

# State of Wyoming



## Department of Health

### Summary of Reportable Diseases 2018 Annual Report

Thomas O. Forslund  
Director

March 2018

## Table of Contents

---

Executive Summary.....	2
Methods.....	3
Year in Review.....	4
2018 Outbreaks.....	6
Campylobacteriosis.....	9
Carbapenem-resistant <i>Enterobacteriaceae</i> (CRE).....	10
Cryptosporidiosis.....	11
Giardiasis.....	12
Hepatitis A.....	13
Invasive Pneumococcal Disease.....	14
Pertussis.....	15
Rabies.....	16
Salmonellosis.....	17
Shiga toxin-producing <i>Escherichia coli</i> (STEC).....	18
Shigellosis.....	19
West Nile Virus.....	20
Zika Virus.....	21
Case Count by County Table, 2018.....	22
Diseases of Low Incidence, 2018.....	24

---

**State of Wyoming  
Department of Health**

**Summary of Reportable Diseases  
2018 Annual Report**

Summary of Infectious Diseases Annual Report  
is published by the Public Health Division

Alexia Harrist MD, PhD  
State Epidemiologist  
State Health Officer

Additional information and copies may be obtained from:

Clay VanHouten, MS  
Infectious Disease Epidemiology Unit  
Wyoming Department of Health  
6101 Yellowstone Road, Suite 510  
Cheyenne, WY 82002  
307-777-5596  
[clay.vanhouten@wyo.gov](mailto:clay.vanhouten@wyo.gov)



Wyoming  
Department  
of Health

## **Executive Summary**

The Wyoming Department of Health (WDH) Infectious Disease Surveillance System is a collaborative effort among personnel in Wyoming Department of Health Infectious Disease Epidemiology Program, Wyoming Public Health Laboratory (WPHL), local health departments, other state agencies, clinical laboratories, and healthcare providers in Wyoming and elsewhere. These groups work together to identify, investigate, and mitigate the effects of infectious diseases in the State of Wyoming.

Data presented in this report were collected by the Wyoming Department of Health Infectious Disease Epidemiology Program through the Reportable Diseases and Conditions surveillance system and through public health case follow-up. Disease surveillance databases contain information on reportable diseases and the public health investigations carried out on these disease occurrences. The databases contain information regarding the etiology, patient demographics, geographic location, clinical laboratory results, exposure histories, and public health control measures on each reported occurrence. Data were analyzed by state-level epidemiologists and additional retrospective case review was performed to verify actual case counts.

This report provides an overview of descriptive epidemiology of certain reportable diseases and conditions from January 1, 2018 to December 31, 2018.

## Methods

### Definitions

- Crude incidence rate - Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. Therefore, a crude incidence rate is the number of new cases of a disease within the specified population. A crude incidence rate has not been adjusted for age or other confounding variables. All crude incidence rates in this document are calculated using the 2016 Wyoming population and reported as the number of cases per 100,000 population.
- Age-adjusted incidence rate – Statewide age-adjusted rates reported in this document were standardized against the 2016 Wyoming population using specified age groups and are reported as the number of cases per 100,000 population. Age-adjustment allows rates to be compared over time and allows rates from one geographic area (e.g., state) to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.
- Outbreak - An outbreak is defined as a greater than expected increase in the number of individuals experiencing similar illness, two or more persons from different households experiencing illness who report the same exposure, or two or more persons with laboratory results indicating infection with a genetically identical etiologic agent.

## Acute Flaccid Myelitis

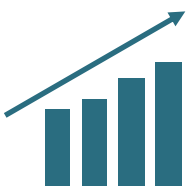
In 2018, CDC noted an increased number of reports of patients with a rare but serious condition called Acute Flaccid Myelitis (AFM). This condition is characterized by rapid onset of flaccid weakness in one or more limbs and spinal cord gray matter lesions. CDC has noted increases in AFM every two years since 2014, mostly in young children. While the definitive cause remains unknown, viruses (including enteroviruses) are thought to play a role in AFM. Most patients have a mild respiratory illness or fever consistent with viral infection before they developed AFM. Since we don't know what causes this condition, there is no specific action to take to prevent AFM. However, people can decrease risk of getting viral infections by washing hands often with soap and water, avoiding close contact with people who are sick, and avoid touching your face with unwashed hands. In 2018, Wyoming had two confirmed cases of AFM—one in a pediatric patient and one adult case.

## Record Flu Year

Influenza activity was high in severity as determined by the number of influenza-associated deaths, the number of laboratory-diagnosed influenza cases, and the percentage of visits to outpatient clinics or hospitals for influenza-like illness (ILI) during the 2018-2019 influenza season. During this high severity season, influenza surveillance and other influenza activity indicators were notable for the intensity and volume of reported cases throughout the state. A record number of reported influenza cases and hospitalizations were reported. Most of the United States experienced a similar phenomenon during the 2018-2019 influenza season. Overall, influenza A viruses were the

predominant influenza viruses circulating in Wyoming. For most of the 2018-2019 influenza season, influenza A (H1N1) pandemic 2009 viruses were the predominant influenza viruses circulating in Wyoming. Throughout the influenza season, influenza A (H1N1) pandemic 2009 viruses co-circulated across Wyoming with influenza A (H3N2) viruses and influenza B viruses. There was a notable transition in February 2019 to influenza A (H3N2) viruses as the predominant circulating viruses in Wyoming. The surge in influenza A (H3N2) viruses towards

the end of the season protracted influenza activity across the state. The extended period of elevated influenza activity exacerbated the adverse effects of the influenza season.





### Johnson County Fair *Salmonella* Cluster

On August 8, 2018, A Johnson County healthcare provider notified IDEpi of an increase in patients presenting with diarrhea who reported contact with pigs at the county fair. An investigation was launched to determine the extent of illness and identify common exposures. IDEpi partnered with the Wyoming Livestock Board, Johnson County Fair Board and 4H Extension Office, Wyoming Department of Agriculture, Johnson County Public Health Nursing, and Johnson County Healthcare Center to investigate the outbreak. Cases were identified through telephone interviews and an online survey distributed by the local 4H extension office to 4H club members who attended the county fair. In total, 33 cases were identified. Stool samples were submitted by five patients and tested positive for *Salmonella* I 4,[5],12:i:-. All five samples were indistinguishable by pulsed-field gel electrophoresis (PFGE) and highly related through whole genome sequencing using high-quality single nucleotide polymorphism (SNP) analysis (0-2 snps) indicating the infections were related. Illness was most likely acquired through contact with infected animals or the animal environment. Sick pigs with diarrhea were reported in the porcine barn during fair. No samples from pigs shown at the Johnson County Fair were provided for testing. Many pigs shown at fair were slaughtered prior to outbreak notification and the pig barn had been cleaned after cessation of fair.

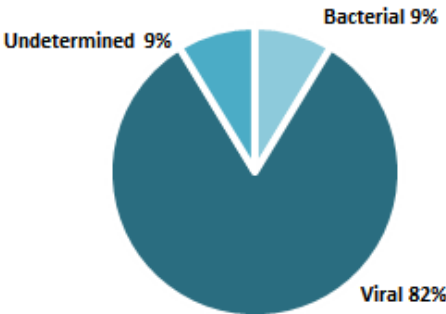
### Natrona County Hepatitis A Outbreak

In 2017, an ongoing community outbreak of Hepatitis A was reported in Natrona County. In total, 15 cases were reported including 11 cases in 2017 and four in 2018. Injection drug use was identified as a significant risk factor among cases. Several outbreaks of Hepatitis A were reported throughout the US among those experiencing homelessness and injection drug use. Testing revealed that the strain of hepatitis A circulating in Natrona County matched strains involved in other larger outbreaks in the US. This strain of hepatitis A was most likely introduced into Natrona County from someone who traveled to these affected areas. Several outbreak control measures were implemented in Natrona County to reduce transmission of the virus among high risk populations including vaccination for inmates at local correctional institutions, participants of drug treatment programs, and individuals at the local homeless shelter. These actions significantly contributed to resolution of the outbreak in Natrona County.

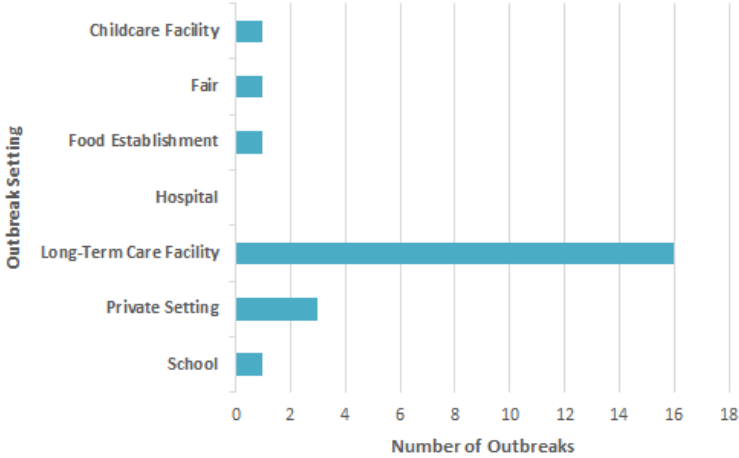
## 2018 Summary

In 2018, 23 outbreaks or clusters (excluding multistate outbreaks) were reported to WDH. An outbreak is defined as a greater than expected increase in the number of individuals experiencing similar illness, two or more persons from different households experiencing illness who report the same exposure, or two or more persons with laboratory results indicating infection with a genetically identical etiologic agent. Outbreaks, or clusters of illness, in Wyoming are required to be reported to WDH by state statute and are detected from a variety of sources including case follow-up, notifications from healthcare providers, calls to the emergency hotline, foodborne illness complaints, syndromic surveillance, and laboratory detection. The majority of outbreaks investigated in 2018 occurred in long-term care facilities (73%) from viral pathogens where the primary mode of transmission identified was person-to-person (P2P).

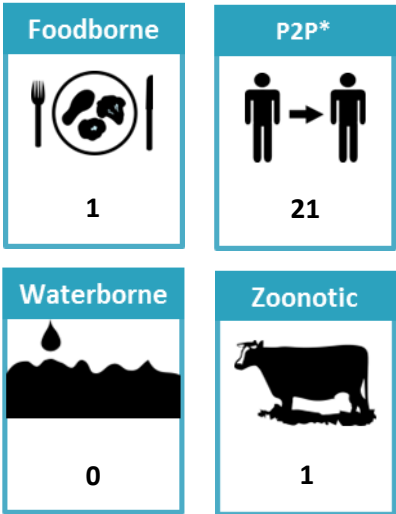
### Outbreak Etiology



### Outbreak Setting

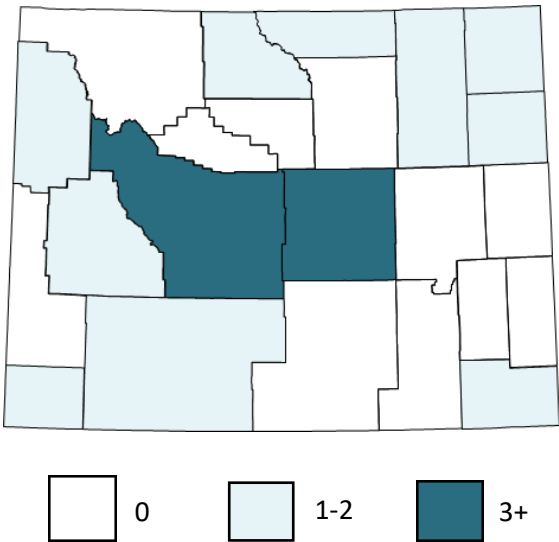


### Outbreak Transmission Mode



\*Person-to-person

### Number of Outbreaks by County





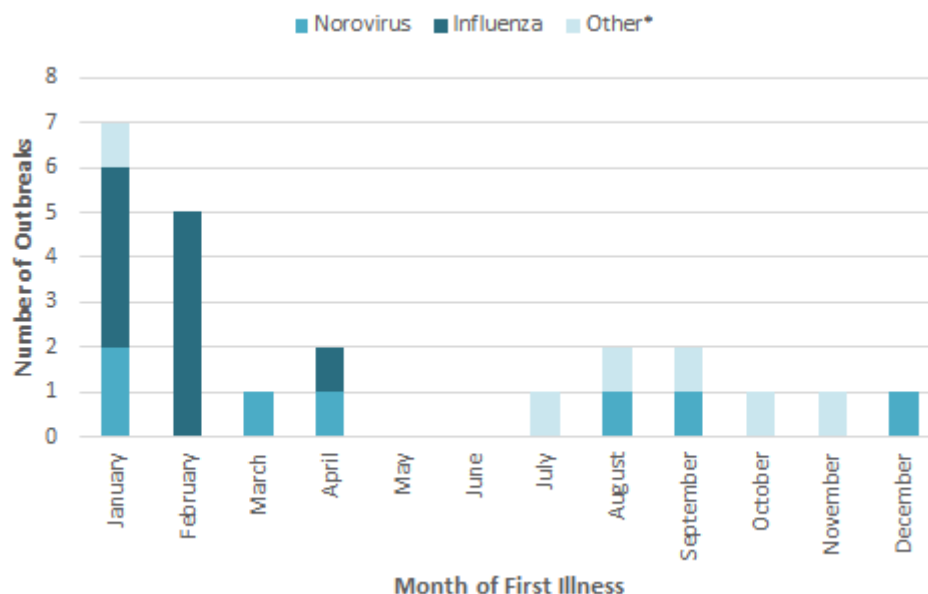
## Outbreak Summary

	Category	Total # of Outbreaks	Total #Ill	# Hospitalized
Enteric	Waterborne	0	-	-
	Enteric Foodborne	1	15	0
	Enteric Person-to-Person	9	190	4
	Enteric Animal Contact-associated Disease	1	31	0
	Enteric Environmental Exposure-associated	0	-	-
	Other Enteric outbreaks of unknown transmission	0	-	-
Respiratory	Influenza	10	49	N/A
	Pertussis	2	78	0
Vectorborne	Mosquitoborne	0	-	-
	Tickborne	0	-	-
Select Vaccine-Preventable Diseases <sup>1</sup>		0	-	-
Select Healthcare-Associated Infections <sup>2</sup>		0	-	-
<b>Total</b>		<b>23</b>	<b>363</b>	<b>4</b>

1. Diphtheria, Hib, Measles, Meningitis, Mumps, Rubella and Varicella

2. Healthcare-acquired methicillin-resistant *Staphylococcus aureus*, *Clostridium difficile*, and carbapenem-resistant Enterobacteriaceae, central line-associated bloodstream infections (CLABSI), catheter-associated urinary tract infections (CAUTI), and surgical site infections (SSI)

## Number of Outbreaks by Etiology and Month of First Illness



\* Other category includes outbreaks of hepatitis A, pertussis, *Salmonella*, and undetermined etiology

## Multistate Outbreaks

Wyoming residents were part of seven multistate outbreak investigations that included ill residents from multiple states. *Salmonella* was the etiology of all multistate outbreak investigations. Contact with baby poultry, ground beef, and hedgehogs, were some sources identified as the most likely cause of illness in these outbreaks.

## Multistate Outbreaks in the News

### *Salmonella* Typhimurium Linked to Hedgehogs

Pet hedgehogs were implicated in a multistate *Salmonella* Typhimurium outbreak involving 11 cases from eight states, including one case in Wyoming. No common hedgehog supplier was identified. Samples collected from three hedgehogs had the same strain of *Salmonella* found in human cases.



<https://www.cdc.gov/campylobacter/outbreaks/puppies-9-17/index.html>

### Ground Beef *Salmonella* Newport Outbreak

In 2018, the CDC launched an investigation of *Salmonella* Newport infections associated with ground beef products produced at JBS Tolleason, Inc. A total of 333 cases were reported from 28 states, including six cases in Wyoming. In response to the outbreak, over 12 million pounds of beef products were recalled from more than 100 retailers selling the product nationwide.

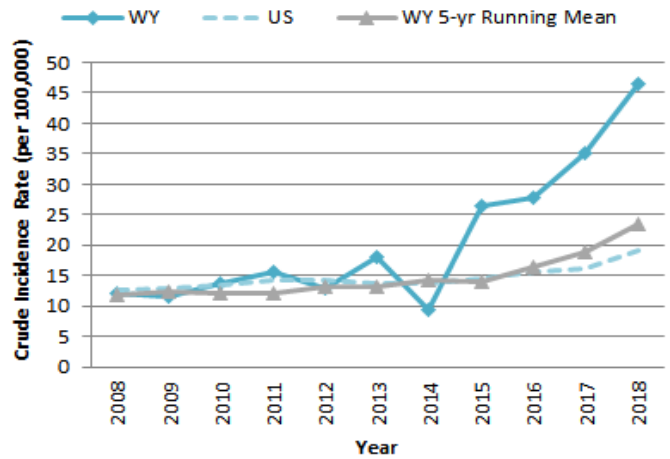


<https://www.cdc.gov/salmonella/newport-10-18/index.html>

## 2018 Summary

In 2018, 270 (132 laboratory-confirmed and 138 probable) cases of campylobacteriosis were reported. In 2018, the incidence of campylobacteriosis in Wyoming was 46.61 cases per 100,000 persons per year. Wyoming incidence remained above the estimated national incidence of 19.05. The national health objective for campylobacteriosis is 8.5 per 100,000 persons per year. The median age of cases of campylobacteriosis in Wyoming was 44 years (range: 0-91). Persons aged 40-64 years had the highest age-adjusted incidence rate (13.33 cases per 100,000 per year).

## Incidence of Campylobacteriosis by Year, Wyoming and the US, 2008 - 2018

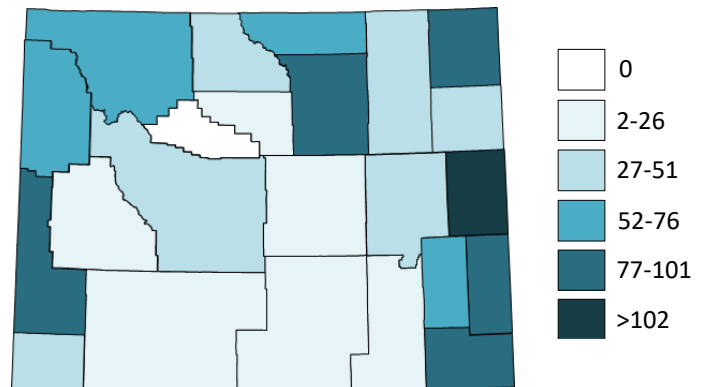


## Probable Exposure Reported by Cases\*

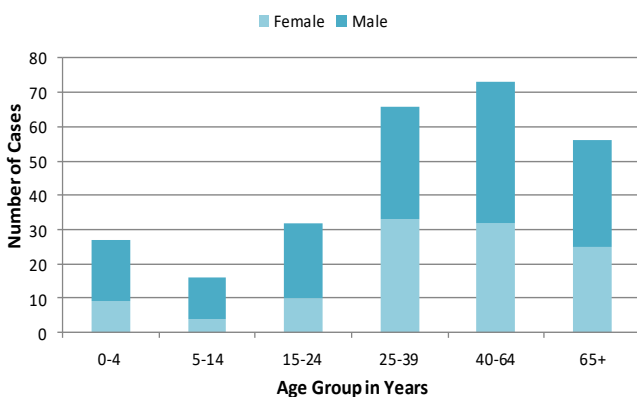


\*Based on protocol, follow up conducted with 132 cases

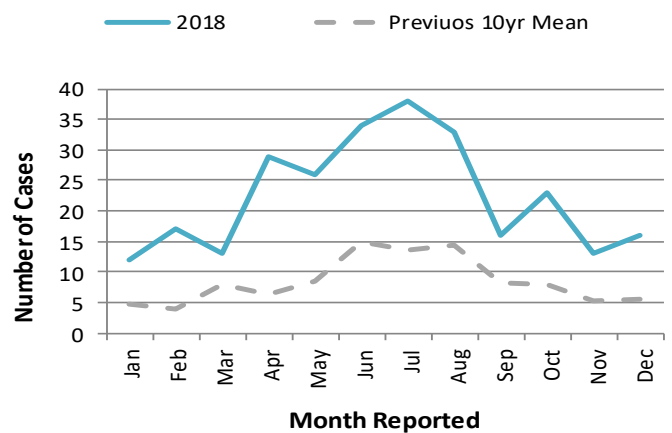
## Crude Incidence of Campylobacteriosis by County of Residence, per 100,000



## Campylobacteriosis Cases by Age Group and Sex



## Campylobacteriosis Cases by Month Reported



# Carbapenem-resistant *Enterobacteriaceae* (CRE)

## 2018 Summary

The *Enterobacteriaceae* are a large family of Gram-negative bacilli found in the human gastrointestinal tract. Commonly encountered species include *Escherichia coli*, *Klebsiella* spp. and *Enterobacter* spp. Carbapenem-resistant *Enterobacteriaceae* (CRE) are not susceptible to carbapenem antibiotics. They are broadly categorized based on the mechanism of their resistance as carbapenemase producers (CP-CRE) and non-carbapenemase producers.

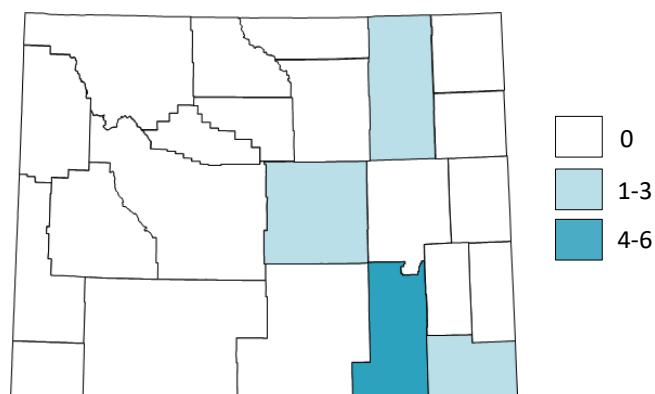
Carbapenems are broad-spectrum antibiotics typically used to treat severe healthcare-associated infections (HAIs) caused by highly drug-resistant bacteria. Currently available carbapenems include imipenem, meropenem, ertapenem and doripenem. Loss of susceptibility to carbapenems is a serious problem because few safe treatment alternatives remain against such resistant bacteria.

In 2018, CRE was added to the Reportable Disease List. CRE are defined as any *Enterobacteriaceae* that are resistant to any carbapenem antibiotic or produce a carbapenemase enzyme. The Wyoming State Public Health Laboratory offers specialized testing to determine whether reported CRE are carbapenemase producers.

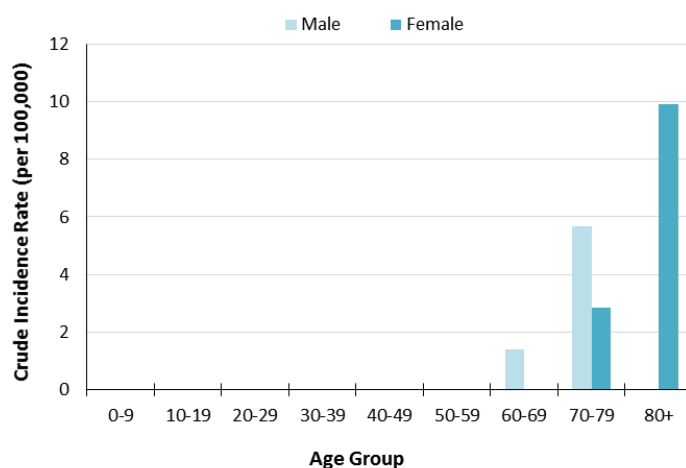
Six cases of CRE infection or colonization were reported among Wyoming residents in 2018. The median case age was 73 (range 67-91 years) and three (50%) were female. All isolates collected were from urine and *Enterobacter* spp. accounted for 50% of all isolates. Two cases were CP-CRE and both produced *Klebsiella pneumoniae* carbapenemase (KPC).

We have no indication CP-CRE are spreading in Wyoming. For more information see our [CRE toolkit](#).

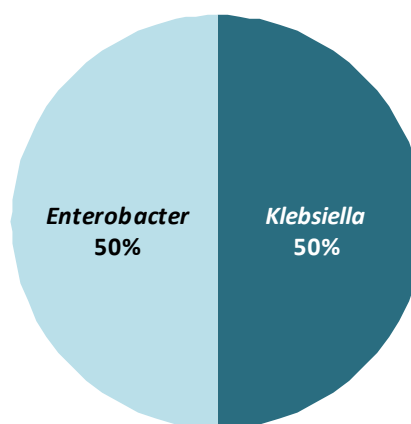
Crude Incidence of CRE by County of Residence, per 100,000



Incidence of CRE by Age and Sex; Wyoming, 2018



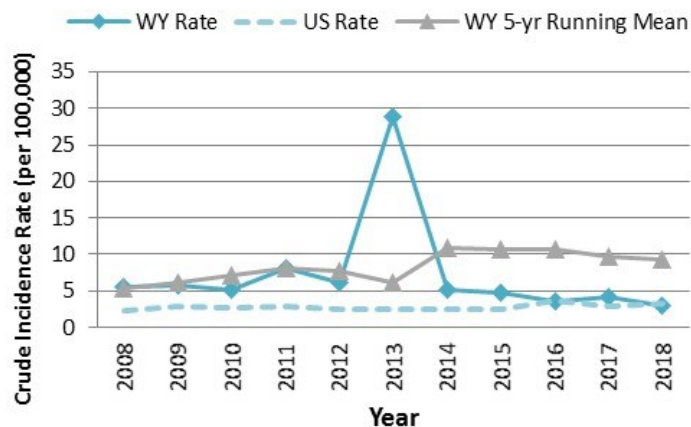
Carbapenem-resistant *Enterobacteriaceae* by Species



## 2018 Summary

In 2018, 17 laboratory-confirmed cases of cryptosporidiosis were reported. The incidence of cryptosporidiosis in Wyoming was 2.93 cases per 100,000 per year. Wyoming incidence was lower than the estimated national incidence of 3.34 cases per 100,000 per year. The median age of cases of cryptosporidiosis was 33 years (range: 1-83). Persons aged 25-39 years had the highest age-adjusted incidence rate (1.04 per 100,000 persons).

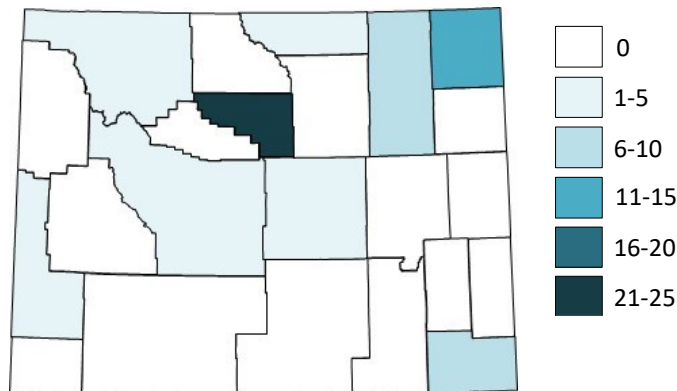
## Incidence of Cryptosporidiosis by Year, Wyoming and the US, 2008-2018



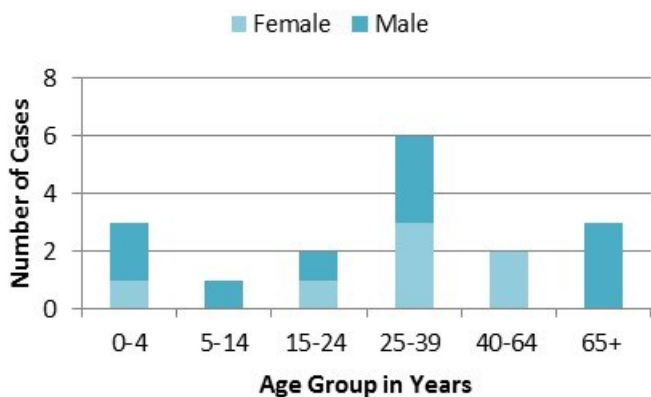
## Probable Exposure Reported by Cases



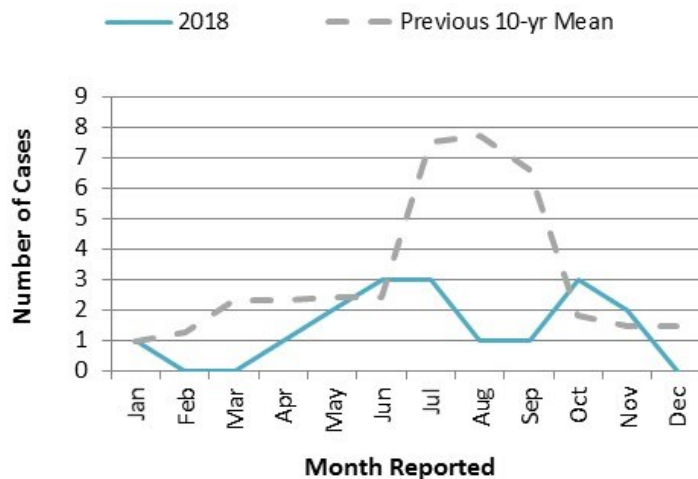
## Crude Incidence of Cryptosporidiosis by County of Residence, per 100,000



## Cryptosporidiosis Cases by Age Group and Sex



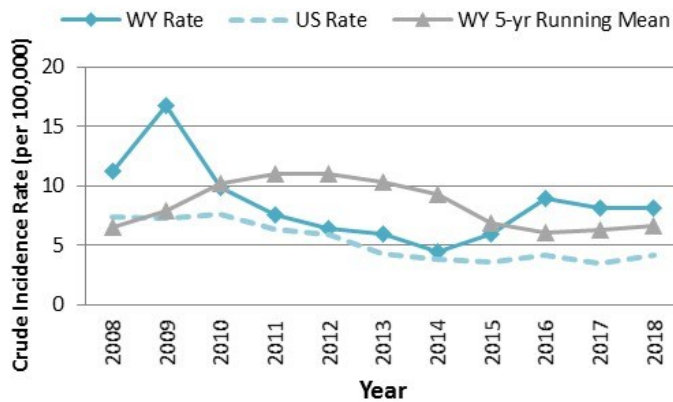
## Cryptosporidiosis Cases by Month Reported



## 2018 Summary

In 2018, 47 laboratory-confirmed cases of giardiasis were reported. The incidence of giardiasis in Wyoming was 8.11 cases per 100,000. Wyoming incidence remained greater than the estimated national incidence of 4.14 in 2018. The median age of cases of giardiasis was 33 years (range: 2-77). Persons aged 25-39 years had the highest age-adjusted incidence rate (3.28 per 100,000 persons).

## Incidence of Giardiasis by Year, Wyoming and the US, 2008-2018



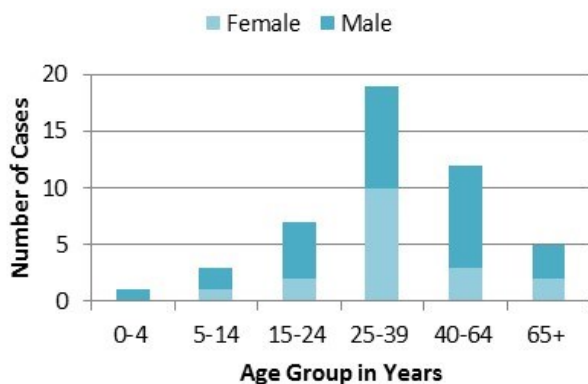
## Probable Exposure Reported by Cases



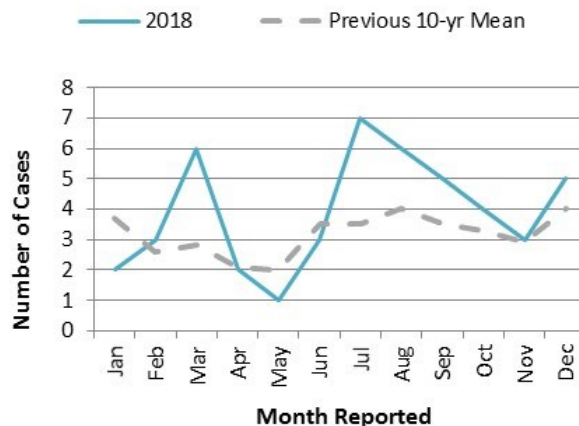
## Crude Incidence of Giardiasis by County of Residence, per 100,000



## Giardiasis Cases by Age Group and Sex



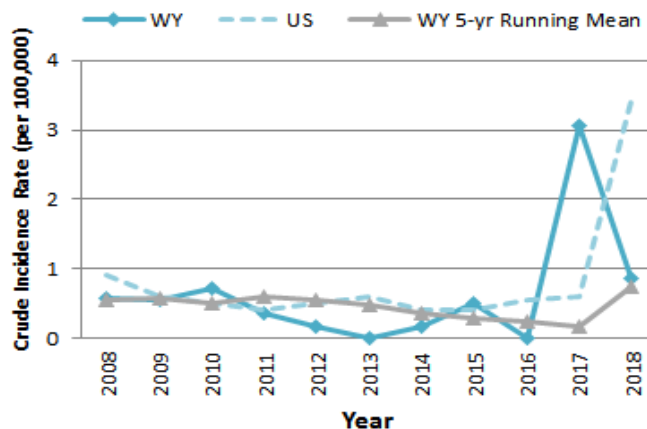
## Giardiasis Cases by Month Reported



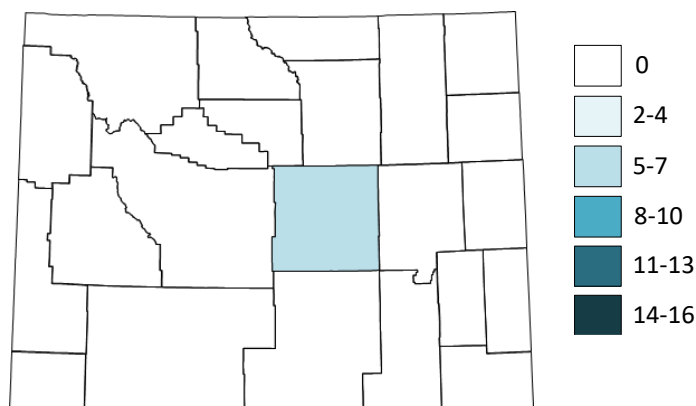
## 2018 Summary

In 2018, 5 cases of hepatitis A were reported. The incidence of hepatitis A in Wyoming was 0.86 cases per 100,000 per year. All five reported cases in 2018 were related to an outbreak of hepatitis A in Natrona County linked to person-to-person transmission of the virus. Wyoming incidence was lower than the estimated national incidence of 3.4. The median age of cases of Hepatitis A in Wyoming was 33 years (range: 29-87). Persons aged 25-39 years had the highest age-adjusted incidence rate (0.69 cases per 100,000 per year).

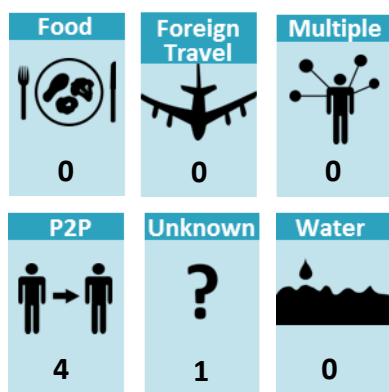
## Incidence of Hepatitis A by Year, Wyoming and the US, 2008-2018



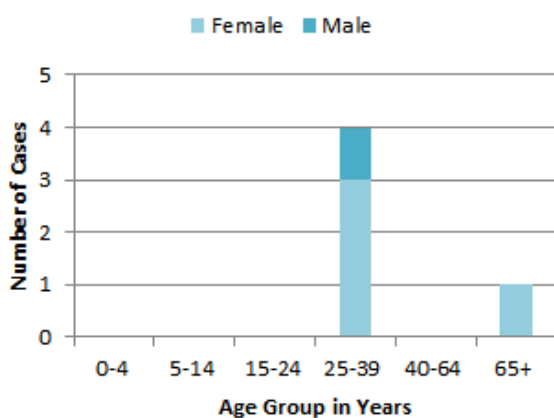
## Crude Incidence of Hepatitis A by County of Residence, per 100,000



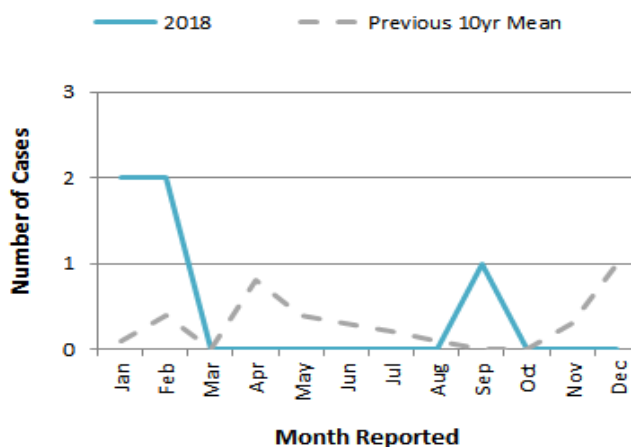
## Probable Exposure Reported by Cases



## Hepatitis A Cases by Age Group and Sex



## Hepatitis A Cases by Month Reported

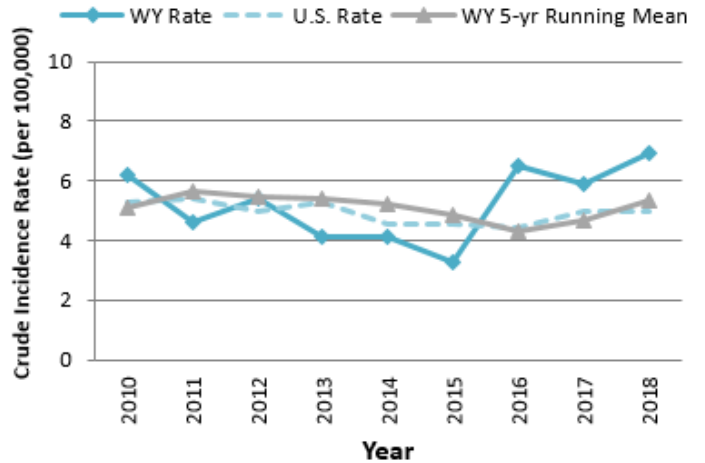


# Invasive Pneumococcal Disease

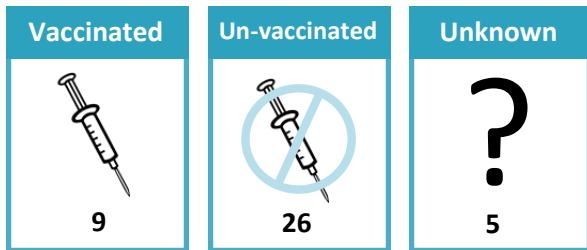
## 2018 Summary

In 2018, 40 cases of invasive pneumococcal disease (IPD) were reported. Drug-resistant *Streptococcus pneumoniae* were the cause of ten of the 40 IPD cases. Thirteen of the cases presented with bacteremia with clinical pneumonia. Vaccination status was known for 87% of the cases, and of those known only nine individuals were immunized. The mean age of cases was 49 years (range: 0-98) and 50% of cases were female.

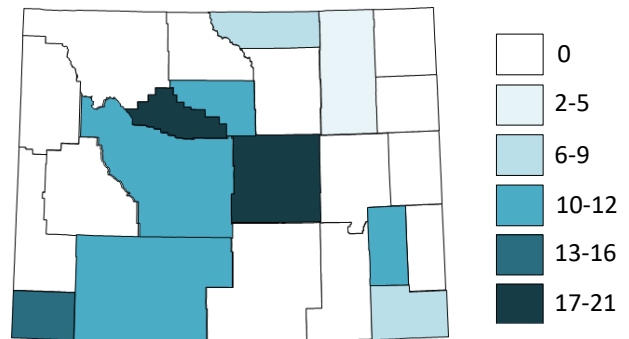
## Incidence of IPD by Year, Wyoming and the US,



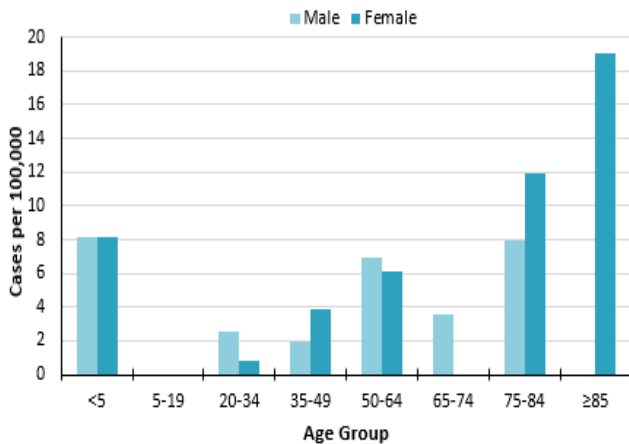
## Vaccination Status of IPD Cases



## Crude Incidence of IPD by County of Residence, per 100,000



## Incidence of IPD by Age Group and Sex, 2018



## IPD Cases by Clinical Manifestation

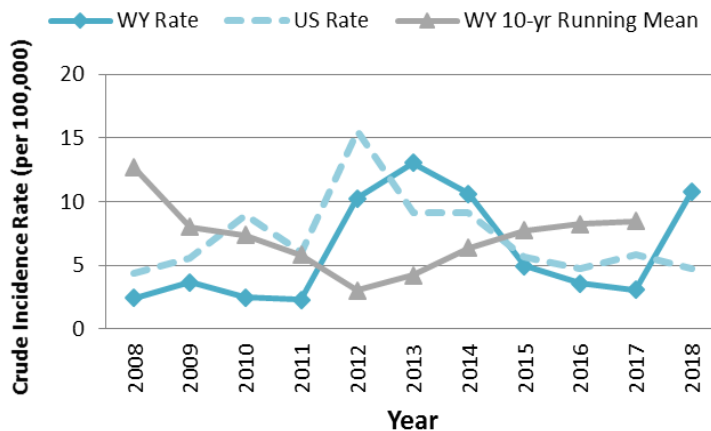
Bacteremia + pneumonia	13
Bacteremia/Sepsis	12
Pneumonia	9
Meningitis	4
Peritonitis	1
Osteomyelitis	1



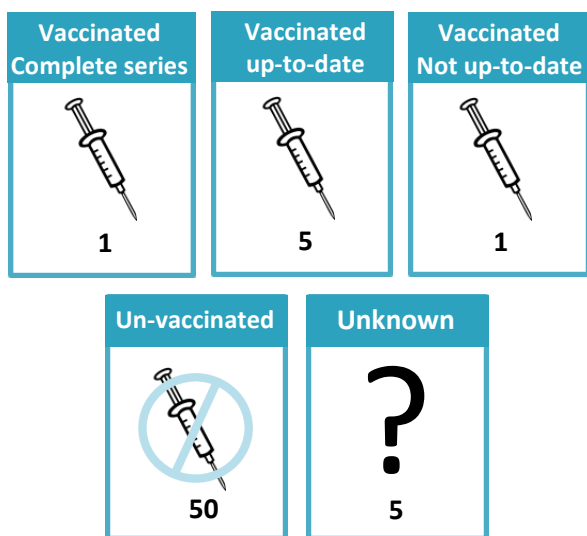
## 2018 Summary

In 2018, 62 confirmed and probable cases of pertussis were reported (crude incidence rate: 10.73 cases per 100,000 per year). The incidence rate of pertussis in Wyoming was higher than the estimated national incidence (4.77 cases per 100,000 per year). The median age of cases of pertussis was 6 years (range: 1-54).

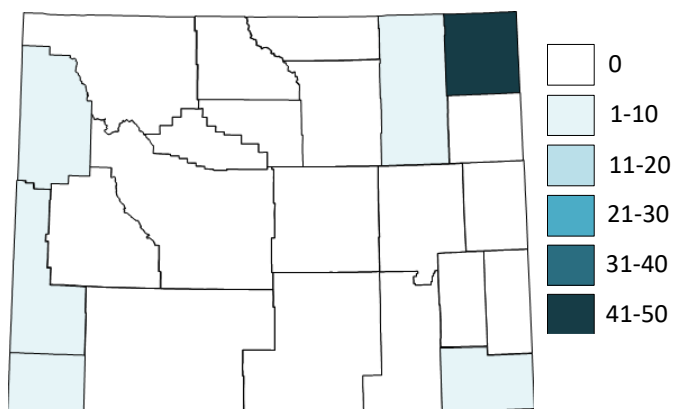
## Incidence of Pertussis by Year, Wyoming and the US, 2008-2018



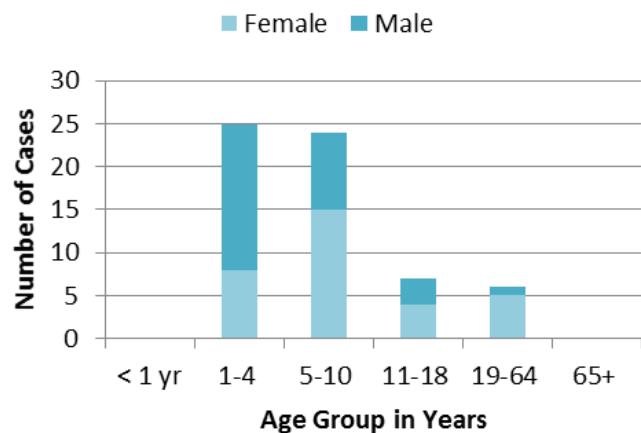
## Vaccine Status among Cases



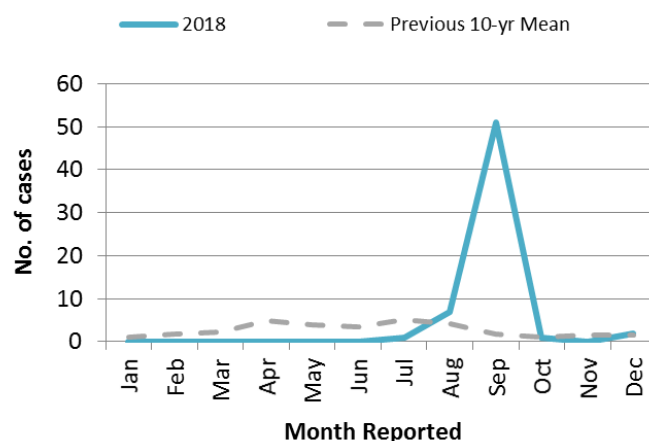
## Crude Incidence of Pertussis by County of Residence, per 100,000



## Pertussis Cases by Age Group and Sex



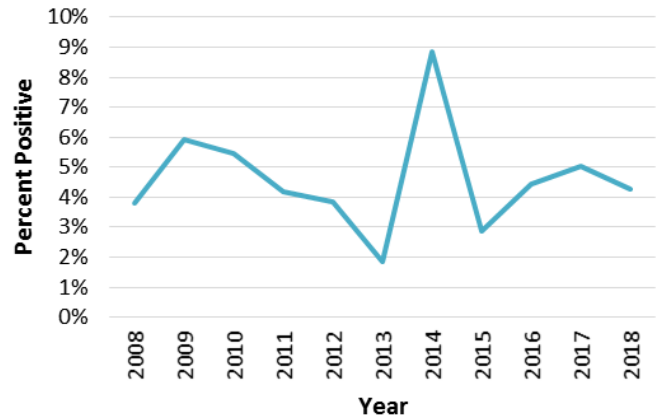
## Pertussis Cases by Month Reported



## 2018 Summary

In 2018, 40 rabies positive animals were reported: 29 skunks, 1 cow, 1 horse, and 9 bats. A total of 940 animals captured or located in Wyoming were tested for rabies at the Wyoming State Veterinary Laboratory, with approximately 4.3% of animals testing positive. As a result of contact with animals that either tested positive, or were suspected of having rabies, a total of 23 reported people received rabies post-exposure prophylaxis (PEP).

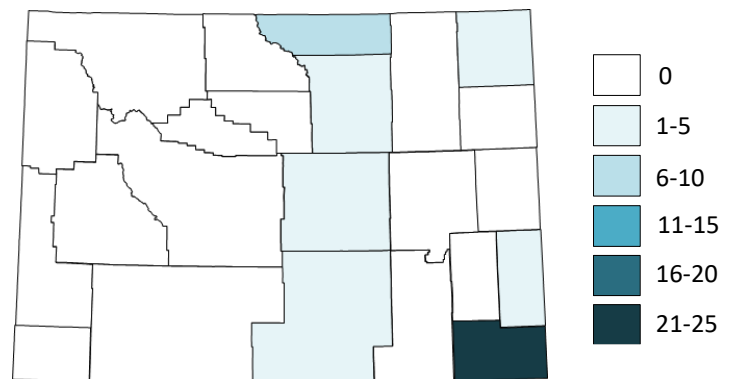
**Rabies Positive Percent of Animals Tested, Wyoming, 2008 - 2018**



## Animal Rabies Cases by Species



**Number of Animal Rabies Cases by County of Capture**



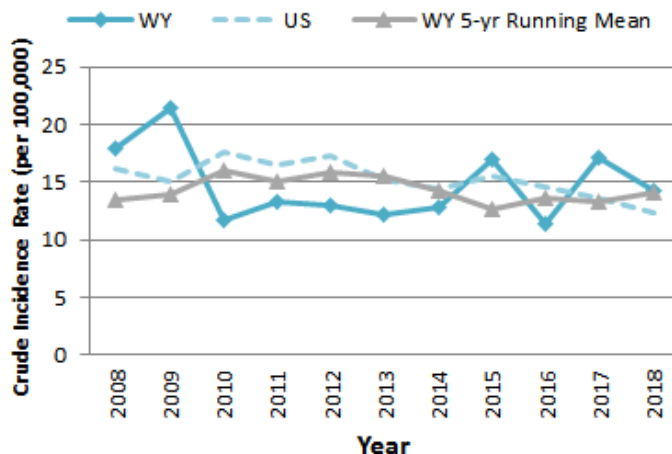
## Number of Humans who Received Rabies PEP

Contact with a <b>BAT</b> suspected rabid	6
Contact with a <b>CAT</b> suspected rabid	4
Contact with a <b>COW</b> suspected rabid	4
Contact with a <b>DOG</b> suspected rabid	6
Contact with a <b>GOPHER</b> suspected rabid	1
Contact with a <b>RACCOON</b> suspected rabid	2

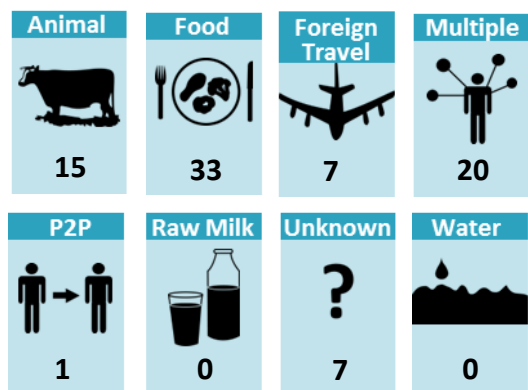
## 2018 Summary

In 2018, 83 (81 laboratory-confirmed and 2 probable) cases of salmonellosis were reported. The incidence of salmonellosis in Wyoming was 14.3 cases per 100,000 per year and decreased 16% from 2017. Wyoming incidence in 2018 was greater than the estimated national incidence of 12.3 cases per 100,000 per year. The national health objective for salmonellosis is 11.4 per 100,000 persons per year. The median age of cases of salmonellosis was 41 years (range: 0-79). Persons aged 40-64 years had the highest age-adjusted incidence rate (4.4 per 100,000 persons).

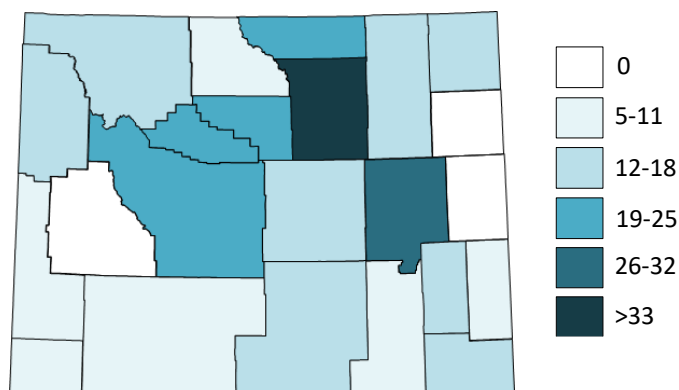
## Incidence of Salmonellosis by Year, Wyoming and the US, 2008-2018



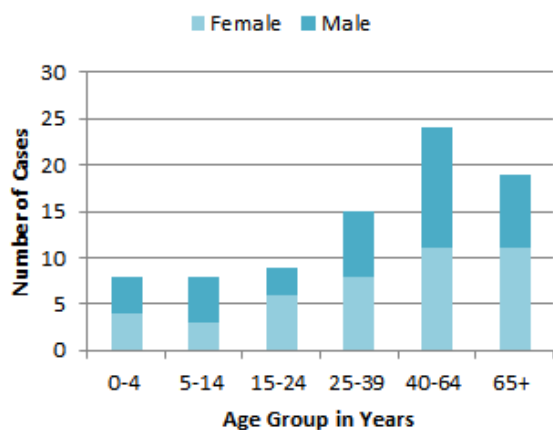
## Probable Exposure Reported by Cases



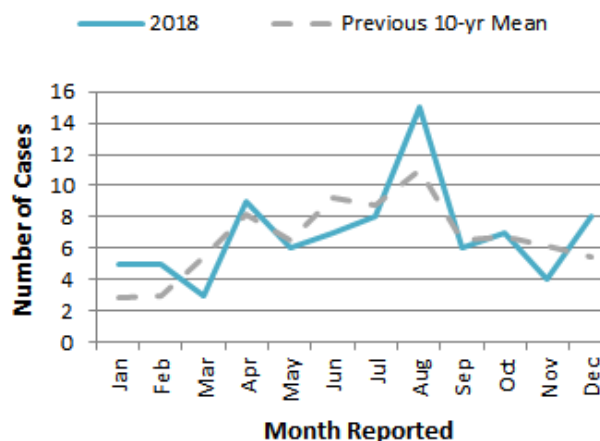
## Crude Incidence of Salmonellosis by County of Residence, per 100,000



## Salmonellosis Cases by Age Group and Sex



## Salmonellosis Cases by Month Reported

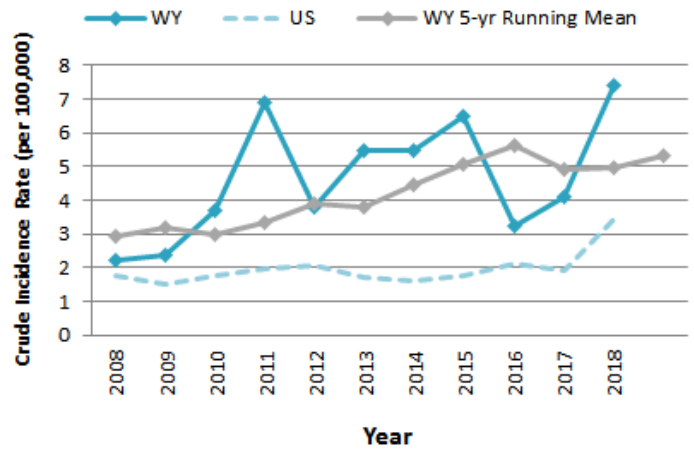


# Shiga toxin-producing *Escherichia coli*

## 2018 Summary

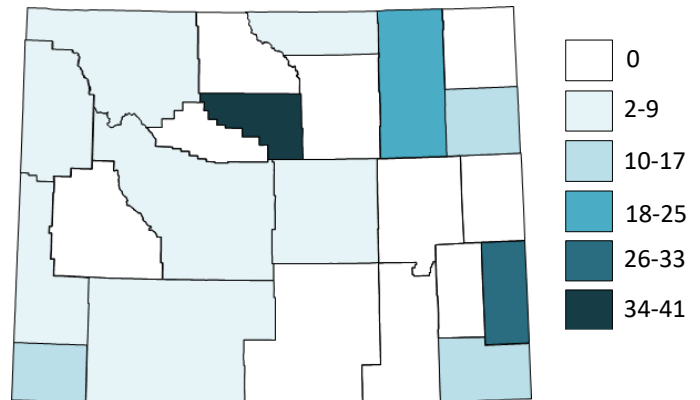
In 2018, 43 (25 laboratory-confirmed and 18 probable) cases of shiga toxin-producing *Escherichia coli* (STEC) were reported. The incidence of STEC in Wyoming was 7.4 cases per 100,000 per year and increased 81% from 2017. Wyoming incidence was higher than the estimated national incidence of 3.5 cases per 100,000 per year. In Wyoming, incidence of non-O157:H7 STEC was higher compared to incidence of O157:H7 STEC (3.3 vs. 1.03 per 100,000 persons). The national health objective for STEC O157 is 0.6 per 100,000 persons per year. The median age of cases of STEC was 15 years (range: 0-74). Persons aged 0-4 years had the highest age-adjusted incidence rate (2.07 per 100,000 persons).

**Incidence of STEC by Year, Wyoming and the US, 2008-2018\***



\*Case definition changed in 2018

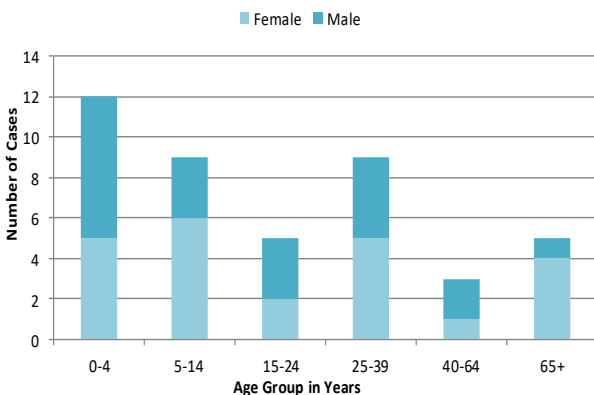
**Crude Incidence of STEC by County of Residence, per 100,000**



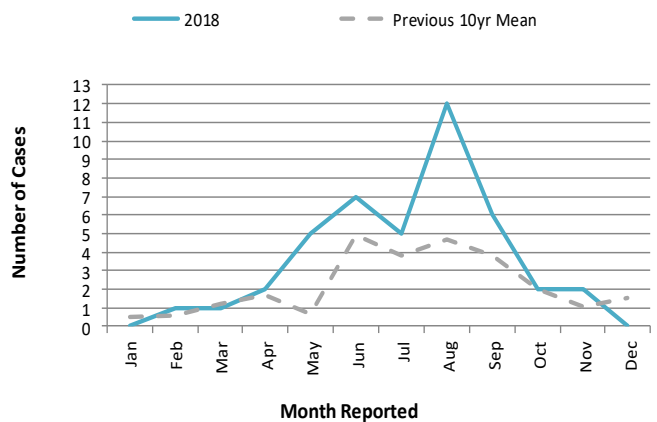
## Probable Exposure Reported by Cases



## STEC Cases by Age Group and Sex



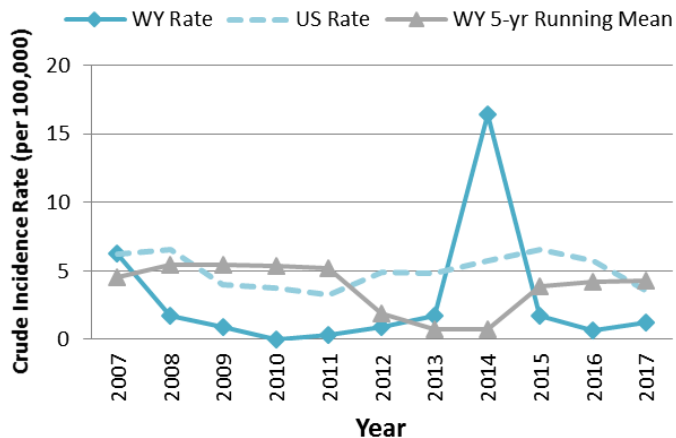
## STEC Cases by Month Reported



## 2018 Summary

In 2018, seven laboratory-confirmed cases of shigellosis were reported. The incidence rate of shigellosis in Wyoming was 1.20 cases per 100,000 per year and increased 76% from 2017. Wyoming incidence in 2018 was less than the estimated national incidence of 3.6 cases per 100,000 per year. The median age of cases of shigellosis was 22 years (range: 1-41). Persons aged 0-4, 15-24, and 25-39 years had an equivalent age-adjusted incidence rate (0.34 per 100,000 persons).

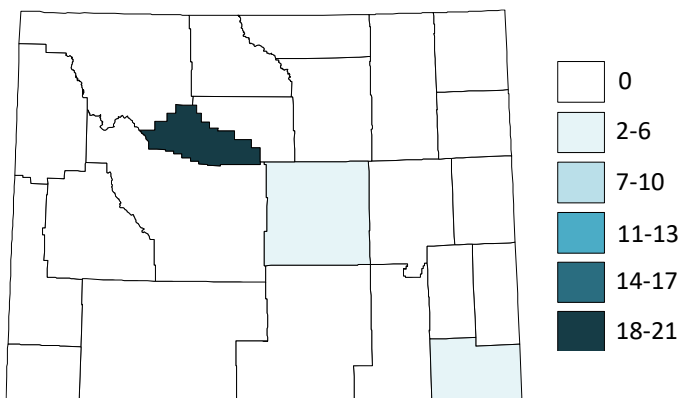
## Incidence of Shigellosis by Year, Wyoming and the US, 2007-2018



## Probable Exposure Reported by Cases



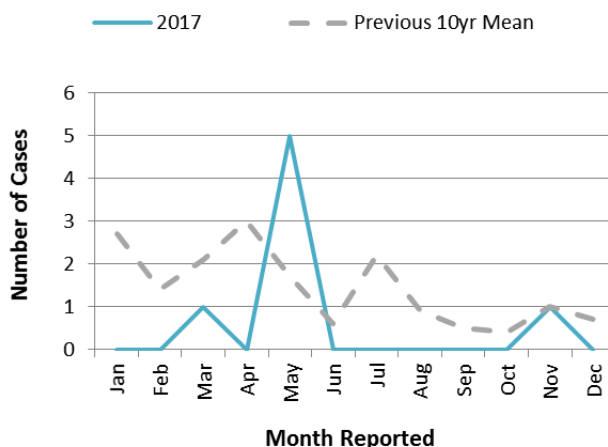
## Crude Incidence of Shigellosis by County of Residence, per 100,000



## Shigellosis Cases by Age Group and Sex



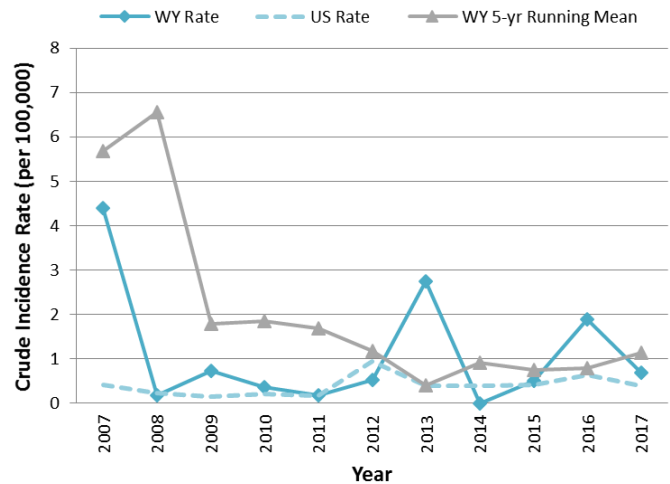
## Shigellosis Cases by Month Reported



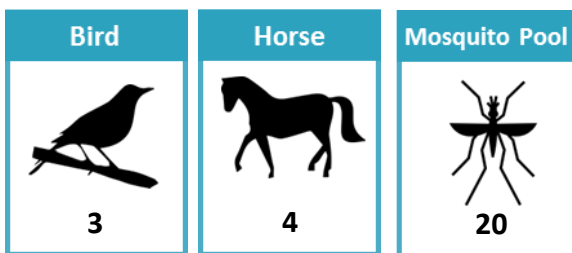
## 2018 Summary

In 2018, seven human cases of West Nile virus (WNV) were reported including three West Nile Fever (WNF) and four West Nile Neuroinvasive Disease (WNND). Numerous bird species, horses and mosquito pools also tested positive for WNV. The first human case was reported in late July and the last case was reported at the end of September. The incidence of WNND was 0.68 per 100,000 people, which decreased from 1.9 in 2016. The incidence of WNND in Wyoming was higher than the estimated national incidence of 0.40 cases per 100,000 people.

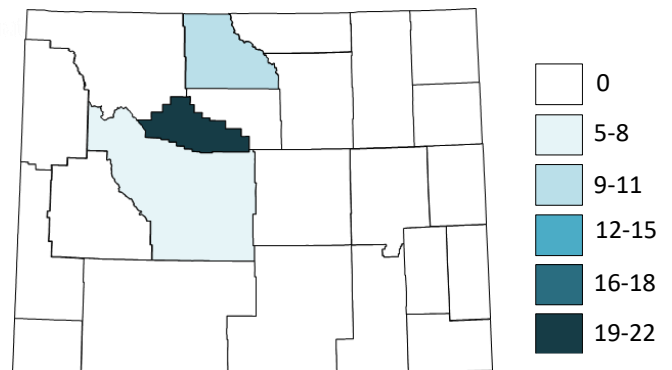
## Incidence of WNND , Wyoming and the US, 2007-2018



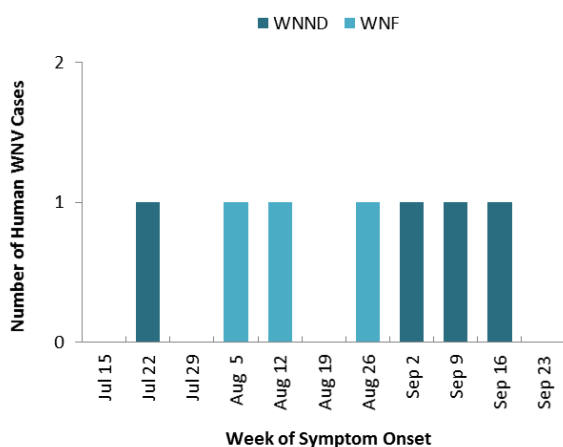
## Other WNV Positive Species



## Crude Incidence of WNND by County of Residence, per 100,000



## West Nile Virus (WNV) Human Cases in Wyoming, 2018



## Probable Location of Exposure Among WNF and WNND Cases

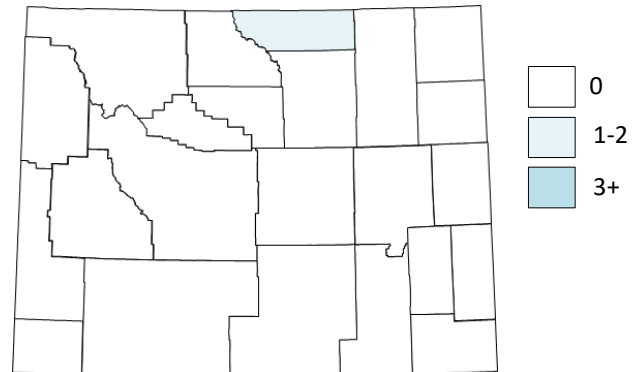
	WNF	WNND
In-State	3	3
Out-of-State	0	0
Multiple Exposures	0	0
Undetermined	0	1

## 2018 Summary

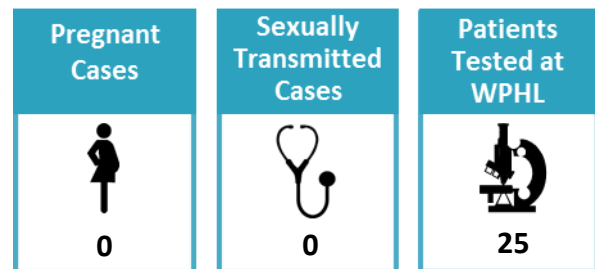
In 2018, Zika virus disease was added to the Nationally Notifiable Disease List by the CDC. In Wyoming, two Zika virus disease cases were reported in 2018. The mean age of Zika cases was 42.5 years. Both reported cases were male.

In July 2018, the CDC changed testing recommendation to no longer include testing asymptomatic pregnant women. This decision was based on declining prevalence of Zika virus disease in the World Health Organization’s Region of the Americas. Testing people when there is a lower occurrence of disease could lead to a higher proportion of false-positive test results. WDH sent out a Health Alert Notice to healthcare providers with the updated testing recommendations. Subsequently, requests for Zika virus disease testing at the WPHL have dropped significantly.

## Number of Zika Virus Cases by County, Wyoming, 2018



## Additional Case Information



## Probable Location of Exposure Among Zika Virus Cases

US Travel	0
Foreign Travel	2

Wyoming Morbidity Report 2018	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweetwater	Teton	Uinta	Washakie	Weston	Total
Acute Flaccid Myelitis	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Babesiosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, Infant	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Brucellosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacteriosis	7	5	21	3	4	7	14	13	0	7	84	15	17	5	16	5	23	1	1	12	7	1	2	270
Coccidioidomycosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	3
Colorado Tick Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Creutzfeldt-Jacob Disease (CJD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	0	0	3	0	0	1	1	0	0	0	6	1	1	0	1	0	1	0	0	0	0	2	0	17
Cyclosporiasis	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3
Giardiasis	2	0	2	0	1	1	6	0	0	0	4	4	5	0	5	1	5	1	0	11	0	0	0	48
Group A Streptococcus, invasive	1	0	0	0	0	0	6	0	0	0	0	0	11	0	0	0	5	0	2	0	0	0	0	25
Group B Streptococcus, invasive	1	1	0	0	1	0	2	0	0	0	1	5	0	0	1	0	1	0	3	1	1	0	0	18
Haemophilus influenzae, invasive	0	0	0	0	0	0	1	0	0	0	3	0	1	0	1	1	0	0	1	0	1	0	0	9
Hantavirus pulmonary syndrome	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
Hepatitis A	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
Legionellosis	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Listeriosis	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Lyme disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaria	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Pertussis	0	0	1	0	0	45	0	0	0	0	5	1	0	0	0	0	0	0	0	2	8	0	0	62
Q Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, animal	0	0	0	2	0	1	1	1	0	1	20	0	3	0	0	0	7	0	0	0	0	0	0	36



Wyoming Morbidity Report 2018 Continued	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweetwater	Teton	Uinta	Washakie	Weston	Total
<b>Salmonellosis</b>	2	1	8	2	4	1	10	1	1	2	14	4	10	0	5	1	6	0	3	4	2	2	0	<b>83</b>
<b>Shiga toxin-producing Escherichia coli (STEC)</b>	0	0	9	0	0	0	2	4	0	0	14	1	3	0	1	0	1	0	1	1	2	3	1	<b>43</b>
<b>Shigellosis</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	<b>3</b>
<b>Rocky Mountain Spotted Fever Rickettsiosis</b>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	<b>2</b>
<b>Streptococcal toxic-shock syndrome</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>Streptococcus pneumoniae, invasive disease (IPD)</b>	0	0	1	0	0	0	4	0	1	0	6	0	16	0	0	1	2	0	5	0	3	1	0	<b>40</b>
<b>Tetnus</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	<b>1</b>
<b>Tularemia</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	<b>1</b>
<b>Varicella (Chickenpox)</b>	0	1	0	2	0	0	1	2	0	0	8	0	2	0	1	0	1	0	0	2	1	0	0	<b>21</b>
<b>Vibriosis</b>	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	<b>2</b>
<b>West Nile Virus</b>	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	<b>4</b>
<b>Yersiniosis</b>	0	0	3	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	<b>5</b>
<b>Zika Virus</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>

## Diseases of low Incidence

Disease	2018	2017	2016	2015	2014
Anaplasma/Ehrlichiosis	0	0	1	0	0
Anthrax ( <i>Bacillus anthracis</i> )	0	0	0	0	0
Babesiosis ( <i>Babesia</i> sp)	0	1	0	0	0
Botulism ( <i>Clostridium botulinum</i> )	1	0	1	1	0
Brucellosis ( <i>Brucella</i> sp)	0	1	0	0	0
California Serogroup Virus (Jamestown Canyon, La Crosse, others)	0	0	0	1	0
Carbapenem-resistant <i>Enterobacteriaceae</i>	0	6	*	*	*
Cholera ( <i>Vibrio cholerae</i> )	0	0	0	0	0
Coccidioidomycosis ( <i>Coccidioides immitis</i> )	3	11	2	14	2
Colorado Tick Fever	0	3	0	7	4
Creutzfeldt-Jacob Disease	0	1	2	3	0
Cyclosporiasis ( <i>Cyclospora cayetanensis</i> )	3	4	1	0	0
Dengue Fever	0	0	0	0	0
Diphtheria ( <i>Corynebacterium diphtheriae</i> )	0	0	0	0	0
Eastern Equine Encephalitis Virus	0	0	0	0	0
<i>Haemophilus influenzae</i> (sterile site)	9	7	7	5	6
Hansen's Disease ( <i>Mycobacterium leprae</i> )	0	0	0	0	0
Hantaviral Disease	2	1	1	1	1
Hemorrhagic Fever Viruses	0	0	0	0	0
Hemolytic Uremic Syndrome	0	0	0	0	0
Hepatitis A	5	18	0	3	1
Hepatitis E	0	1	0	0	0
Legionellosis ( <i>Legionella</i> sp)	2	7	3	4	2
Leptospirosis ( <i>Leptospira interrogans</i> )	0	0	0	0	0
Listeriosis ( <i>Listeria monocytogenes</i> )	1	0	0	0	0
Lyme Disease ( <i>Borrelia burgdorferi</i> )	0	4	1	1	3
Malaria ( <i>Plasmodium</i> sp)	2	0	4	1	0
Measles	0	0	0	0	0
Meningococcal Disease ( <i>Neisseria meningitidis</i> )	0	0	0	1	0
Mumps	0	0	0	0	0
Plague ( <i>Yersinia pestis</i> )	0	0	0	0	0
Poliomyelitis/Poliovirus Infection	0	0	0	0	0
Powassan Virus (neuro- and non-neuro invasive)	0	0	0	0	0

Disease	2018	2017	2016	2015	2014
Psittacosis ( <i>Chlamydophila psittaci</i> )	0	0	0	0	0
Q-Fever ( <i>Coxiella burnetii</i> )	4	2	0	0	0
Relapsing Fever ( <i>Borrelia</i> sp)	0	0	0	0	0
Reyes Syndrome	0	0	0	0	0
Rocky Mountain Spotted Fever ( <i>Rickettsia rickettsii</i> )	2	6	1	1	0
Rubella	0	0	0	0	0
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0
St. Louis Encephalitis Virus (neuro- and non-neuro invasive)	0	0	0	0	0
Smallpox	0	0	0	0	0
Group A Streptococcus, invasive	25	15	16	8	7
Group B Streptococcus, invasive	18	10	11	7	8
Tetanus ( <i>Clostridium tetani</i> )	1	0	0	0	0
Toxic-Shock Syndrome (Streptococcal, Staphylococcal)	0	2	2	1	1
Trichinellosis ( <i>Trichinella</i> sp)	0	0	0	0	0
Tularemia ( <i>Francisella tularensis</i> )	3	2	7	21	1
Typhoid Fever ( <i>Salmonella typhi</i> )	0	0	0	0	0
Typhus ( <i>Rickettsia</i> sp)	0	0	0	0	0
Vancomycin-Intermediate <i>Staphylococcus aureus</i> (VISA)	0	0	0	0	1
Vancomycin-Resistant <i>Staphylococcus aureus</i> (VRSA)	0	0	0	0	0
Varicella (chickenpox only)	21	11	14	14	11
Vibrio sp (including non-cholera)	2	1	1	0	1
Western Equine Encephalitis Virus	0	0	0	0	0
Yellow Fever	0	0	0	0	0
Yersiniosis ( <i>Y. enterocolitica</i> , <i>Y. pseudotuberculosis</i> )	5	3	3	3	1
Zika Virus	0	2	2	0	0

\*This condition was not reportable before 2017