

Public Health Brief

A Newsletter on Current Public Health Topics



Serving Adams, Arapahoe and Douglas Counties

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Health Update: Provides updated information regarding an incident or situation; unlikely to require immediate action.

Info Service/Public Health Brief: Provides general information that is not necessarily considered to be of an emergent nature.

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Notifiable Diseases 2015: A Year in Review

This Public Health Brief highlights important disease outbreak investigations and communicable disease control efforts undertaken in 2015 by Tri-County Health Department (TCHD) in Adams, Arapahoe, Douglas and Elbert Counties. Case investigations were conducted for Elbert County under contract through August 2015. TCHD also provides support to Elbert County for emergency preparedness and response activities, including disease control efforts that are above day to day efforts. A summary of select notifiable diseases reported in 2015 in the TCHD jurisdiction are presented. A case report form is included at the end of this update, along with the web address for the most current list of notifiable diseases in Colorado.

Summary of Case Investigations in 2015

In 2015, TCHD Disease Intervention Specialists investigated 1,404 cases of reportable conditions. Of the 1,404 cases 465 resided in **Adams County**, 639 in **Arapahoe County**, 262 in **Douglas County**, and 26 in Elbert County. Twelve resided outside of the TCHD jurisdiction and were investigated due to involvement of a TCHD agency such as animal control or a hospital. Table 1 shows the number of cases reported for select communicable diseases in our region.

TABLE 1. SELECT REPORTABLE DISEASES IN ADAMS, ARAPAHOE AND DOUGLAS COUNTIES, 2015*

Disease	Adams #	Arapahoe #	Douglas #	Total
Campylobacteriosis	59	95	33	187
Giardiasis	24	51	24	99
Hantavirus	0	1	0	1
Hepatitis A	1	1	2	4
Legionellosis	5	16	2	23
Meningococcal Disease	0	3	0	3
Mumps	0	4	0	4
Pertussis	102	108	48	258
Salmonellosis	51	68	33	152
Shigellosis	10	8	6	24
STEC (shiga toxin producing E. coli)	21	30	11	62
Tularemia	3	0	0	3
West Nile Virus	7	12	2	21

* HIV, sexually transmitted diseases and certain reportable conditions are investigated directly by the Colorado Department of Public Health and Environment rather than TCHD.

Summary of Communicable Disease Outbreaks in 2015

In 2015, TCHD investigated a total of 64 outbreaks, representing a 30% decrease from the number of outbreaks investigated in 2014 (n=91). This decrease was largely driven by a 55% decrease in influenza outbreaks compared to 2014 and reflective of a milder influenza season overall in 2015. Of the 64 outbreaks, there were 13 confirmed norovirus, 6 suspect norovirus, 27 viral gastroenteritis (likely due to norovirus but testing not performed), 9 influenza, and 6 caused by other etiologies [*Clostridium perfringens*, salmonella (2), *Mycoplasma pneumonia*, giardia, respiratory illness of unknown etiology]. Three outbreaks were due to gastrointestinal illness of unknown etiology. All 9 influenza outbreaks occurred in January and February of 2015 (2014-2015 influenza season). Of the 64 outbreaks, 19 were in Adams County, 29 were in Arapahoe County, and 16 were in Douglas County. Table 2 lists the settings in which outbreaks were identified and demonstrates the high burden that outbreaks pose in long term care facilities.

TABLE 2. NUMBER OF OUTBREAKS BY SETTING IN ADAMS, ARAPAHOE AND DOUGLAS COUNTIES IN 2015

Outbreak Setting	Norovirus/ Viral Gastroenteritis	Influenza	Other Etiology	Total
Long term care facility	26	9	1	36
Child care center	14	*	1	15
Restaurant	1	*	2	3
School	2*	*	1	3
Private residence	--	*	2	2
Healthcare facility	2	*	1	3
Other setting	1	*	1	2

* TCHD does not actively investigate outbreaks in this setting, but provides general recommendations for prevention and control.

Among the 26 long term care facilities that reported outbreaks, a total of 3431 residents were at risk of illness which 615 residents became ill with norovirus or viral gastroenteritis, representing an average attack rate of 20% among facility residents. Staff in these facilities with outbreaks had an average attack rate of 9% (278/3257). A total of 28 ill residents were hospitalized, for a rate of 8 hospitalizations per 1,000 residents at risk.

Highlights of Communicable Disease Investigations in 2015

Below are brief descriptions of notable investigations conducted by TCHD in 2015, which demonstrate the types of investigations TCHD conducts to protect the communities we serve:

TCHD Monitors 75 Travelers for Ebola, January 2015 to February 2016

In August of 2014 the World Health Organization (WHO) declared the Ebola outbreak in West Africa a Public Health Emergency of International Concern. To address the potential for introducing Ebola into the United States and the need to rapidly implement control measures, the Centers for Disease Control and Prevention (CDC) developed detailed protocols for monitoring travelers from affected West African countries. TCHD was one of the first local public health agencies to assimilate these procedures in Colorado with implementation in Adams, Arapahoe and Douglas counties and monitoring began in October of 2014 for travelers returning from affected countries of Guinea, Liberia, Sierra Leone, and Mali. Travelers were classified as low risk, some risk, or high risk based on their exposure history. Each traveler was visited in person by a TCHD Disease Intervention Specialist (DIS) and a Public



Figure 1: CDC infographic depicting Ebola virus symptoms

Health Nurse to establish a relationship and explain the monitoring requirements. Travelers were required to take their temperature twice daily and report any symptoms immediately to TCHD. Based on their risk category, travelers were monitored daily for Ebola symptoms either in-person and/or by phone each day for 21 days after leaving an affected country. Travelers were also required to report any plans for travel (if allowed) and to coordinate health care needs with TCHD.

Between November 2014 and February 2016, TCHD monitored 111 travelers, most of whom were deemed low risk. No traveler in TCHD's jurisdiction developed Ebola virus disease. On March 29, 2016, the WHO terminated the Public Health Emergency of International Concern for the Ebola outbreak in West Africa. Widespread transmission of Ebola in West Africa has been controlled but isolated, sporadic cases may continue to occur. Affected West African countries have greatly strengthened their capacity to rapidly identify a case and to limit transmission. As of April 13, 2016, the total number of Ebola cases worldwide related to the outbreak was 28,652 with 11,325 deaths.

Measles Still Poses a Threat

In January 2015, TCHD was notified about a female in her 40s from Douglas County who had developed symptoms consistent with measles and was hospitalized in El Paso County. The investigation revealed recent travel to Disneyland in December 2014 during the incubation period. Shortly thereafter, the California Department of Health reported investigating a measles outbreak associated with Disneyland. Since the Douglas County patient was hospitalized and spent the entire infectious period in El Paso County, TCHD collaborated with El Paso County Public Health (EPCPH) to complete the investigation and implement control measures.

TCHD assisted in notifying and screening contacts of the measles case for vaccination status or a history of measles disease, particularly among persons who were exposed in the hospital emergency department and ward during the period of infectivity (defined as 4 days prior to 4 days after rash onset). Early on in the investigation EPCPH identified 117 non-health care worker contacts potentially exposed in the hospital setting, of which TCHD investigated 24 persons and subsequently identified an additional 28 friends and family who had accompanied that individual to the hospital. Of the 52 persons screened, only 4 required follow-up either due to no vaccination history or recall of having had the disease. Two contacts were monitored every 3 days until the end of their incubation period. The other two contacts were screened for measles immunity. One person was immune and the other had a negative measles titer, resulting in being placed in quarantine; the individual worked at a long term care facility and was temporarily suspended from work until after the incubation period.

Interestingly, the index case had received one measles vaccination in the late 1960s and prompted TCHD to conduct specialized measles antibody testing through the CDC. Results indicated primary vaccine failure due to having received measles vaccine at age 8 months. Immunizing infants less than one year of age was common practice for several years after measles vaccine was initially licensed in 1963.

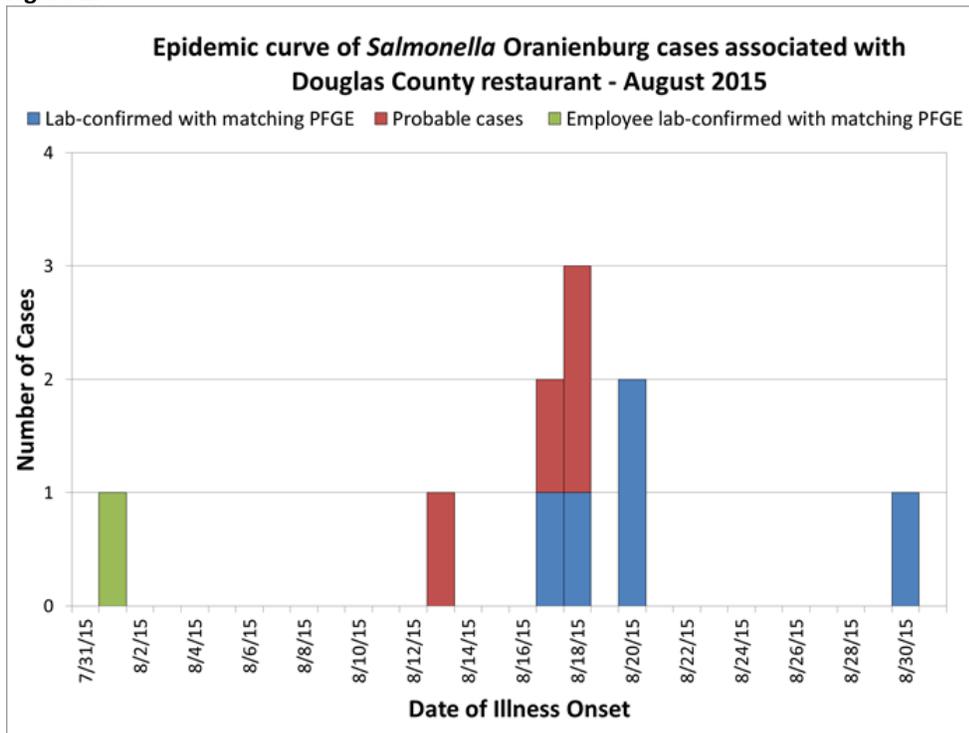
Measles is highly contagious and spreads easily from person-to-person via the airborne route from talking, coughing and sneezing. Measles virus may remain airborne in a confined space for up to two hours. The average incubation period is 7 to 21 days after exposure. A person is considered immune to measles if they have had at least one measles, mumps, and rubella (MMR) vaccine, OR if they were born before 1957, OR if they have previously been diagnosed by a health care provider with measles infection. Health care workers must have two documented MMR vaccines to be considered immune, even if they were born before 1957. The Disneyland outbreak ultimately sickened 147 people in the United States, including 131 in California. There were no reported deaths.

Salmonella Outbreak associated with Restaurant, Douglas County

In September 2015, the Colorado Department of Public Health and Environment notified TCHD of two matching pulsed-field gel electrophoresis (PFGE) *Salmonella* Oranienburg cases. PFGE is used to match bacterial strains based on the DNA fingerprint. *S. Oranienburg* is an uncommon serotype and clustering of illness suggests a common food or animal exposure. In total, 6 PFGE matched Colorado cases were identified through CDC's PulseNet surveillance system, which is a national database that tracks PFGE patterns for foodborne diseases. No cases were identified outside of Colorado. Investigation of the 6 laboratory-confirmed cases revealed that 5 of them reported eating at the same restaurant in Douglas County. Four additional probable (not laboratory confirmed) cases were identified during interviews with restaurant employees. An epidemic curve for the outbreak, indicating onset of illness among cases, is shown below.

An onsite restaurant inspection conducted by TCHD environmental health specialists found that seven food workers reported gastrointestinal illness during the time period of concern. Employees reported working while symptomatic with vomiting and diarrhea. Six of these employees were tested, and one employee was positive for *Salmonella* Oranienburg, which PFGE matched the other cases. The clustering of illness onsets between August 1 and August 30, dining at the same restaurant during the incubation period, and PFGE strain matching provided strong epidemiologic evidence that the restaurant was the common exposure for illness. Cases were not identified at other locations of this restaurant, suggesting transmission by an ill food worker or a small batch of a contaminated food product. Salmonellosis is a foodborne disease transmitted most commonly through contaminated food. However, person-to-person transmission via the fecal-oral route can also occur. Restaurant management cooperated with TCHD during the outbreak response by bringing violations into compliance, implementing disease control measures, and assisting with employee laboratory testing.

Figure 2:



REMINDER TO REPORT NOTIFIABLE DISEASES

Visit <https://www.colorado.gov/pacific/cdphe/report-a-disease> for the most current list of reportable diseases in Colorado. Please report confirmed or suspect cases of these diseases promptly to TCHD or the Colorado Department of Public Health and Environment. For many reportable diseases, public health will contact your patient to assess exposure and ensure appropriate control measures are in place.

Please remember that outbreaks due to any cause are reportable and you should contact TCHD or the Colorado Department of Public Health and Environment within 24 hours of suspecting an outbreak. Public Health can facilitate testing for pathogens, identify the source, and is responsible for managing the outbreak by providing guidance, education and assistance with infection control measures.

Thank you for your partnership in ensuring the health and well-being of the communities we serve!

Tri-County Health Department:

(303) 220-9200
(303) 461-2342 (after hours)
Fax: (303) 846-6295

Colorado Department of Public Health and Environment:

(303) 692-2700
(303) 370-9395 (after hours)
Fax: (303) 782-0338

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Sign up below for access to the latest news and research in local communicable disease trends!

Name: _____ Practice Name: _____

Email: _____ Fax: _____

Check one or both of the delivery methods below.

- Please send my news via email.
- Please send my news via fax.

Send this completed form via fax to 303-741-4173 or email to OEP@tchd.org Please feel free to add additional names and addresses as needed!

**TRI-COUNTY HEALTH DEPARTMENT
DISEASE REPORT FORM
FOR PHYSICIANS AND OTHER HEALTH CARE PROVIDERS**

Case Information

DATE: _____
Reported by: _____ Organization: _____
Case's Name: _____ Parent's Name: _____

Age: _____ Date of Birth: _____ Sex: () Male () Female

Home Phone(s): _____ Work Phone(s): _____

Address: _____ City: _____ Zip: _____

County of Residence: () Adams () Arapahoe () Douglas

If another county, please specify: _____ School/Employer: _____

Medical Information

Disease: _____ **Onset Date:** _____ **Specimen:** _____

Specimen Collect Date: _____ **Lab Tests Performed:** _____

Lab Confirmed: () Yes () No **Name of Lab Used:** _____

Other Relevant Medical/Rx/Immunization Info: _____

Doctor's Information

Doctor's Name: _____ **Doctor's Phone:** _____

Doctor's Address: _____ **City:** _____ **Zip:** _____

For your convenience, you may report diseases by phone Monday through Friday, 8:00 A.M. to 5:00 P.M. at (303) 220-9200 or you may complete this form and fax it 24 hours a day to (303) 846-6295.

For after hour and weekend emergencies:

Contact the Tri-County Health Department at (303) 461-2342 or the Colorado Department of Public Health and Environment at (303) 370-9395