Another Record Year of Tularemia Cases and Above Average Enteric Infections

2015 Communicable Disease Control Summary

In 2015, there were 470 cases of confirmed and probable disease conditions reported in Boulder County. Among these reportable diseases, 42% of the cases (192 cases) were due to enteric infections. Among them, the largest number of cases were from campylobacteriosis (61 cases), salmonellosis (46 cases), giardiasis (39 cases), and cryptosporidiosis (26). Other infections reported included: Shiga toxin producing E.coli (10), shigellosis (4), vibriosis (2), yersiniosis (1), hepatitis A (1), listeriosis (1), and typhoid fever (1). Statewide, the number of cases of many of the enteric pathogens reported was above average.

Outbreaks: The number of outbreak investigations in Boulder County decreased in 2015, which may be due to a peak at the end of 2014. There were a total of nine outbreaks, consisting mostly of norovirus in group settings and two foodborne outbreaks from confirmed Salmonella infections. Several reported enteric cases in Boulder County were associated with other larger clusters or regional, state, and national outbreaks.

Vaccine-preventable illness: Vaccine-preventable diseases accounted for 31% (144 cases) of case investigations in 2015. Although the total number of pertussis cases in 2015 declined from 2014 (47 cases in 2015; 97 cases in 2014), pertussis remains prevalent among school-aged children; 18 schools and child care facilities within Boulder County were affected in 2015, and 7 of them reported multiple pertussis cases. There were 28 cases of varicella reported in school-aged children, including 1 school outbreak. During 2015, there were 66 total influenza hospitalizations reported in the county; 58 were considered part of the 2014-2015 influenza season, 1 of which was a pediatric death.

Zoonosis: In 2015, the number of reported tularemia cases in Colorado surpassed the previous high counts of 20 cases reported in 1983 and 16 cases reported in 2014. There were 52 cases of tularemia identified statewide; 31% (16) of which were in Boulder County. Several factors likely contributed to this spike, including above average rainfall, which increases vegetation growth and hence rabbit and rodent populations. Tularemia bacteria are robust and can survive in the environment for extended periods. The heightened media coverage and heightened awareness among health care providers may also have encouraged more testing and diagnosis.

There was one human case of plague reported in 2015, with this case being the first to test positive for the disease in Boulder County since 1993. The person was infected when they found a dead chipmunk on their property, and the animal was confirmed to have tested positive for plague. Three other Colorado residents, including two deaths, were also reported for the year.
A Look Outside Our Community and Around the World

Influenza: Slowly Spreading

It has been a slow start to the flu season this year. As of December 28, detection of influenza worldwide based on surveillance systems was below normal seasonal levels, with the exception of several countries in the Middle East, Western Asia, and tropical Americas.

At the start of the season this year in the U.S., influenza A (H3N2) viruses had been the most commonly reported, while influenza A (2009 H1N1) viruses have predominated since December 5. The majority of circulating flu viruses analyzed this season appear similar to the vaccine virus components for this season’s flu vaccines. 2015-2016 influenza vaccines were made to protect against the following three viruses: Type A (2009 H1N1), Type A (H3N2), Type B (Yamagata lineage). Quadrivalent vaccine (which protects against 4 viruses) also protects against Type B Victoria lineage.

Last season, laboratory data showed that the influenza A (H3N2) viruses had drifted from the 2014–15 influenza A (H3N2) vaccine reference virus. As of January 5, 2016, no significant drift had yet been identified in the current influenza viruses circulating; however, it is possible that drift could still occur.

Since the flu season began on October 6, 2015, 39 PCR-positive specimens have been tested at the state laboratory; 1 (3%) confirmed positive for influenza B (Yamagata lineage), 12 (31%) for influenza A (H3N2), and 26 (67%) for influenza A (2009 H1N1). This is similar to national trends, where 72% of all positive specimens reported to CDC in the most current week were 2009 H1N1, indicating that 2009 H1N1 is now the predominant circulating virus.

As of December 26, there were 22 influenza-associated hospitalizations in Colorado, 3 of which were in Boulder County. Of the Boulder County cases, two were confirmed for influenza B (Yamagata lineage) and one was confirmed for Type A (H3N2). Each of these strains are covered by the 2015-16 vaccines. There have been no pediatric deaths or outbreaks associated with influenza reported in Colorado. It is not too late for health care providers or patients to get vaccinated, particularly with the slow start to the flu season. The CDC recommends an annual flu vaccine for everyone aged six months and older.

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Sources: CDC Flu View (http://www.cdc.gov/flu/weekly/)

Since 2013, the number of terrestrial (ground-dwelling) animals testing positive for rabies had steadily increased; however, the total number testing positive decreased in 2015. (The number of animals submitted for rabies testing remained about the same as in previous years at approximately 110 specimens.) In 2015, 26 animals found in Boulder County were lab-confirmed rabies-positive: 18 skunks, 7 bats, and 1 raccoon. It is notable that the number of rabies-positive skunks continues to exceed the number of rabies-positive bats, which first occurred in 2014. Post-exposure prophylaxis was recommended for 21 Boulder County residents who had exposure to animals that may have been infected with rabies.

Human West Nile virus (WNV) infections remained low during 2015 despite nine mosquito pools (collected from various sites around the county) testing positive for the virus. There were 11 human cases of WNV in Boulder County with a clinical diagnosis of uncomplicated fever (8 cases) or neuroinvasive (3 cases). Across the state, 97 cases and 2 deaths from WNV were reported. The majority of cases were uncomplicated fever (39%), with the others being meningitis (27%), encephalitis (27%), or 7% being asymptomatic blood donors.

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Close to home, Colorado’s TB Control Program is working with state partners to draft and implement a TB elimination plan for the state. The hope is to reach 1/1 million TB case rate for the state; the current rate is 1.2/100,000. While details of the plan have not been finalized, it will include improved TB testing diagnostics (IGRAs); partnership with health care providers working in co-morbid conditions, including HIV and diabetes; and utilizing recent improvements in laboratory diagnostics, including genotyping to find epi-links, pyrosequencing for identification and drug resistance, and use of other rapid identification tests to expedite confirmation of TB that can also hasten the release from isolation of pulmonary and pleural TB patients.

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