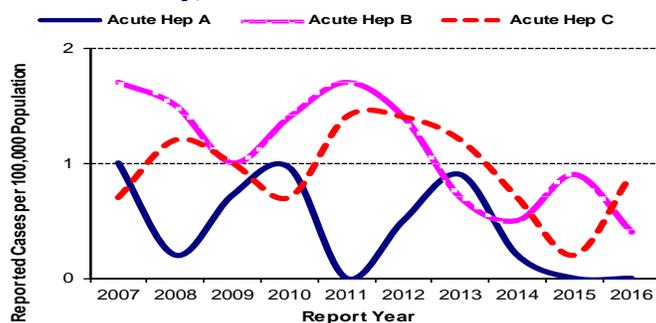
¹ www.americashealthrankings.org

In 2016, Washoe County met the Healthy People (HP) 2020 objectives for Salmonellosis and Listeriosis. There were 11.4 cases per 100,000 population and 0.2 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

Reported cases of acute hepatitis A, B and C in Washoe County have been relatively stable in recent years (See Figure 2). In 2016, Washoe County did meet the HP 2020 objectives for acute hepatitis A (0.3 cases per 100,000) and acute hepatitis B (1.5 cases per 100,000 adults aged 19 and older) but did not meet the HP 2020 objective for acute hepatitis C (0.2 cases per 100,000). The significant reduction of acute hepatitis A since 2004 (not shown) is most likely attributable to mandatory immunization against hepatitis A virus for children entering a Nevada school for the first time beginning on July 1, 2002.

Figure 2. Incidence Rate of Reported Acute Hepatitis, Washoe County, 2007-2016



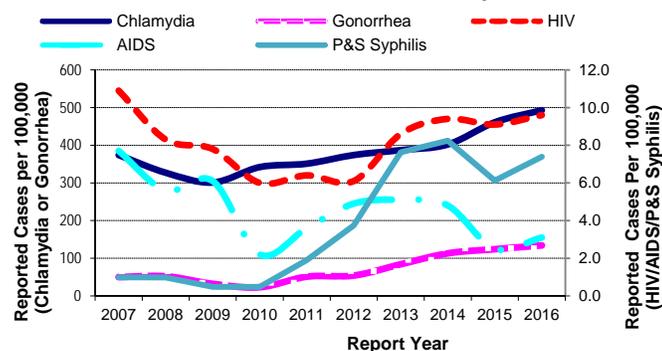
² <http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html>

From 1990-2016, 1,548 unique cases (0.3% of the county's population) of chronic hepatitis B were reported. From May 2002-December 2016, 8,885 unique cases (2% 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 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 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.

Figure 3. Incidence Rate of Reported Sexually Transmitted Diseases, Washoe County, 2005-2014.



The HP 2020 objectives for AIDS and deaths due to HIV have been met in 2016 in Washoe County. The HP 2020 objectives for the incidence of chlamydia, gonorrhea, and primary and secondary syphilis have not been met in 2016. The incidence of

syphilis has increased significantly during the past six years. This might be associated with increased transiency, anonymous partners, multiple partners and lack of cooperation of index cases. Advances in social media and networking have impacted traditional disease investigation methods as anonymity of the partner is easier to maintain, leaving little or no method to contact a partner. The trend of frequently reported sexually transmitted diseases is seen in Figure 3.

Tuberculosis

The incidence of active TB in 2016 was 1.3 cases per 100,000 population, which did not meet the HP 2020 objective of 1.0 case per 100,000. Four of six 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 2015 was 97% (83/85), which met the HP 2020 objective of 79%.

Vaccine Preventable Diseases

In 2016, an assessment of vaccine coverage showed that 79.9% of children aged 19-35 months had received age-appropriate vaccinations at the time of their visit to the WCHD Immunization Clinic or a healthcare provider 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 months in Washoe County has been performed by the Nevada Division of Public and Behavioral Health.

No cases of Diphtheria, Measles, Polio, or Rubella were reported during 2005-2016. One case of Tetanus was reported in 2009 in an adult. Reported incidence of pertussis in 2014 reached the highest level seen in the past decade. This trend was consistent with other jurisdictions in the nation and it was most likely associated with waning immunity from acellular pertussis vaccine. In 2016, the incidence rate was 0.4 cases per 100,000 population. Of the 2 reported cases in 2016, 100% had received the recommended doses of pertussis-containing

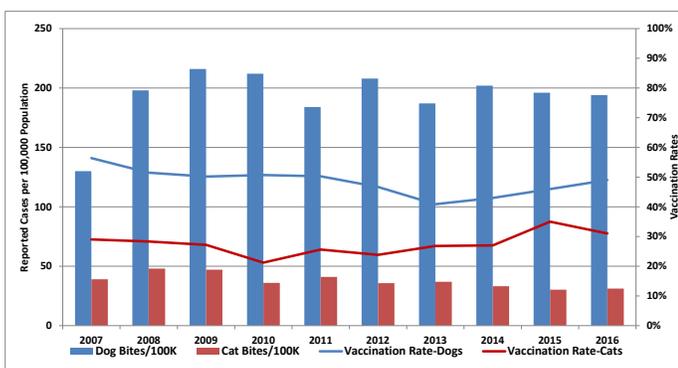
vaccine. During 1995-2016, Meningococcal serogroups among 59 reported cases were group B (27%), C (27%), Y (20%), other groups (5%), and unknown group (20%). In 2016, the incidence of invasive pneumococcal diseases among children under 5 years and persons aged 65 years or older was 14.3 and 38.3 cases per 100,000 population, respectively. Both did not meet the HP 2020 objectives (12 and 36 cases per 100,000 population, respectively). WCHD also received occasional reports of mumps during 2007-2016. No outbreaks of these diseases occurred in 2016. The incidence of rotavirus among children under 2 years of age decreased significantly during 2007-2016. This likely is attributable to 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 the University of Nevada-Reno Student Health Services. The surveillance program monitors the proportion of patients seen with influenza-like-illness (ILI) on a weekly basis. The percentage of overall patient visits for ILI in Washoe County peaked at 4.8% during the week ending on March 5, 2016. The proportion of deaths due to pneumonia and influenza (P&I ratio) in Washoe County peaked at 14.9% during the week ending March 19, 2016. A total of 1,533 laboratory-confirmed cases of influenza were reported in Washoe County during the 2015-16 season.

Vector-borne Diseases

Two case of West Nile virus infection and one case of relapsing fever were reported in 2016. All these cases most likely acquired the infection while they were traveling. Two cases of Lyme disease were reported and denied having a travel history. No cases of plague or Hantavirus infection were reported in 2016.

Figure 4. Animal Bite Incidence & Vaccination Status, Washoe County, 2007-2016.



In 2016, nine of 60 bats tested (15%) in Washoe County were positive for rabies. Statewide, 11.1% (12/108) of bats tested were positive for rabies. No cases of rabies in domestic animals were reported. In 2016, about 49.4% (427/864) of reported biting dogs and 31.7% (44/139) of reported biting cats were vaccinated against rabies (Figure 4).

Outbreaks

The WCDHD received 38 outbreak reports in 2016. Of 38 outbreaks, thirteen (40%) were gastroenteritis likely caused by norovirus or suspected sapovirus; 18 (46%) were Hand, Foot, and Mouth Disease (HFMD) likely caused by *coxsackie* virus that occurred in daycare. Other outbreaks included influenza like illness, acute gastroenteritis caused by *E. coli* O157 or Shigella. All thirteen viral gastroenteritis outbreaks occurred in daycares/preschool/school setting. 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 even if such disease may not be specifically listed in the law. Under this provision, WCHD investigated five cases of Zika Virus infection. One of the five cases was an asymptomatic pregnant woman and one was identified through blood donation. The cases acquired the virus while traveling to endemic countries.

CD Reporting

The list of reportable communicable diseases and reporting forms can be found at <http://tinyurl.com/WashoeDiseaseReporting> or call 775-328-2447. To report a communicable disease, please fax your report to the WCHD at 775-328-3764.

Acknowledgement

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