Surveillance Updates

This issue of epiTRENDS covers three topics related to communicable disease surveillance: the annual report for 2015, upcoming national changes in certain surveillance case definitions, and the replacement electronic reporting system for Washington.

Annual Report

Local health jurisdictions in Washington conduct notifiable condition surveillance for around 50 acute communicable diseases. Cases in humans are reported by providers, laboratories, healthcare facilities, and veterinarians under Washington Administrative Code 246-101:

http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/ReportingPosters

Washington State Department of Health summarizes the results and contributes to national surveillance counts collected by the Centers for Disease Control and Prevention (CDC), as well as issuing monthly and yearly summaries for the state. The 2015 annual Washington report can be accessed at:


Consistent with previous years, the most commonly reported conditions in Washington in 2015 were sexually transmitted, with 28,721 cases of chlamydia and 7,203 cases of gonorrhea reported, resulting in the highest
rates for two decades for both conditions. Also, 452 syphilis cases were reported, giving the highest rate since 1990.

Enteric illnesses were commonly reported, with 1,847 campylobacteriosis, 1,034 salmonellosis, 419 Shiga toxin-producing \textit{E. coli}, 152 shigellosis, and 68 vibriosis cases. Rates for campylobacteriosis were the highest since surveillance began in 1980, in part likely reflecting improved detection with the increased use by clinicians of culture-independent diagnostic testing (CIDT). There were also typical numbers of cases of the parasitic diseases giardiasis (604 cases) and cryptosporidiosis (113 cases). The rate for cryptosporidiosis was the second highest seen for the state, also probably affected by CIDT use.

Increased testing of returning travelers in response to the Zika outbreak in the Americas likely resulted in increased detection of other mosquito-borne infections. There were 19 cases of dengue fever and 40 cases of chikungunya reported, the highest yearly numbers for both diseases since tracking began in 2002. In addition there were 24 cases of West Nile virus infection.

Ten cases of measles were reported with one death, the first since 1990. There were 1,383 cases of pertussis, more than double the number from the previous year but lower than the record 4,916 reports in 2012. The ten meningococcal cases represented the lowest rate ever reported in Washington.

The 63 cases of acute hepatitis C represent a reduction from the 83 cases in 2014 but the rate is three times the lowest values that occurred in the last decade. Acute hepatitis A and hepatitis B reports remained low, which may be due to high levels of vaccination in children and adolescent populations starting in the late 1990s. Typical numbers of chronic hepatitis B (1,309) and chronic hepatitis C (6,918) were reported.
Rare diseases reported in Washington residents during 2015 included a case of anaplasmosis with out-of-state exposure; two cases of babesiosis with one due to receiving a blood transfusion from a person who had been exposed outside of Washington; and a case of trichinellosis with exposure to a meal of wild snake.

Of 36 reported foodborne outbreaks in Washington during 2015, most were due to meals from restaurants or other commercial sites. There were eight outbreaks of salmonellosis totaling 277 cases. These included 184 Washington cases in a multistate outbreak of 192 total salmonellosis cases associated with pork. The 12 suspected and 3 confirmed norovirus outbreaks accounted for 175 cases. In addition there were small foodborne outbreaks due to bacterial toxins, campylobacteriosis, and vibriosis.

During 2015 two waterborne disease outbreaks were identified, both due to legionellosis, with 13 total cases.

**Case Definitions for 2017**

Each year, representatives from state departments of health meet at the annual conference of the Council of State and Territorial Epidemiologists. Among the activities of the conference are discussions of changes to national case definitions for reporting notifiable conditions. State epidemiologists vote on proposed changes and decisions that are adopted go into effect the following reporting year.

Detection of *Salmonella*, *Shigella*, and pathogenic non-cholera *Vibrionaceae* using a non-culture based method (also termed culture-independent diagnostic testing) will now support a Probable case definition. Non-culture based methods include antigen-based testing, polymerase chain reaction (PCR), and more recent multiplex PCR panels that detect multiple pathogens simultaneously. For example, a single stool specimen can be tested simultaneously for norovirus, several enteric bacteria, and parasites such as *Cryptosporidium*.

For complete identification of epi-linked cases, the Public Health Issue sections of *Salmonella* and *Shigella* investigation forms will include a question whether the case is employed or is a resident of a long-term care facility. This will allow follow-up with a workplace or a facility to determine if there are other symptomatic persons.

*Francisella tularensis* detection through nucleic acid testing, such as PCR, was added as supporting a Probable case definition for tularemia.

The Lyme disease case definition changed by redefining the exposure criteria for high and low incidence areas. Since this redefinition involves interpretation of reported travel in areas of potential exposure, the reporting form will not change.
Four separate Zika case definitions have been developed based on surveillance experience. The definitions include congenital or non-congenital cases of Zika virus disease, with specific clinical criteria, and of Zika virus infection, for persons not meeting the clinical criteria for Zika virus disease but with laboratory evidence of recent infection.

Changes to the perinatal hepatitis B case definition add two additional confirmatory tests. Infants under 24 months of age, born in the United States and delivered to women who are HBsAg positive (or unknown HBsAg), should be reported as perinatal hepatitis B cases if they have hepatitis B virus infection as evidenced by a positive result for any of the following laboratory tests: HBsAg, hepatitis B nucleic acid (HBV DNA), or hepatitis B e antigen (HBeAg).

These case definition changes will apply to cases with onsets in 2017. Cases with onset dates in 2016 should be reported with current case definitions even if reported in early 2017. The Department of Health website will have updated forms on the website in mid-January: http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions.

**Electronic Reporting System**

In 2004, local health jurisdictions in Washington began reporting their cases through an electronic system. The Public Health Issue Management System (PHIMS) provided a secure internet-based system that supported standardized reporting. However, PHIMS was developed with programming that is approaching 15 years of age and is not compatible with current needs such as electronic laboratory reporting.

A replacement electronic reporting system, Washington Disease Reporting System (WDRS), is under development and is scheduled to be deployed for acute notifiable conditions in mid-2017. In addition to updates in content, WDRS will have additional functionality such as a direct connection with electronic laboratory reporting.

Office of Communicable Disease Epidemiology will provide new forms for acute communicable diseases that include the updated content in WDRS, and these forms will be available in mid-January. For most conditions, the new forms will be available for use when WDRS is deployed later in 2017. A few conditions will use the WDRS forms for the entire reporting year in order to have complete data for all of 2017.

Local health jurisdiction investigations based on reports from healthcare sources and laboratories are the foundation of communicable disease surveillance. The efforts of local health jurisdictions, healthcare providers, and clinical laboratories all contribute to protecting the health of the public in Washington.