

## KNOWING YOUR COMMUNITY

### Overview of Reported Infectious Diseases in Washoe County, 2011

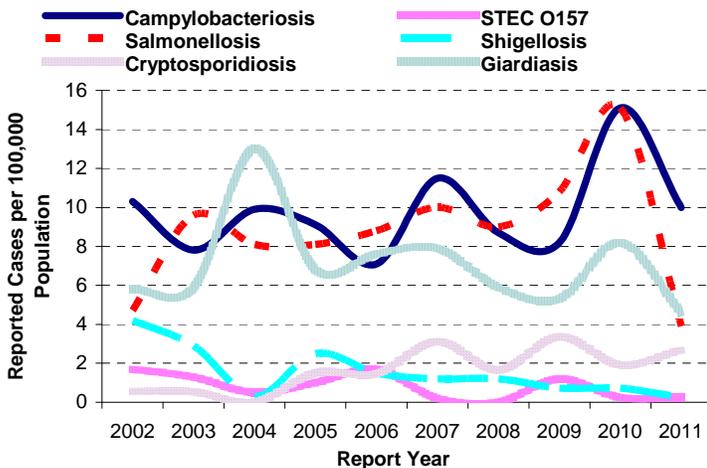
#### Introduction

The state of Nevada was ranked 42<sup>nd</sup> in the nation for overall health in 2010 by the United Health Foundation<sup>1</sup>. 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 2010 was 4.8 cases per 100,000 population, ranked No. 4 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 2011. Please check the Health District's website at [www.washoecounty.us/health](http://www.washoecounty.us/health) for the latest 2011 Annual Report as well as historical reports.

#### Enteric Diseases

**Figure 1. Incidence Rate of Reported Enteric Diseases, Washoe County, 2002-2011**



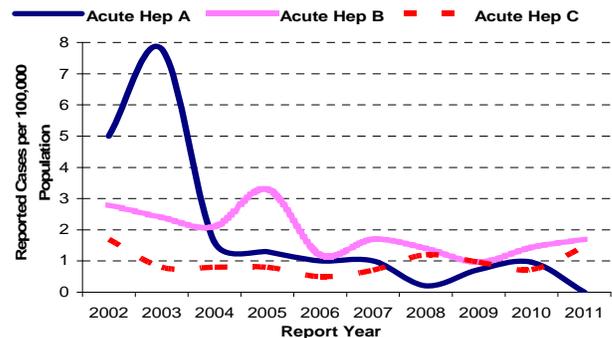
Of 99 cases with gastroenteritis reported in 2011, 87 cases (88%) were caused by *Campylobacter* spp., *Salmonella*, *cryptosporidium*, and *Giardia*. The remaining cases were caused by *Shigella*, Shiga toxin producing *E. coli* including *E. coli* O157:H7, *Vibrio* spp., and other organisms. The trend of incidence for commonly reported enteric diseases is shown above in

Figure 1. Washoe County did not meet the Healthy People (HP) 2020 objective for Campylobacteriosis, which is 8.5 cases per 100,000 population, but met the HP 2020 objective for Salmonellosis, which is 11.4 cases per 100,000 population. However, enteric diseases are most likely under-detected and under-reported. For example, only 3.5% of the estimated level of Salmonellosis got reported each year.<sup>2</sup> 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

In 2011, no cases of acute hepatitis A case were reported. Reported cases of acute hepatitis B and C were within normal range (See Figure 2, below). Washoe County met the HP 2020 objectives for acute hepatitis A, but not for acute hepatitis B and C. 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, 2002-2011**



<sup>1</sup> [www.unitedhealthfoundation.org](http://www.unitedhealthfoundation.org)

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

From 1990-2011, 1,275 unique cases (0.31% of the county's population) of chronic hepatitis B were reported. From May 2002-December 2011, 6,246 unique cases (1.52% 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)

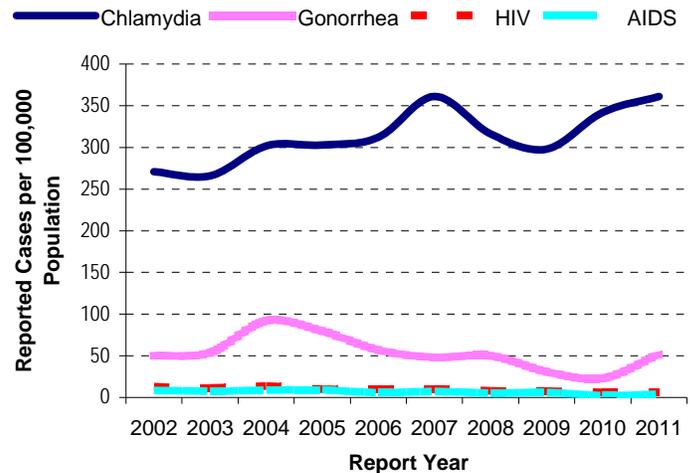
*Chlamydia* infection is the most commonly reported STD in Washoe County. Expansion of *Chlamydia* screening and the increased use of more sensitive diagnostic tests is likely to have contributed to the increased incidence rate. Because the majority of *Chlamydia* infections are asymptomatic, morbidity 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<sup>3</sup>. The HP 2020 objectives for the incidence of gonorrhea, primary and secondary syphilis, AIDS, and deaths due to HIV have been met in 2011 in Washoe County. The HP 2020 objective for the incidence of chlamydia has not been met. The trend of frequently reported sexually transmitted diseases is seen in Figure 3.

### Tuberculosis

The incidence of active TB in 2011 was 2 cases per 100,000 population, which did not meet the HP 2020 objective of 1.0 case per 100,000. Seventy-five (75%) percent of cases were foreign born. Treating Latent TB Infection (LTBI) can effectively reduce a person's risk

of ever developing TB disease. Unfortunately, the overall completion rate for treatment of LTBI among all persons who started treatment in 2010 was only 70% (85/121), which did not meet the HP 2020 objective of 79%. It's hoped that the completion rates with the new 12-dose regimen for LTBI treatment will be higher.

**Figure 3. Incidence Rate of Reported Sexually Transmitted Diseases, Washoe County, 2002-2011.**



### Vaccine Preventable Diseases

In 2011, an assessment of vaccine coverage showed that 58.2% of children aged 19-35 month had received age-appropriate vaccinations at the time of their visiting the WCHD Immunization Clinic. 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 2002-2011. One case of Tetanus was reported in 2009 in an adult. Reported cases of pertussis, meningococcal disease, and pneumococcal meningitis each year were within the normal range. Sixty-four percent (64%, 27/42) of pertussis cases reported during 2007-2011 had received the recommended doses of pertussis-containing vaccine. During 1995-2011, Meningococcal serogroups among 58 reported cases were group B (27%), C (28%), Y (21%), unknown group (21%). In 2011, the incidence

<sup>3</sup> <http://www.ahrq.gov/clinic/prev/chlamwh.htm>

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 2002-2011. No outbreaks of these diseases occurred. The incidence of rotavirus among children under 2 years of age decreased significantly during 2009-2011. This likely be 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. If your office would like to participate in this surveillance system, please call the WCHD Influenza Surveillance Program at 775-328-2447.

### Vector-borne Diseases

Two cases of Malaria, one case of West Nile Virus (WNV), one case of relapsing fever, and one case of Lyme disease were reported in 2011. All these cases most likely acquired the infection while they were traveling. No cases of plague, Hantavirus infection, or human rabies were reported in 2011.

In 2011, six of 37 bats tested (16.2%) were positive for rabies in Washoe County. Statewide, 21.8% (12/55) of bats tested were positive for rabies. No cases of rabies in domestic animals were reported.

In 2011, about 50% (379/754) of reported biting dogs and 26% (43/168) of reported biting cats were vaccinated against rabies (Figure 4).

### Outbreaks

The WCDHD received 19 outbreak reports with 270 ill persons. Of 19 outbreaks, 11 (58%) were gastroenteritis caused by norovirus. Other outbreaks included influenza A, *Clostridium difficile* (*C. diff*), Group A *streptococcus* (*GAS*), scabies, Respiratory syncytial virus (RSV) and unknown etiologies. Of the 11 norovirus outbreaks reported, 64% (7/11) occurred in day care or community living facilities and 36% (4/11) 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. In 2011, WCHD investigated a possible case of oleander poisoning. The case had been using a dietary supplement that was reportedly made from yellow oleander seeds. A preliminary test of the product was positive for Oleandrin; unfortunately, further testing was not completed due to restricted resources. WCHD notified Food and Drug Administration (FDA) about this investigation. No additional reports of illness from this product were received by WCHD.

### CD Reporting

The list of reportable communicable diseases and reporting forms can be found at [www.washoecounty.us/health/cdpp/reporting.html](http://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, 2002-2011

