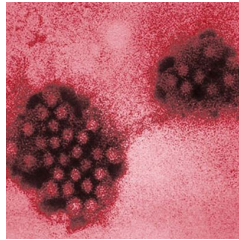
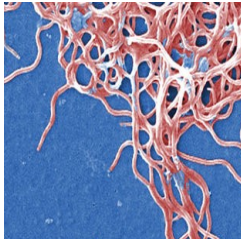
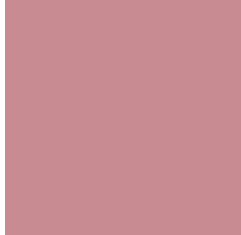
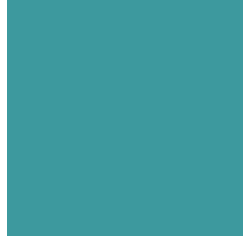
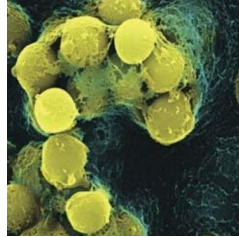
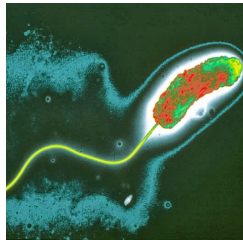
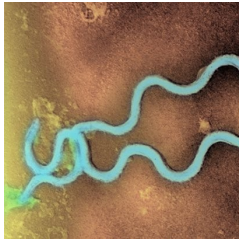
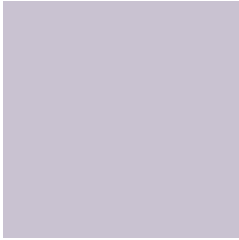
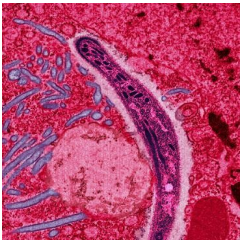
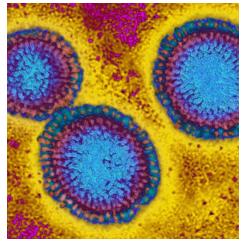
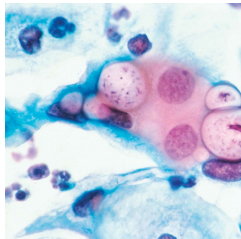


2019-2020 Communicable Disease Report



Davis County
Health Department

Communicable Disease &
Epidemiology Bureau



Prepared by Davis County Health Department

Brian Hatch, MPH, EHS
Health Officer

Wendy Garcia, RN
Division Director

Sarah Willardson, MPH
Bureau Manager

Caitlin Pratt, MPH
Epidemiologist

Brandon Beagles, MPH
Epidemiologist

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Lorna Alberts
Wendy Baker
Jessica Lambertsen
Tina L'Estrange
Maggie Matthews
Neriza Oka
Melissa Pace
Susan Stonehocker
Tiffany Terry



22 South State Street
Clearfield, Utah 84015
801-525-5200

www.daviscountyutah.gov/health



For questions about this report, contact: Brandon Beagles, 801-525-5148 or
bbeagles@co.davis.ut.us

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Executive Summary

This annual communicable disease surveillance report summarizes all communicable diseases reported in Davis County in 2019 and 2020. It provides a baseline picture of the disease burden in Davis County, describing trends and highlighting those diseases that had the greatest impact on the health and well-being of our community. Unusual disease occurrences are also discussed.

Several notable disease events occurred in Davis County during 2019 and 2020. These have been summarized below:

2019

- A nationwide outbreak of **e-cigarette, or vaping, product use-associated lung injury (EVALI)** was identified in August 2019. Individuals experienced respiratory symptoms such as cough, shortness of breath, or chest pain, but had an absence of a pulmonary infection. Some also had gastrointestinal symptoms, including nausea, vomiting, stomach pain, or diarrhea. As of February 2020, 2,807 hospitalized cases or deaths due to EVALI were reported in the United States, with 22 cases identified in Davis County. A laboratory study of affected individuals' vaping juice showed the presence of vitamin E acetate (a known cutting agent) that was suspected to have decreased the tetrahydrocannabinol (THC) content. Additionally vitamin E acetate was identified in bronchoalveolar lavage (BAL) fluid samples from 48 of the 51 participating patients and was believed to be the cause of their respiratory symptoms.
- The **2018-19 influenza season** spanned from October 2018 through May 2019. Although this season was not considered especially severe, it is important to note that it was the longest influenza season Utah has experienced in many years. Influenza activity in Davis County was elevated for 22 continuous weeks. The majority of specimens were typed as influenza A, with 154 hospitalizations due to influenza reported in Davis County.
- Davis County Health Department (DCHD) followed-up on several **norovirus outbreaks** during 2019. One of the largest clusters was tied to a wedding event that had been locally catered. Communicable Disease & Epidemiology staff were instrumental in helping to collect specimens for testing, interviewing wedding party attendees, and analyzing outbreak data. In summary, three individuals were confirmed with norovirus and an additional 15 individuals were also ill and suspected to have norovirus. No food was identified as being contaminated with norovirus.

2020

- The most notable event of 2020 has been the **COVID-19 pandemic**. Davis County Health Department was in the forefront of Utah's response as the very first case and death due to COVID-19 in Utah were identified in Davis County residents. Response efforts across the department were immediate and penetrated to every level of the community. Specifically, Davis County Health Department hired additional employees to serve as disease investigators. As the pandemic continued, Communicable Disease & Epidemiology staff followed-up with worksites, schools, and healthcare facilities. Davis County Health Department also coordinated several testing events to provide testing to worksites or healthcare facilities who were experiencing an outbreak of COVID-19 cases.

Davis County Health Department was also one of the first local health departments to create a COVID-19 Dashboard that has been updated daily since March 2020. DCHD epidemiologists have ensured that correct, up-to-date, and pertinent information has been transparent and available to all Davis County residents.

Due to the COVID-19 pandemic, there was less travel, fewer large gatherings, avoidance of healthcare settings, and burden on healthcare systems, which led to a significant decrease in reportable diseases other than COVID-19 during the year 2020.

- During the COVID-19 pandemic, an outbreak of **Salmonella Newport** was simultaneously occurring. This national outbreak affected 48 states with 1,127 cases. Epidemiologic and trace back evidence identified red onions from a national supplier as the likely source of the outbreak. Other onion types were also likely to be contaminated since the onions were grown and harvested together. Davis County had 21 cases in this outbreak with no deaths reported.
- The **2019-20 influenza season** which is tracked from October 2019 through May 2020 was interrupted by the arrival of COVID-19. Surveillance reports showed that this season had two waves, with hospitalizations due to both influenza A and B. Additionally, this season took a larger toll on children and young adults than previous seasons. Due to community lockdowns, mask use, and physical distancing, this season had an abrupt ending and shortened the influenza season by 5-6 weeks.
- During 2020, two human cases of **West Nile virus** were reported to Davis County Health Department. Fortunately, neither resulted in deaths. Davis County's Mosquito Abatement District continues to test mosquito pools for the presence of West Nile virus, providing helpful information regarding the potential for human cases.
- The increase in **carbapenem-resistant enterobacteriaceae (CREs)** is most likely attributed to the addition of pseudomonas as a reportable illness in 2019. As a result, the number of CREs found in Davis County has also increased.
- Davis County also had three cases of **legionellosis** reported during 2020. All of these cases did recover. All three had likely sources of infections, only one of which was a community exposure at a condominium hot tub located outside of Davis County. DCHD referred to the appropriate local health department for follow-up.

Introduction



Davis County Health Department Communicable Disease and Epidemiology (CD/Epi) Bureau works in partnership with the medical community and neighboring health jurisdictions to control and prevent the occurrence and spread of communicable diseases. This is accomplished through disease surveillance, disease investigation, coordination of prevention efforts, treatment, education, training, and policy development. The Bureau aims to:

- Interrupt and contain the spread of communicable diseases within the community;
- Conduct surveillance for over 80 communicable diseases and syndromes;
- Provide education to infected and exposed citizens;
- Facilitate appropriate treatment and preventive therapy;
- Enforce measures that protect the community (e.g. isolation); and
- Develop and advocate for policies to address priority health issues.

The Communicable Disease and Epidemiology Bureau is organized into four main program areas: **STD/HIV, Tuberculosis Control, Infectious Disease, and Disease Surveillance.**

STD/HIV Program

Sexually transmitted diseases (STDs) affect men and women of all ages, backgrounds, and economic statuses. The United States has made progress in identifying cases through better testing procedures, sexual partner testing and treatment, and risk-reduction education. There are still an estimated 20 million new cases of STDs acquired in the United States each year. Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), chlamydia, gonorrhea, syphilis, and chancroid are the STDs reportable by law in the state of Utah. Hospitals, laboratories, physicians, and clinics are mandated to report these diseases to the local health department.

The STD/HIV Program strives to ensure that infected individuals are interviewed by a trained communicable disease nurse to:

- Verify that appropriate treatment was prescribed and administered;
- Confidentially identify and notify contacts/partners of infected individuals who may have been exposed and facilitate testing and treatment; and
- Provide risk-reduction counseling and education.

Tuberculosis Control Program

The Davis County Tuberculosis (TB) Control Program is dedicated to the prevention, control, and elimination of TB disease and the identification and treatment of latent TB infection (LTBI).

The successful control of TB in Davis County is largely due to the following program activities:

- Early identification, isolation, and appropriate treatment of individuals suspected of or diagnosed with TB;
- Effective contact investigation activities to identify individuals exposed to TB and completion of medication therapy for those diagnosed with LTBI; and
- Targeted testing for those who are at higher risk for developing TB following an exposure (e.g. homeless, foreign-born, residents of correctional institutions, substance abusers).

Infectious Disease Program

Communicable diseases reportable in the state of Utah, with the exception of STDs and TB, fall under this program. Once reported, the Infectious Disease program implements the following activities:

- Interview infected individuals to obtain a thorough history, attempt to determine the source of exposure, and identify exposed contacts;
- Review and interpret laboratory results;
- Implement necessary control measures to interrupt disease transmission (e.g. exclusion from work/school);
- Monitor the disease process, assessing for changes in expected manifestations;
- Facilitate appropriate treatment and prophylaxis for those infected or exposed;
- Provide education on the specific disease and important preventive measures; and
- Formalize findings and report to the Utah Department of Health (UDOH).

The Infectious Disease Program has been further divided into the following categories:

- **Enteric Diseases:** bacterial, viral, and parasitic diseases involving the gastrointestinal tract;
- **Vaccine-Preventable Diseases:** diseases that are preventable with vaccines;
- **Vector-borne/Zoonotic Diseases:** diseases transmitted by insects, animals, or birds;
- **Invasive Diseases:** bacterial or viral infections of the blood stream, cerebral spinal fluid (e.g. meningitis, encephalitis) or other normally sterile sites (e.g. synovial, pleural, or pericardial fluid); and
- **Other reportable diseases/conditions:** diseases that do not fall under the above categories.

Surveillance Program

The Surveillance Program is responsible for the systematic collection, analysis, and dissemination of data pertaining to infectious diseases of public health importance. The goal of the Surveillance Program is to provide statistics that prompt public health preventive action. Core functions of the Surveillance Program include:

- Providing medical professionals with access to disease reporting 24-hours a day/seven days a week;
- Maintaining a computerized system for efficient storage and access to data;
- Incorporating a variety of data sources including:
 - ◇ Notifiable disease reports
 - ◇ School absenteeism
 - ◇ Sentinel physician reports
 - ◇ Syndromic data
- Monitoring the occurrence and distribution of infectious disease activity; and
- Disseminating surveillance data to the public and medical professionals.

Communicable diseases are reported to the local health department for investigation in accordance with the Utah Administrative Code (R386-702). Prompt reporting of confirmed and suspect cases helps ensure necessary control and preventive actions. All reports required by rule are confidential and are not open to public inspection.

Entities required to report confirmed or suspected diseases are physicians, hospitals, healthcare facilities, laboratories, schools, long-term care facilities, skilled nursing facilities, and daycares. All case reports should include:

- Disease
- Patient's name
- Patient's address
- Patient's telephone number
- Patient's date of birth
- Pertinent clinical information

REPORTABLE DISEASES

UTAH LAW REQUIRES THAT THE FOLLOWING DISEASES BE REPORTED TO YOUR LOCAL HEALTH DEPARTMENT OR THE UTAH DEPARTMENT OF HEALTH IMMEDIATELY.

Davis County Health Department Disease Reporting Line: (801) 525-5220

- Anthrax* (*Bacillus anthracis*)
- Botulism* (*Clostridium botulinum*)
- Cholera (*Vibrio cholerae*)
- Diphtheria* (*Corynebacterium diphtheriae*)
- *Haemophilus influenzae**, invasive
- Hepatitis A
- Influenza infection, non-seasonal strain*
- Measles* (Rubeola virus)
- Meningococcal disease* (*Neisseria meningitidis*)
- Novel coronavirus disease including Middle East respiratory syndrome (MERS-CoV), Severe acute respiratory syndrome (SARS-CoV), and COVID-19 (SARS-CoV-2)
- Plague* (*Yersinia pestis*)
- Poliovirus, paralytic and non-paralytic
- Rabies, human and animal
- Rubella
- Smallpox (*Variola virus*)
- *Staphylococcus aureus**, from any clinical specimen with resistance (VRSA) or intermediate resistance (VISA) to vancomycin isolated from any site
- Transmissible spongiform encephalopathies (prion diseases), including Creutzfeldt-Jakob disease
- Tuberculosis* (*Mycobacterium tuberculosis*)
- Tularemia* (*Francisella tularensis*)
- Typhoid*, cases and carriers
- Viral hemorrhagic fevers, e.g. Ebola, Lassa, Marburg, and Nipah virus-related illnesses
- Yellow Fever
- Unusual Diseases or Outbreaks of any kind

UTAH LAW REQUIRES THAT THE FOLLOWING DISEASES BE REPORTED TO YOUR LOCAL HEALTH DEPARTMENT OR THE UTAH DEPARTMENT OF HEALTH WITHIN 3 DAYS AFTER IDENTIFICATION.

Davis County Health Department Disease Reporting Line: (801) 525-5220

Or FAX (801) 525-5210

- *Acinetobacter* species**
- Acute Flaccid Myelitis (AFM)
- Adverse event resulting after smallpox vaccination (*Vaccinia virus*)
- Anaplasmosis (*Anaplasma phagocytophilum*)
- Arbovirus infection, including Chikungunya, West Nile virus*, and Zika virus*
- Babesiosis (*Babesia*)
- Botulism* (*Clostridium botulinum*), infant
- Brucellosis* (*Brucella* species)
- Campylobacteriosis* (*Campylobacter*)
- *Candida auris* or *haemulonii** isolated from any body site
- Chagas disease
- Chancroid (*Haemophilus ducreyi*)
- Chickenpox (*Varicella-zoster virus*)
- *Chlamydia trachomatis* infection
- Coccidioidomycosis (*Coccidioides*)
- Colorado tick fever
- Cryptosporidiosis (*Cryptosporidium*)
- Cyclosporiasis (*Cyclospora*)
- Dengue fever
- Ehrlichiosis (*Ehrlichia*)
- Encephalitis, bacterial, fungal, parasitic, protozoan, and viral
- *Enterobacter* species**
- *Escherichia coli***
- Giardiasis (*Giardia lamblia*)
- Gonorrhea, (*Neisseria gonorrhoeae*) sexually transmitted and ophthalmia neonatorum
- Hantavirus pulmonary syndrome (Sin Nombre virus)
- Hemolytic Uremic Syndrome, post-diarrheal
- Hepatitis B, acute, chronic and perinatal
- Hepatitis C, acute, chronic and perinatal
- Hepatitis, other viral, including D and E
- Human immunodeficiency virus (HIV) infection, including perinatal and acquired immunodeficiency syndrome (AIDS)
- Influenza-associated hospitalization*
- Influenza-associated death in a person less than 18 years of age
- *Klebsiella* species**
- Legionellosis* (*Legionella*)
- Leprosy (*Mycobacterium leprae*), Hansen's Disease
- Leptospirosis (*Leptospira*)
- Listeriosis* (*Listeria monocytogenes*)
- Lyme disease (*Borrelia burgdorferi*)
- Malaria (*Plasmodium*)
- Meningitis, bacterial, fungal, parasitic, protozoan, and viral
- Mumps
- *Mycobacteria* other than tuberculosis*
- Norovirus, outbreaks only
- Pertussis (*Bordetella pertussis*)
- Pregnancy associated with a Hepatitis B, Hepatitis C, HIV, *Listeria*, Rubella, Syphilis, or Zika virus infection
- *Pseudomonas aeruginosa***
- Psittacosis (*Chlamydia psittaci*)
- Q Fever (*Coxiella burnetii*)
- Relapsing fever, tick-borne and louse-borne (*Borrelia*)
- Rubella, including congenital syndrome
- Salmonellosis* (*Salmonella*)
- Shiga toxin-producing *Escherichia coli* (STEC) infection*
- Shigellosis* (*Shigella*)
- Spotted fever rickettsioses, including Rocky Mountain spotted fever (*Rickettsia*)
- Streptococcal disease due to *Streptococcus pneumoniae* and Groups A and B
- Syphilis, all stages, congenital, and syphilitic stillbirths
- Tetanus (*Clostridium tetani*)
- Toxic-Shock Syndrome, staphylococcal or streptococcal
- Trichinellosis (*Trichinella*)
- Vibriosis* (*Vibrio*)

REPORTABLE DISEASES THROUGH ELECTRONIC LABORATORY REPORTING (ELR) FOR PARTICIPATING LABORATORIES AND HOSPITALS

- *Clostridium difficile*
- Cytomegalovirus (CMV), congenital
- Respiratory syncytial virus (RSV)
- Streptococcal disease, invasive, other

*Laboratories shall submit isolates of causative agents, or if an isolate is not available, clinical material, to the Utah Public Health Laboratory for these diseases/conditions, including any organism implicated in an outbreak when instructed by authorized local or state health department staff.

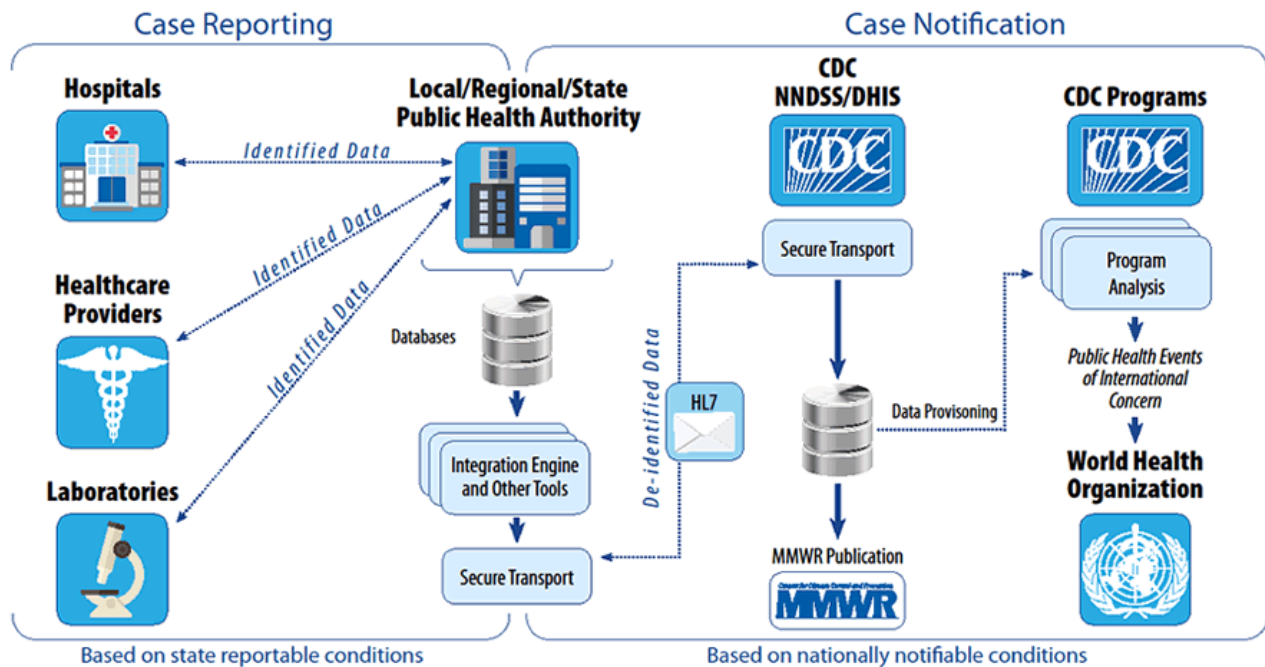
**Includes any clinical specimen, that is resistant to at least one carbapenem-class antibiotic, or that has demonstrated carbapenemase production.

Diseases may be reported to Davis County Health Department by fax (801-525-5210) or telephone (801-525-5220). For questions about disease reporting, please contact Caitlin Pratt by phone (801-525-5204) or by email (cpratt@co.davis.ut.us) or visit <http://www.co.davis.ut.us/health/health-services/disease-control-services/healthcare-professionals-medical-providers>



Disease surveillance data received from several reporting sources, including hospitals, clinics, and laboratories is used to complete case investigations and minimize the spread of infectious disease (see Figure 1). Data retrieved during investigations of reported infectious disease cases is maintained in UT-NEDSS/EpiTrax—a secure, online database that allows epidemiologists and infectious disease investigators to access case information statewide. De-identified data is then shared with the Centers for Disease Control and Prevention (CDC) to meet additional reporting requirements and identify outbreaks.

Figure 1. National Notifiable Disease Surveillance System Data Flow

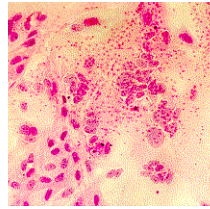
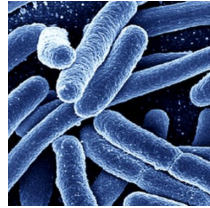
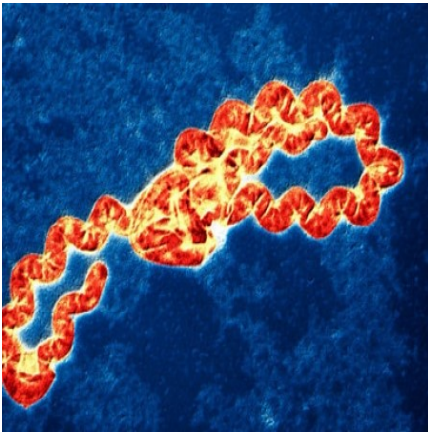


Data acquired for cases reported during 2019 and 2020 were exported into Microsoft Excel (2013) for further analysis. Descriptive statistics were also calculated in Microsoft Excel (2013).

The most current available data estimates (2019) were used for city populations for both 2019 and 2020 reports. These estimates were obtained from the U.S. Census Bureau's American Fact Finder at <http://factfinder.census.gov> in May 2021.

Population estimates by age group, gender, race, and ethnicity were available for 2019. These estimates were retrieved in May 2021 from the Utah Department of Health's (UDOH) Indicator-Based Information System for Public Health (IBIS-PH) available at <http://ibis.health.utah.gov>.

All incidence rates were calculated in Microsoft Excel (2013) and are expressed as the number of cases reported in 2019 or 2020, respectively, per 100,000 people. The incidence rates of all sexually transmitted diseases (STDs) by city were similarly calculated, after controlling for age. This was done to account for the increased prevalence of STDs among the young adult population.



Reportable Disease Summary

Disease morbidity and mortality have decreased over the past century, partly due to the partnership between private and public health care. Unfortunately, new and emerging diseases are surfacing, requiring additional efforts from both the medical community and public health. Existing pathogens are also increasing as our population increases. Disease affects all races, ethnicities, ages, and genders.

Davis County Health Department (DCHD) received a total of **2,418** disease reports during 2019, 4.3% more than the 2,319 disease reports received in 2018.

Over half (59.6%) of the diseases reported were sexually transmitted diseases, followed by enteric diseases (12.5%), vaccine-preventable diseases (9.6%), other diseases (8.9%), invasive diseases (4.8%), tuberculosis infections (3.9%), and vector-borne/zoonotic diseases (0.7%) (see Figure 2).

In 2020, **1,868** disease reports were received, excluding COVID-19, 22.7% fewer than the 2,418 disease reports received in 2019.

Over half (65.5%) of the diseases reported were sexually transmitted diseases, followed by other diseases (9.8%), vaccine-preventable diseases (8.5%), enteric diseases (7.7%), invasive diseases (5.1%), tuberculosis infections (3.1%), and vector-borne/zoonotic diseases (0.4%) (see Figure 3).

Figure 2. Diseases Reported by Type, Davis County, 2019

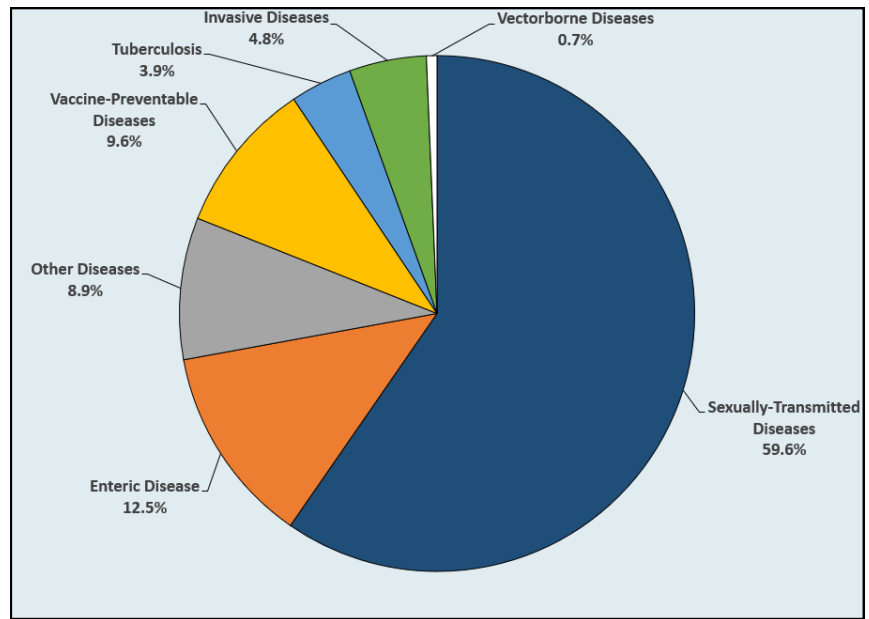


Figure 3. Diseases Reported by Type, Davis County, 2020

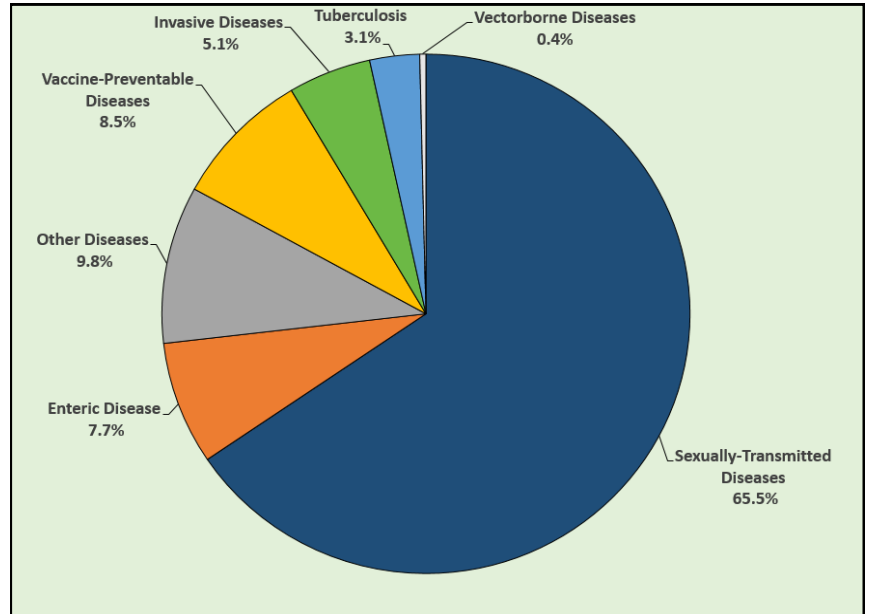


Figure 4. Incidence of All Reportable Diseases, Davis County, 2019

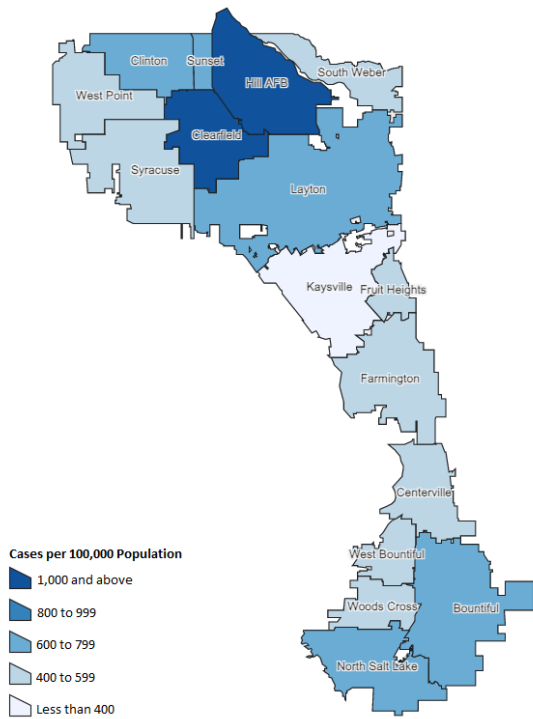


Figure 5. Incidence of All Reportable Diseases, Davis County, 2020

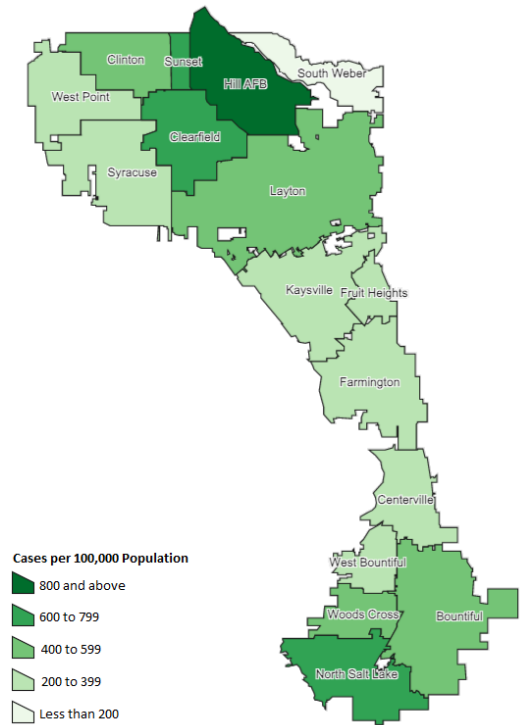
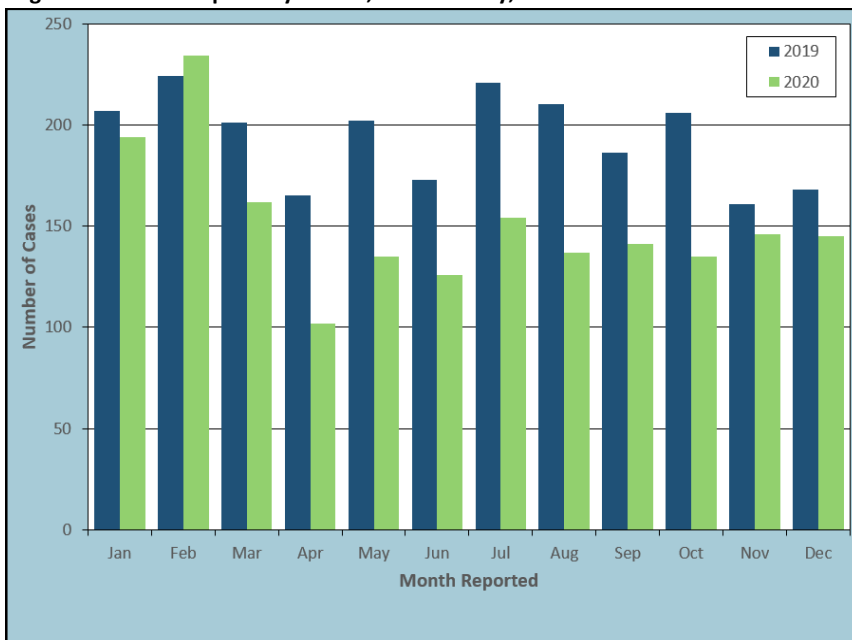


Figure 6. Disease Reports by Month, Davis County, 2019-2020



Disease rates by city are identified by the place of residence of the affected individual at the time of diagnosis. These rates do not suggest that one city is better or worse than another, but simply describe the disease burden in each city (see Figures 4 and 5). Tuberculosis data are not included because most infections were acquired outside of Davis County. COVID-19 data is not included in this section, but is discussed later in this report. In 2019 and 2020, Hill Air Force Base and Clearfield had the highest rates of all reportable diseases among all cities. Kaysville and Centerville had the lowest rates during 2019 whereas West Bountiful and South Weber had the lowest rates during 2020.

The disease burden in Davis County normally stays consistent throughout the year (see Figure 6). In 2019, the average cases reported each month was 193.7, with the most diseases reported in February. In 2020, February also had the highest number of cases, in part due to elevated influenza numbers, with an average of 150.9 cases reported each month.

Table 1. Frequently Occurring Diseases in Davis County, 2019

Rank	Disease	Number of Cases
1	<i>Chlamydia trachomatis</i> infection	1,160
2	Gonorrhea	229
3	Influenza-associated hospitalization	171
4	Norovirus	157
5	Hepatitis C, acute & chronic	97
6	Tuberculosis, Latent Infection (LTBI)	91
7	Carbapenem-Resistant Enterobacteriaceae (CRE)	86
8	Invasive Streptococcal Infections	84
9	Campylobacteriosis	50
10	Syphilis, all stages	42
11	Salmonellosis	36
12	Pertussis	22
12	Hepatitis B, acute & chronic	22
14	Giardiasis	20
15	Meningitis, viral/aseptic	19
16	Coccidioidomycosis	15
16	Cryptosporidiosis	15
18	E-cigarette or vaping use-associated lung injury (EVALI)	13
18	Chickenpox (Varicella)	13
20	Shiga toxin-producing <i>Escherichia coli</i> (STEC)	12

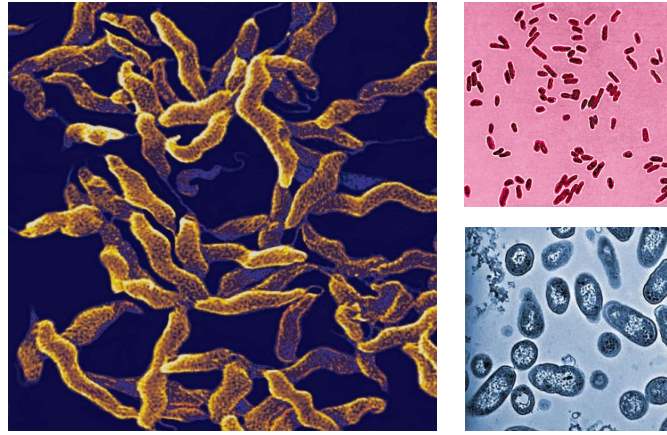
Table 2. Frequently Occurring Diseases in Davis County, 2020

Rank	Disease	Number of Cases
1	Coronavirus, Novel (COVID-19)	25,297
2	<i>Chlamydia trachomatis</i> infection	954
3	Gonorrhea	238
4	Influenza-associated hospitalization	115
5	Hepatitis C, acute & chronic	101
6	Invasive Streptococcal Infections	86
7	Carbapenem-Resistant <i>Enterobacteriaceae</i> (CRE)	73
8	Tuberculosis, Latent Infection (LTBI)	51
9	Campylobacteriosis	46
10	Salmonellosis	38
11	Syphilis, all stages	24
12	Hepatitis B, acute & chronic	19
13	Shiga toxin-producing <i>Escherichia coli</i> (STEC)	17
14	Pertussis	16
15	Giardiasis	15
16	Cryptosporidiosis	14
17	Chickenpox (Varicella)	9
18	HIV Infection	8
19	Norovirus	7
20	Coccidioidomycosis	6

Diseases Reported by Year, 2015 - 2020

Table 3. Diseases Reported by Year, Davis County, 2015 - 2020

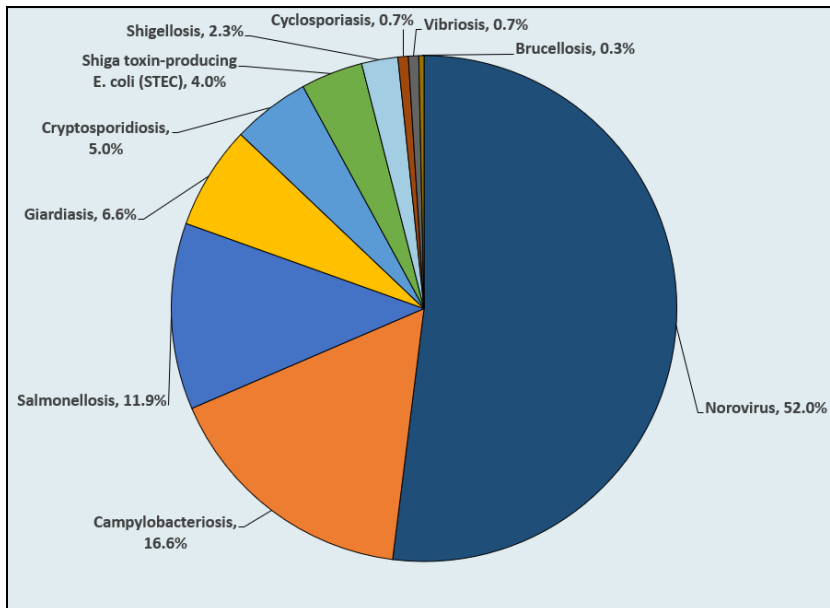
Disease	2015	2016	2017	2018	2019	2020	5 Yr Ave (2015 – 19)
Amebiasis	0	0	0	0	0	0	0.0
Brucellosis	0	0	0	0	1	0	0.2
Botulism, infant	2	0	0	0	0	1	0.4
Campylobacteriosis	46	41	59	46	50	46	48.4
Carbapenem-Resistant Enterobacteriaceae (CRE)	9	14	19	12	86	73	28.0
Chickenpox	15	23	26	24	13	9	20.2
Chikungunya	2	1	0	1	0	0	0.8
Chlamydia	886	934	1,094	1,158	1,160	954	1,046.4
Coccidioidomycosis	4	7	5	3	15	6	6.8
Coronavirus, Novel	-	-	-	-	-	25,297	-
Creutzfeldt-Jakob Disease (CJD)	1	0	1	1	0	0	0.6
Cryptosporidiosis	26	27	11	9	15	14	17.6
Cyclosporiasis	0	1	3	2	2	1	1.6
Dengue Fever	0	0	2	1	1	0	0.8
E-cigarette or vaping use-associated lung injury (EVALI)	-	-	-	-	13	0	-
Encephalitis	2	1	0	1	1	3	1.0
Giardiasis	17	27	18	22	20	15	20.8
Gonorrhea	87	129	171	223	229	238	167.8
<i>H. influenzae</i> , invasive disease	2	6	5	4	7	4	4.8
Hansen's disease (Leprosy)	0	0	1	0	0	0	0.2
Hantavirus Pulmonary Syndrome (HPS)	0	1	0	0	0	0	0.2
Hepatitis A	0	1	4	6	1	0	2.4
Hepatitis B, acute & chronic	22	34	34	23	22	19	27.0
Hepatitis C, acute & chronic	132	166	130	118	97	101	128.6
Hepatitis E	1	0	0	0	0	0	0.2
HIV/AIDS	11	7	14	12	11	8	11.0
Influenza, hospitalized	83	133	122	178	171	115	137.4
Legionellosis	4	1	4	3	3	3	3.0
Leptospirosis	0	0	0	1	1	0	0.4
Listeriosis	0	1	0	0	0	1	0.2
Lyme disease	1	2	9	1	7	3	4.0
Malaria	2	0	0	2	0	0	0.8
Meningitis, aseptic/viral	14	7	24	30	19	1	18.8
Meningitis, bacterial & other	2	0	6	4	6	1	3.6
Meningococcal disease	0	0	0	0	0	0	0.0
Mumps	0	1	2	3	3	0	1.8
Norovirus	21	69	26	35	157	7	61.6
Pertussis	72	24	37	37	22	16	38.4
Q fever, chronic	0	0	0	1	1	0	0.4
Salmonellosis	58	42	41	40	36	38	43.4
Shiga toxin-producing <i>E. coli</i> (STEC)	18	11	13	18	12	17	14.4
Shigellosis	21	9	3	4	7	3	8.8
Spotted Fever Rickettsiosis	1	1	2	3	1	1	1.6
Streptococcal disease, invasive	89	91	103	92	84	86	91.8
Syphilis – all stages	14	19	23	36	42	24	26.8
Tuberculosis, active disease	0	2	3	0	3	6	1.6
Tuberculosis, latent infection	89	112	102	163	91	51	111.4
Vibriosis	1	0	2	1	2	0	1.2
West Nile virus infection	0	0	8	0	5	2	2.6
Zika virus	0	2	1	1	1	1	1.0
Total	1,755	1,947	2,128	2,319	2,418	27,165	2,113.4



Enteric Diseases

Enteric infections enter the body through the mouth and intestinal tract and are usually spread through contaminated food and water or by contact with vomit or feces.

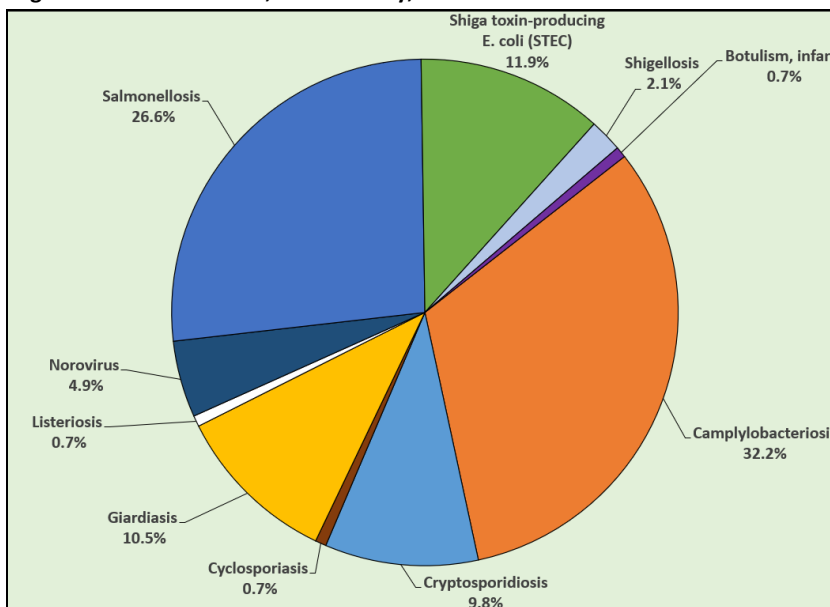
Figure 7. Enteric Diseases, Davis County, 2019



Enteric diseases are caused by bacterial, viral, or parasitic organisms that are shed in feces and can be spread person-to-person or through contaminated food and water. Enteric diseases are generally characterized by gastrointestinal symptoms such as nausea, vomiting, and diarrhea.

There were **302** enteric disease cases reported during 2019. Norovirus was the most frequently reported enteric disease with **157** cases (52.0%), followed by campylobacteriosis with **50** cases (16.6%), salmonellosis with **36** cases (11.9%), giardiasis with **20** cases (6.6%), cryptosporidiosis **15** cases (5.0%), Shiga toxin-producing *E. coli* (STEC) with **12** cases (4.0%), shigellosis with **seven** cases (2.3%), cyclosporiasis with **two** cases (0.7%), vibriosis with **two** cases (0.7%), and brucellosis with **one** case (0.3%) (see Figure 7).

Figure 8. Enteric Diseases, Davis County, 2020



There were **143** enteric disease cases reported during 2020. Campylobacteriosis was the most frequently reported enteric disease with **46** cases (32.2%), followed by salmonellosis with **38** cases (26.6%), Shiga toxin-producing *E. coli* (STEC) with **17** cases (11.9%), giardiasis with **15** cases (10.5%), cryptosporidiosis with **14** cases (9.8%), norovirus with **seven** cases (4.9%), shigellosis with **three** cases (2.1%), and cyclosporiasis, infant botulism, listeriosis with **one** case (0.7%) (see Figure 8).

Enteric Diseases

Figure 9. Incidence of Enteric Diseases by City, Davis County, 2019

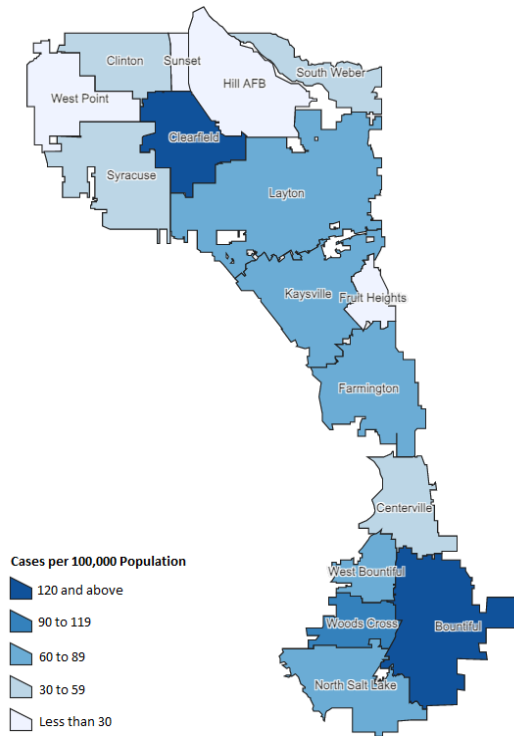


Figure 10. Incidence of Enteric Diseases by City, Davis County, 2020

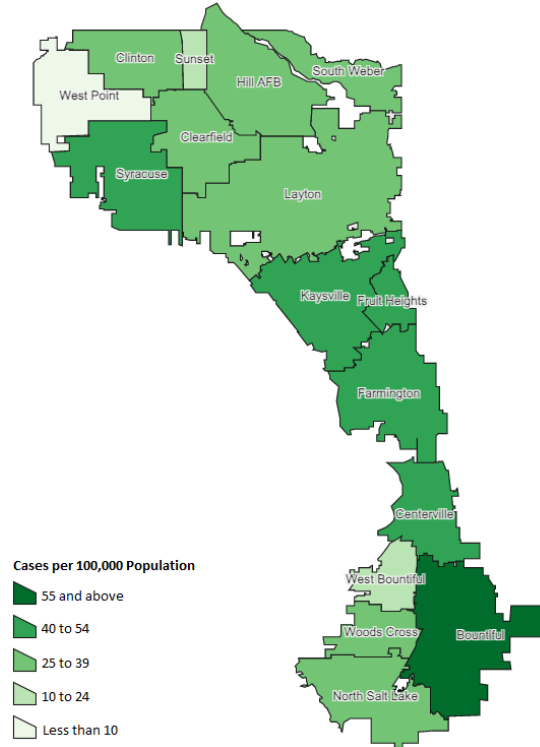
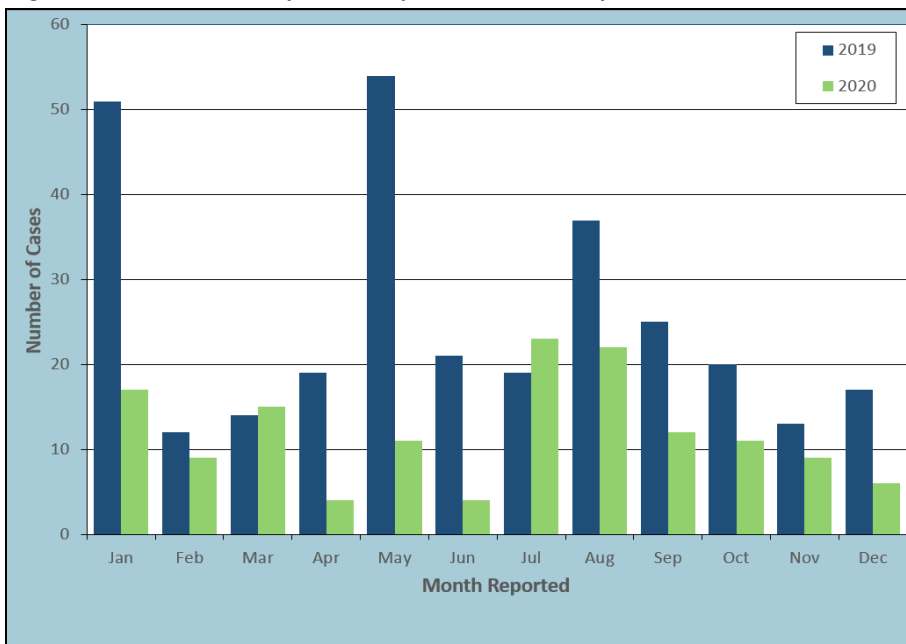


Figure 11. Enteric Disease by Month Reported, Davis County, 2019-2020



In both 2019 and 2020, enteric diseases were reported among residents of every city within Davis County. The rate by city varied, but the incidence rate of enteric diseases in Davis County during 2019 was 85.0 per 100,000 residents. In 2019, Clearfield had the highest rate of enteric illnesses, whereas Fruit Heights had the lowest (see Figure 9).

The enteric disease rate reported in Davis County during 2020 was 40.2 per 100,000 residents. Bountiful had the highest rate of enteric illnesses, whereas West Point had the lowest (see Figure 10).

Enteric diseases are reported year-round (see Figure 11). In 2019, outbreaks of norovirus in congregate living settings caused spikes in enteric rates during the months of January and May. In 2020, there were higher incidence rates during the summer months, which is a typical trend with enteric diseases due primarily to recreational activities.

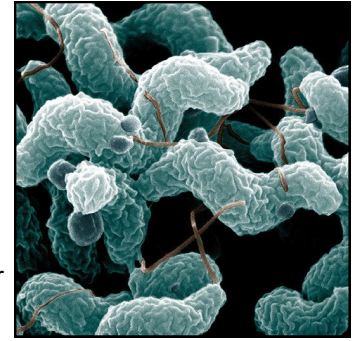
Overview

There were **50** cases of *Campylobacter* infection reported in Davis County in 2019.

There were **46** cases of *Campylobacter* infection reported in Davis County in 2020.

On average, Davis County has had lower rates of *Campylobacter* infection when compared to Utah.

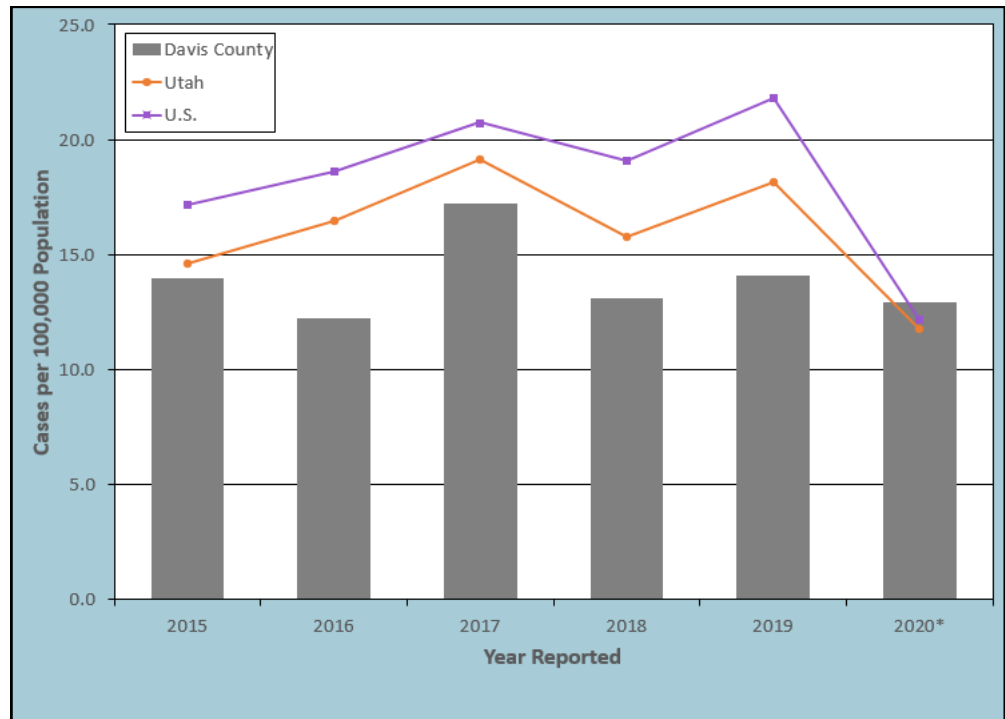
Campylobacteriosis is an infectious disease caused by bacteria of the genus *Campylobacter*. The bacteria are transmitted via the fecal-oral route. Improperly cooked poultry, untreated water, and unpasteurized milk are the most common sources of infection. *Campylobacter* is one of the most common bacterial causes of diarrheal illness in the United States. Virtually all cases occur as isolated or sporadic events and are not usually associated with an outbreak. Active surveillance through the Centers for Disease Control and Prevention (CDC) indicates that about 20 cases are diagnosed each year for every 100,000 persons in the population. Many more cases go undiagnosed or unreported, and campylobacteriosis is estimated to affect over 1.5 million persons every year.



Campylobacter, one of the most common bacterial causes of diarrheal illness in the United States.

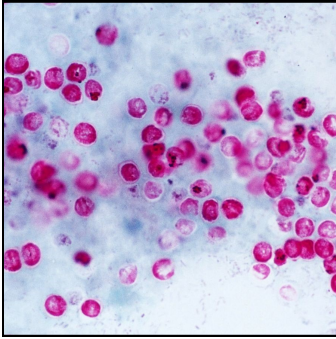
During 2019, there were **50** cases of campylobacteriosis reported. In 2020, there were **46** cases reported to Davis County (see Figure 12). When compared with the state of Utah, Davis County has lower rates of campylobacteriosis (see Figure 12). Despite a slight increase in rates in 2019, Davis County continued its trend with lower rates than the state of Utah and the United States.

Figure 12. Incidence of *Campylobacter*, Utah, U.S., Davis County, 2015-2020



*Utah and United States 2020 data are provisional.

Cryptosporidiosis



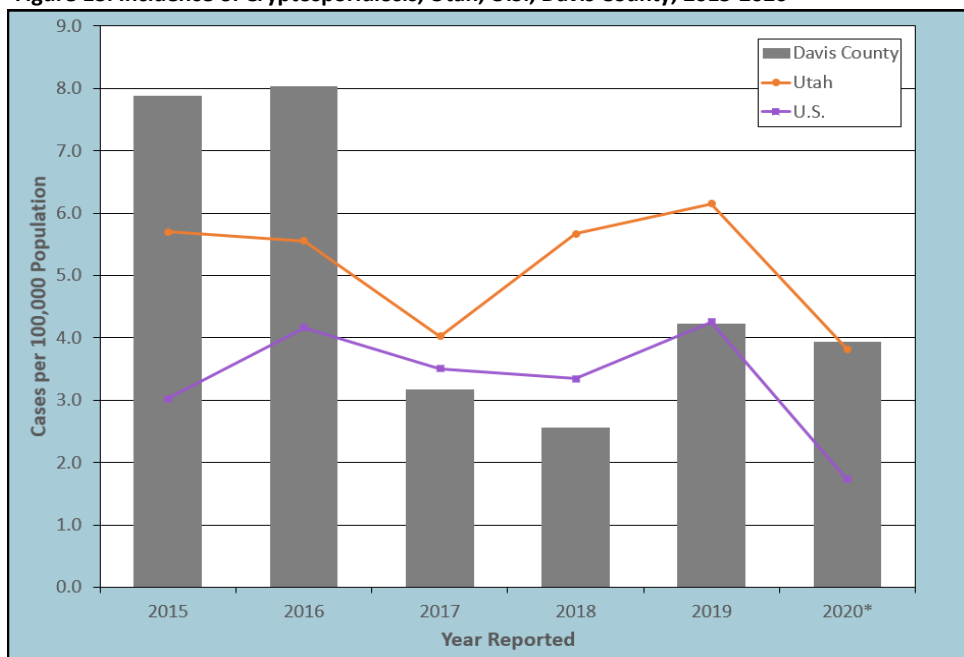
This micrograph of a direct fecal smear is stained to detect *Cryptosporidium*, a protozoan parasite.

Cryptosporidiosis is an infection caused by the protozoan organism *Cryptosporidium parvum*. *Cryptosporidia* have been found in many hosts, including humans, cattle and other domestic mammals. Infections may occur via person-to-person, fecal-oral, animal-to-person, or waterborne transmission. During the past two decades, cryptosporidiosis has become recognized as one of the most common causes of waterborne disease in humans in the United States. The parasite may be found in drinking water and recreational water in every region of the United States and throughout the world.

During 2019, Davis County had **15** cases of cryptosporidiosis — a 66.7% increase from 2018 when nine cases were reported (see Figure 13). In 2020, **14** cases of cryptosporidiosis were reported — an approximately 6.7% decrease from 2019. No outbreaks or clusters of illness were identified. Common exposures reported by cases included animal exposure, recreational water exposure, international travel, and sexual exposure.

Historically, Davis County has had higher rates of cryptosporidiosis when compared to Utah and the United States, however that trend has changed in the past few years (see Figure 13). In 2007, Utah experienced one of the largest cryptosporidiosis outbreaks in the United States with over 3,500 cases statewide, including nearly 300 in Davis County. These cases were largely associated with public swimming pools. Since that time, cases have greatly diminished due to the implementation of new control measures, including installation of UV light filters in several Davis County pool systems and effective public service announcements.

Figure 13. Incidence of Cryptosporidiosis, Utah, U.S., Davis County, 2015-2020



*Utah and United States 2020 data are provisional.

Overview

There were **15** cases of cryptosporidiosis reported in Davis County in 2019.

There were **14** cases of cryptosporidiosis reported in Davis County in 2020.

Davis County has experienced lower rates of cryptosporidiosis in the past four years.

Overview

There were 20 cases of giardiasis reported in Davis County in 2019.

There were 15 cases of giardiasis reported in Davis County in 2020.

Historically, when compared to the state of Utah, Davis County typically has a lower rate of giardiasis.

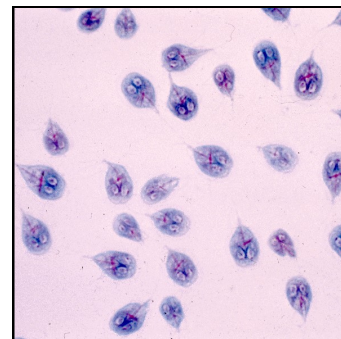
Giardiasis is caused by *Giardia lamblia*, a microscopic parasite that causes diarrheal illness. *Giardia* is found on surfaces or in soil, food, or water that has been contaminated with fecal matter from infected humans or animals. Humans and other mammals (especially beavers, dogs, and cats) are reservoirs and shed the organism in their stool.

Giardia is protected by an outer shell that allows it to survive outside the body for long periods of time and makes it tolerant to chlorine disinfection. While the parasite can be spread in different ways, water (either drinking or recreational) is the most common mode of transmission.

Persons with giardiasis are infectious to others for the entire period of their illness, which can be weeks or months. Severity of disease varies from no symptoms to chronic diarrhea. Giardiasis tends to have intermittent symptoms, thus individuals may seek medical attention months after the initial infection occurred.

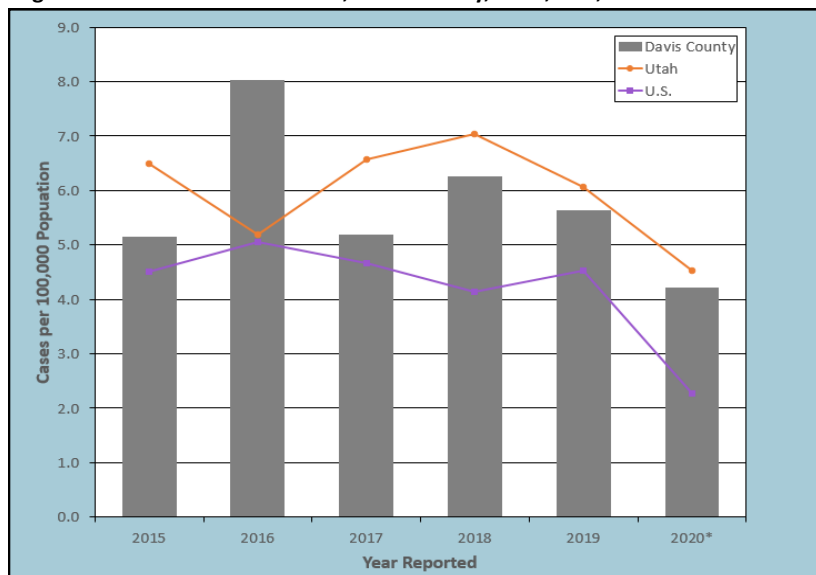
During 2019, there were **20** cases of giardiasis reported in Davis County, a 9.1% decrease from the 22 cases reported in 2018 (see Figure 14). That decreasing trend continued in 2020, where **15** cases of giardiasis were reported in Davis County, a 25.0% decrease from 2019. No outbreaks of giardiasis were investigated in Davis County during 2019 or 2020. Common exposures reported by cases included recreational water, outdoor activities, and international travel.

When compared to the state of Utah, Davis County traditionally has lower rates of giardiasis. Davis County Health Department continues to conduct disease surveillance to identify cases and/or clusters, determine the source of infection, and prevent further transmission.



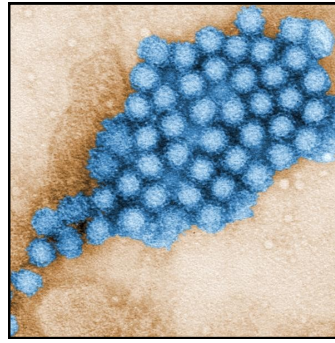
Giardia is a microscopic parasite that causes the diarrheal illness known as giardiasis.

Figure 14. Incidence of Giardiasis, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.

Noroviruses are named after the original strain “Norwalk virus,” which caused an outbreak of gastroenteritis in a school in Norwalk, Ohio, in 1968. There are at least five known norovirus geno-groups, which in turn are divided into at least 31 genetic clusters. Noroviruses are transmitted primarily through the fecal-oral route, by consumption of fecal-contaminated food/water or by direct person-to-person contact. Environmental and fomite contamination are also sources of infection. Evidence exists of transmission via aerosolization of vomitus resulting in droplets contaminating surfaces or entering the oral mucosa and then swallowed. No evidence suggests that infection occurs through the respiratory route. The Centers for Disease Control and Prevention estimates that 19-21 million cases of acute gastroenteritis due to norovirus infection occur each year. Norovirus is the leading cause of foodborne illness in the United States and is responsible for about 50% of foodborne disease outbreaks due to known agents.

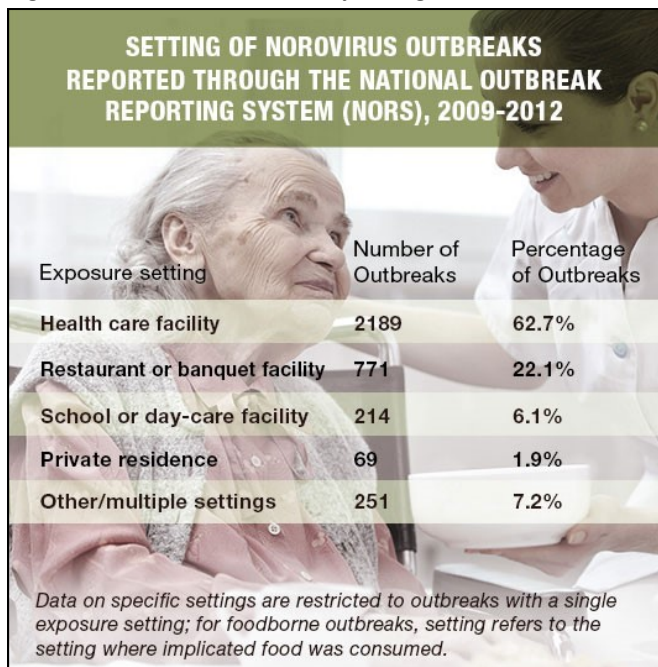


Norovirus is a very contagious virus. Norovirus can be spread from an infected person, contaminated food or water or by touching contaminated surfaces.

Due to the short duration of illness (typically 24 hours) and the self-limited, mild-to-moderate manifestation, persons infected with norovirus often do not seek medical care. Those who do are rarely tested for norovirus because testing is not widely available. As a result, many outbreaks are not identified. When suspect cases are reported to the health department, they are often received after the patient has recovered or late into the illness, making it difficult to confirm a diagnosis.

During 2019, there were **157** cases of norovirus reported in Davis County residents. This is a 348.6% increase from 2018, when there were 35 cases reported. This increase is largely due to multiple outbreaks at congregate living facilities, which is historically a common trend (see Figure 15). In 2020, there were **seven** cases of norovirus reported in Davis County, which is a 95.5% decrease from 2019.

Figure 15. Norovirus Outbreaks by Setting, U.S., 2009-2012



Overview

A total of **157** cases of norovirus were reported in Davis County during 2019.

A total of **seven** cases of norovirus were reported in Davis County during 2020.

Norovirus is the leading cause of foodborne illness in the United States.

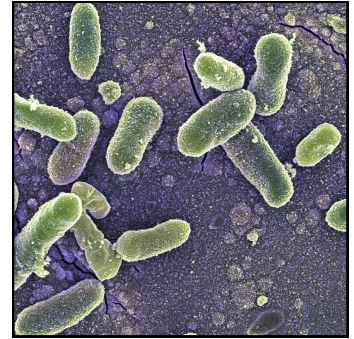
Overview

There were **36** cases of salmonellosis reported in Davis County in 2019.

There were **38** cases of salmonellosis reported in Davis County in 2020.

Davis County traditionally has lower rates of salmonellosis when compared to the United States.

Salmonellosis is a bacterial infection generally transmitted through ingestion of contaminated food or water. Salmonellosis can also be transmitted by direct contact with an infected human or animal. *Salmonella* bacteria are commonly found in food products and can be carried by many domestic animals. The Centers for Disease Control and Prevention estimates that approximately 1.35 million illnesses due to salmonellosis occur in the United States every year and is more common in summer than in winter. Young children, the elderly, and those who are immunocompromised are most likely to have severe infections. It is estimated that approximately 420 persons die each year from salmonellosis.



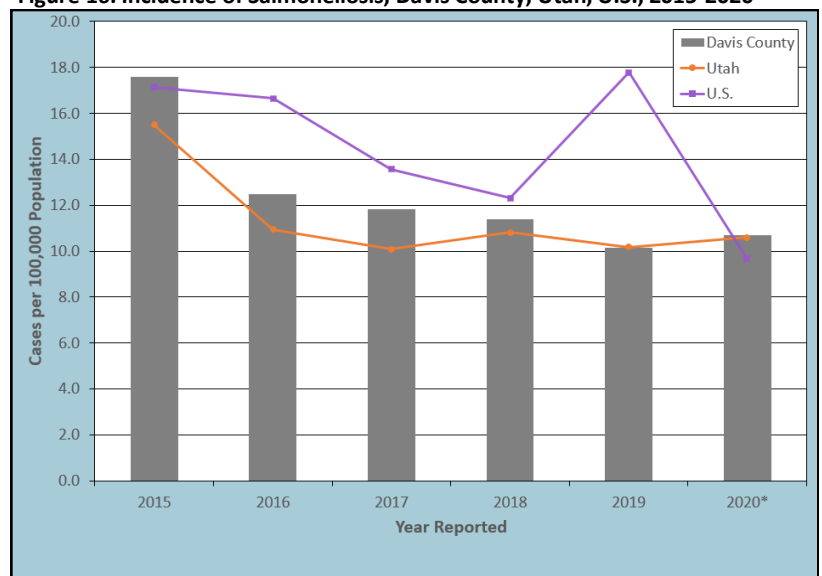
Salmonella is a bacteria that was discovered by an American scientist named Dr. Salmon and has been known to cause illness for over 125 years.

During 2019, there were **36** cases of salmonellosis reported in Davis County, a 10.0% decrease from the 40 cases reported in 2018 (see Figure 16). A few clusters of salmonellosis in Davis County were associated with national outbreaks in 2019. During 2020, there were **38** cases of salmonellosis reported in Davis County an increase of 5.6% from the previous year.

Because of the many different strains of *Salmonella*, determining the serotype and Whole Genome Sequencing (WGS) pattern of *Salmonella* isolates is critical in identifying sources and epidemiological links among cases. Serotypes are conventionally named after the city where they were discovered. Private laboratories are required to submit *Salmonella* isolates to the Utah Public Health Laboratory (UPHL) for serotyping and WGS analysis. WGS patterns are compared with other Utah and U.S. *Salmonella* isolates to identify possible clusters and suspect sources.

Salmonella Enteritidis was the most commonly reported *Salmonella* serotype during 2019. *Salmonella* Newport was the most commonly reported *Salmonella* in 2020. Additional serotypes were reported in 2019-2020, but were not as common (see Tables 4 and 5).

Figure 16. Incidence of Salmonellosis, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.

Table 4. Salmonella Serotypes, Davis County, 2019

Serotype	Number of Cases(%)
<i>Salmonella</i> Aberdeen	1(3%)
<i>Salmonella</i> Cubana	1(3%)
<i>Salmonella</i> Enteritidis	8(22%)
<i>Salmonella</i> Infantis	4(11%)
<i>Salmonella</i> Javiana	1(3%)
<i>Salmonella</i> Newport	3(8%)
<i>Salmonella</i> Oranienburg	1(3%)
<i>Salmonella</i> Panama	1(3%)
<i>Salmonella</i> Paratyphi B	1(3%)
<i>Salmonella</i> Saintpaul	1(3%)
<i>Salmonella</i> Schwarzengrund	1(3%)
<i>Salmonella</i> Typhimurium	4(11%)
<i>Salmonella</i> Virchow	1(3%)
<i>Salmonella</i> Thompson	1(3%)
<i>Salmonella</i> Typhi	1(3%)
Unknown	6(17%)
Total	36(100%)

Table 5. Salmonella by type, Serotypes, Davis County, 2020

Serotype	Number of Cases(%)
<i>Salmonella</i> Anatum	2(5%)
<i>Salmonella</i> Braenderup	1(3%)
<i>Salmonella</i> Enteritidis	2(5%)
<i>Salmonella</i> Hadar	4(11%)
<i>Salmonella</i> Infantis	1(3%)
<i>Salmonella</i> Javiana	1(3%)
<i>Salmonella</i> Luciana 11:a:e,n,z15	1(3%)
<i>Salmonella</i> Newport	13(34%)
<i>Salmonella</i> Paratyphi B	2(5%)
<i>Salmonella</i> Typhimurium	1(3%)
Unknown	10(26%)
Total	38(100%)

Several clusters of salmonellosis were investigated in Davis County and Utah during 2019 and 2020.

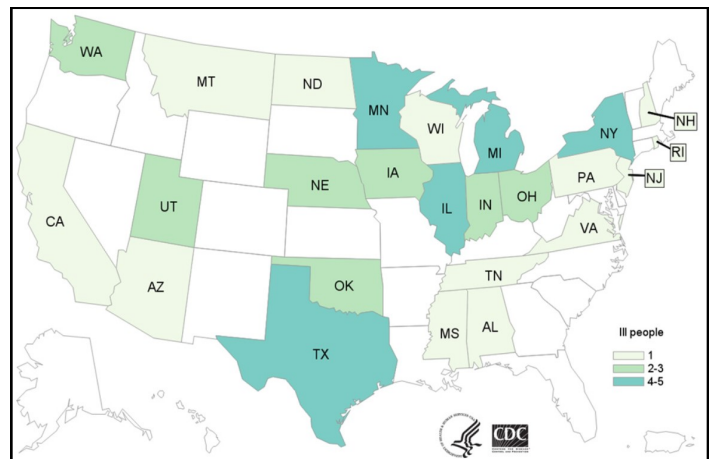
Salmonella Newport

A multistate outbreak of *Salmonella* Newport was identified during 2020. This outbreak was determined to be linked to contaminated onions. The onions were recalled by the distributor. As of October 2020, a total of 1,127 people from 48 states were infected, with a total of 167 hospitalized.

Salmonella Typhimurium

CDC investigated a multistate outbreak of *Salmonella* Typhimurium during 2019 and 2020. Epidemiologic and laboratory evidence indicated that pet hedgehogs was likely the source of this outbreak. In 2019, there were 54 cases reported among 23 states. In 2020, there were 49 cases reported among 25 states. The *Salmonella* Typhimurium cases in Davis County were not linked to this outbreak (see Figure 17).

Figure 17. Salmonella Typhimurium case in the U.S., 2020



Salmonella Infections Linked to Live Poultry in Backyard Flocks

Salmonella outbreaks of various strains continue to be associated with live poultry in backyard flocks across the United States. Numbers of associated cases continued to climb nationwide from 2019 to 2020. CDC is continuing their campaign to educate people who have backyard flocks of live poultry.

Shiga Toxin-Producing *Escherichia coli* Infection

Overview

There were 12 cases of STEC infection reported in Davis County in 2019.

There were 17 cases of STEC infection reported in Davis County in 2020.

There were multiple national outbreaks linked to the O157:H7 strain in 2019 and 2020.

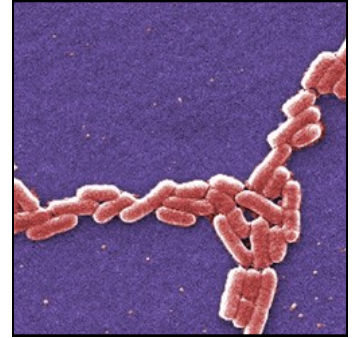
Escherichia coli (*E. coli*) are bacteria that normally live in the intestines of humans and animals. Certain strains of *E. coli*, including O121, O11, O26, and O157:H7 produce Shiga toxins that can cause hemorrhagic colitis, manifested as bloody stools. The most serious complication of the infection is Hemolytic Uremic Syndrome (HUS), which can lead to permanent kidney damage or death.

Sources of transmission include consumption of undercooked, contaminated ground beef and other beef products, unpasteurized milk, drinking or swimming in water that is contaminated with sewage, or eating unwashed fruits or vegetables. Person-to-person transmission can easily occur within households, childcare centers, and long-term care facilities. Due to the potential severity of Shiga toxin-producing *E. coli* (STEC) and the fact that it spreads easily, public health investigates all reported cases thoroughly.

In 2019, there were **12** cases of STEC infection reported in Davis County, a decrease of

33.3% from the 18 cases reported in 2018 (see Figure 18). In 2020, there were **17** cases of STEC infection reported, an increase of 41.7% from 2019. The most common strain reported in Davis County in 2019 was O26:H11 with four cases. The most common strain in 2020 was the O157:H7. Common strains varied between 2019 and 2020 (see Table 6).

In 2019 and 2020, there were multiple national outbreaks linked to STEC serotype O157:H7 strain. These outbreaks included leafy greens, romaine lettuce, Fresh Express Sunflower Crisp Chopped Salad Kits, and several unknown sources.

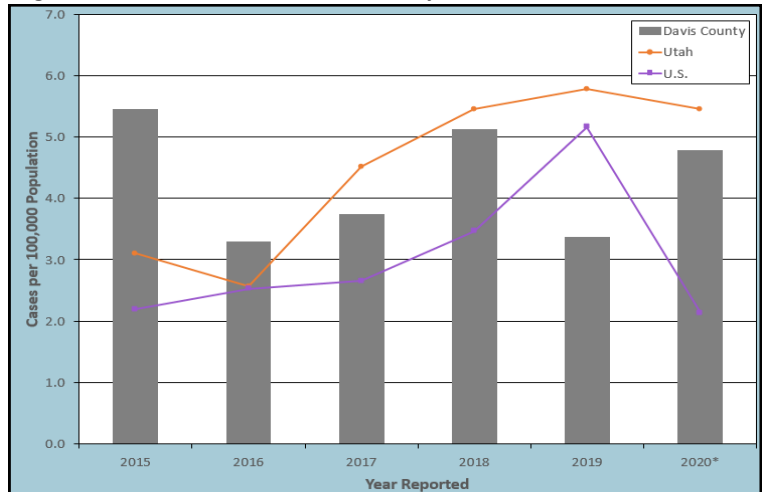


E. coli bacteria normally live in the intestines of people and animals. Most *E. coli* are harmless and actually are an important part of a healthy human intestinal tract.

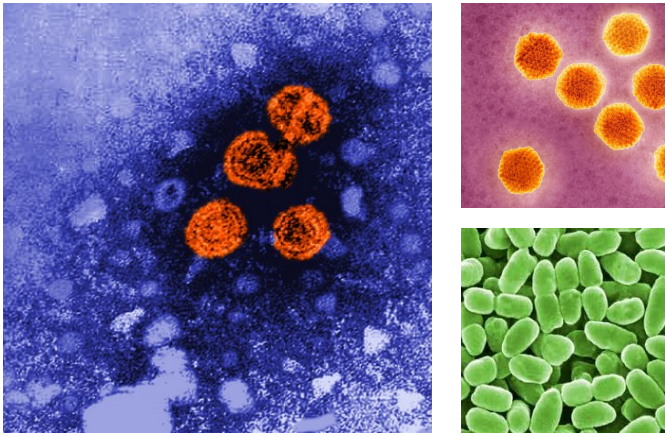
Table 6. Shiga Toxin-Producing *E. coli* Serotypes, Davis County, 2019-2020

Serotype	2019 Number of Cases(%)	2020 Number of Cases(%)
O121	1(8%)	0(0%)
O157:H7	2(17%)	6(35%)
O103:H11	0(0%)	1(6%)
O111:H8	0(0%)	2(12%)
O103:H2	0(0%)	4(24%)
O17:H18	0(0%)	1(6%)
O177:H25	1(8%)	0(0%)
O26:H11	4(33%)	0(0%)
O5:nonmotile	1(8%)	0(0%)
O71	1(8%)	0(0%)
Unknown	2(17%)	3(18%)
Total	12(100%)	17(100%)

Figure 18. Incidence of STEC, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.



Vaccine-Preventable Diseases

Vaccine-preventable diseases are infectious diseases for which an effective preventive vaccine exists.

Vaccine-Preventable Diseases (VPDs) are diseases that are preventable through the use of immunizations. Historically, VPDs caused a great deal of morbidity and mortality in children. Rates of VPDs have dramatically declined in large part because of immunizations. These diseases still occur, however, because of importation, vaccine failure or disease breakthrough, and incomplete or no vaccinations.

When a VPD is diagnosed, it is important that public health measures be quickly implemented to contain the spread. These measures include the administration of prophylactic medications and vaccines, isolation of the infected individual, quarantine of exposed individuals, and public education.

In 2019, hospitalized influenza was the most commonly reported VPD with **171** cases (73.7%), followed by pertussis with **22** cases (9.5%), hepatitis B with **22** cases (9.5%), chickenpox with **13** cases (5.6%), mumps with **three** cases (1.3%), and hepatitis A with **one** case (0.4%), (see Figure 19).

In 2020, hospitalized influenza was again the most commonly reported VPD with **115** cases (72.3%), followed by hepatitis B with **19** cases (11.9%), pertussis with **16** cases (10.1%), and chickenpox with **nine** cases (5.7%), (see Figure 20).

Figure 19. Vaccine-Preventable Diseases, Davis County, 2019

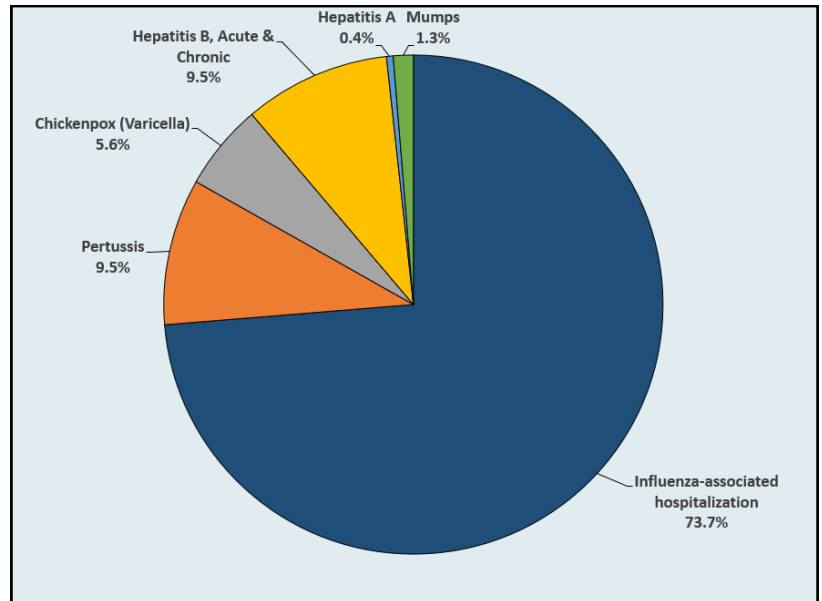


Figure 20. Vaccine-Preventable Diseases, Davis County, 2020

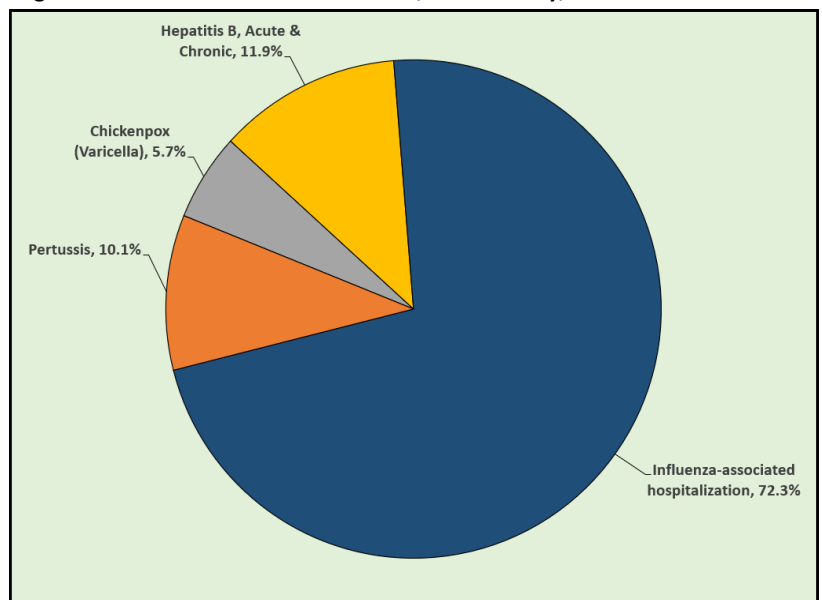


Figure 21. Incidence of VPDs by City, Davis County, 2019

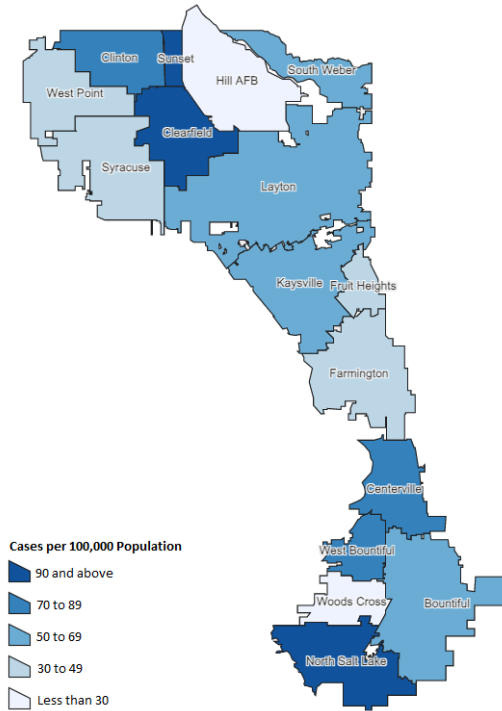


Figure 22. Incidence of VPDs by City, Davis County, 2020

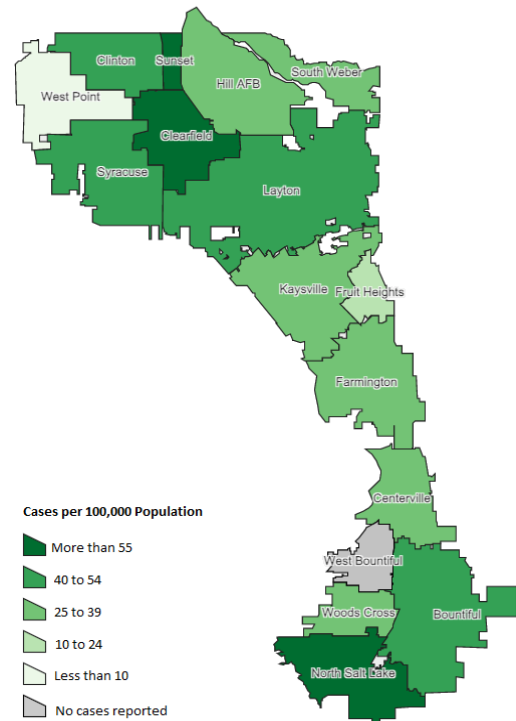
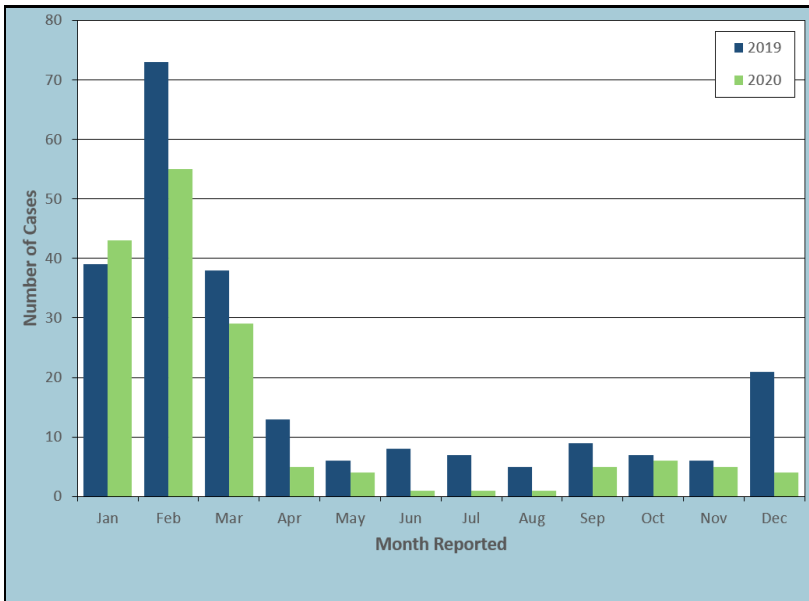


Figure 23. VPDs by Month Reported, Davis County, 2019-2020



In 2019, vaccine-preventable diseases occurred among residents of every city throughout the county (see Figure 21). The cities with the highest incidence rates were Clearfield and North Salt Lake. The city with the lowest incidence rate was Woods Cross. The incidence rate of VPDs in Davis County through 2019 was 65.3 cases per 100,000 residents.

In 2020, vaccine-preventable disease occurred among residents of almost every city of the county with the exception of West Bountiful (see Figure 22). The city with the highest incidence rate in 2020 was North Salt Lake. The city with the lowest incidence rate was West Point. The

incidence rate of VPDs in Davis County through 2020 was 44.7 cases per 100,000 residents.

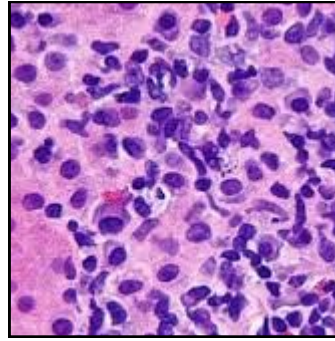
Vaccine-preventable diseases (particularly pertussis and chickenpox) are usually reported more frequently during the school year. The influenza season begins in October, with cases typically occurring beginning in December and peaking during January or February. This trend continued in 2019 and 2020, with influenza peaking in February and tapering off in March (see Figure 23).

Hepatitis A

Hepatitis A is a disease caused by the hepatitis A virus, which targets the liver. It is transmitted via the fecal-oral route either by person-to-person contact or by consumption of contaminated food or water. Hepatitis A is highly contagious and is best prevented through vaccination.

Since 1999, when routine vaccination was recommended for children living in states with high incidence (including Utah), the rates of hepatitis A have steadily declined. In recent years, however, there has been a resurgence of the disease due to outbreaks among high-risk populations.

Beginning in early 2017, Utah was impacted by a national outbreak of hepatitis A. At the end of the outbreak in February 2019, Utah had 281 confirmed hepatitis A cases that were associated with this outbreak, including three deaths. These cases were primarily identified in high-risk groups, such as those who are experiencing homelessness and/or using illicit drugs. The majority of cases associated with Utah's outbreak have been identified in Salt Lake (69.4%) and Utah (16.0%) counties. In 2019, Davis County had **one** case of hepatitis A reported. There were no reported hepatitis A cases in 2020 (See Figure 24).



Hepatitis A is a liver infection caused by the hepatitis A virus (HAV). It is highly contagious and can be transmitted by the fecal-oral route.

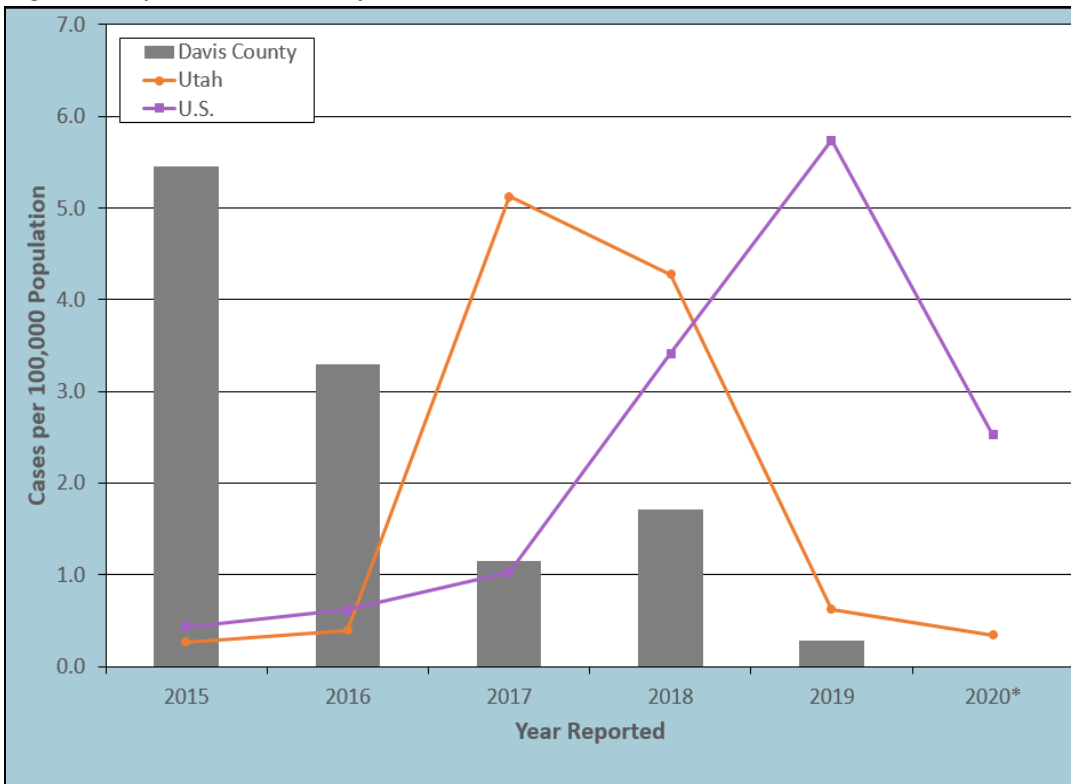
Overview

There was one case of hepatitis A reported in Davis County in 2019.

In 2020, there were no cases of hepatitis A reported in Davis County.

There has been a resurgence of the disease due to outbreaks among high-risk populations.

Figure 24. Hepatitis A, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.

Overview

There were 22 cases of hepatitis B reported in Davis County in 2019 and 19 in 2020.

In 2019, eight pregnant women were referred to DCHD's Perinatal Hepatitis B Prevention Program.

In 2020, seven pregnant women were referred to DCHD's Perinatal Hepatitis B Prevention Program.

Hepatitis B is a vaccine-preventable disease caused by the hepatitis B virus (HBV). It is transmitted through blood or body fluids. Common modes of transmission include percutaneous and permucosal exposure to infectious body fluids, sharing needles or syringes, sexual contact with an infected person, and perinatal exposure from an infected mother. In the United States, an estimated 850,000 to 2.2 million persons have chronic HBV infection. Acute HBV infection occurs most commonly among adolescents and adults in the United States.

As many as 90% of infants who acquire HBV infection from their mothers at birth become chronically infected. Of children who become infected with HBV between 1-5 years of age, 25-50% become chronically infected. The risk drops to 6-10% when a person is infected over 5 years of age.

During 2019, there were **22** cases of hepatitis B reported in Davis County and **19** in 2020. None of these cases were determined to be acute infections. Several of these cases were at high risk for infection (e.g. foreign born, intravenous drug users, sexual/household exposure to a positive contact).

Perinatal Hepatitis B Prevention Program

The Perinatal Hepatitis B Prevention Program is responsible for the case management (evaluation, monitoring, testing, and treatment) of all positive reported cases among pregnant females in Davis County. Prior to the baby's birth, arrangements are made with the delivering hospital to administer hepatitis B immune globulin (HBIG) and the first dose of hepatitis B vaccine to the newborn within 12 hours after delivery, in an effort to prevent the newborn from acquiring the virus. The newborn is monitored until all three doses of vaccine have been administered. After vaccination, serology testing is conducted to ensure antibody protection. If the infant is a non-responder to the vaccine, a second series is given. Testing is repeated at completion of the second series. Women, who are prenatally tested and determined to be chronic hepatitis B carriers, are interviewed to identify close contacts. Identified contacts (sexual partners, household contacts, and children) are recommended to have testing to determine their infection status. If serology testing is negative, the hepatitis B vaccination series is encouraged. The case management of pregnant females in this program can range from 8-18 months.

In 2019, **eight** pregnant women were referred to Davis County Health Department's Perinatal Hepatitis B Prevention Program and **seven** pregnant women in 2020.



The mission of the Perinatal Hepatitis B Prevention Program is to increase identification and treatment of women, their infants, and household contacts that are positive for the hepatitis B virus.

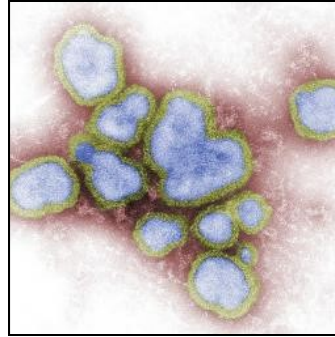
Influenza is an acute respiratory infection caused by RNA viruses from the *Orthomyxoviridae* family. Humans are the primary reservoir for human influenza, but many influenza species can also infect birds and mammals. Influenza is transmitted via respiratory droplets and direct contact.

Because of the large number of cases that occur each season, traditional surveillance methods are impractical for influenza. Therefore, the disease is monitored using a variety of mechanisms. One method is through the use of sentinel sites. Davis County tracks physician visits for influenza-like illness (fever $\geq 100^\circ$ F with a cough and/or sore throat, in the absence of an alternative cause) at sentinel sites throughout the county. These sites report data weekly to identify when influenza season peaks and monitor the burden of disease in the county.

Hospitals and other clinics submit specimens for influenza testing/typing to the Utah Public Health Laboratory (UPHL) so that circulating strains can be identified.

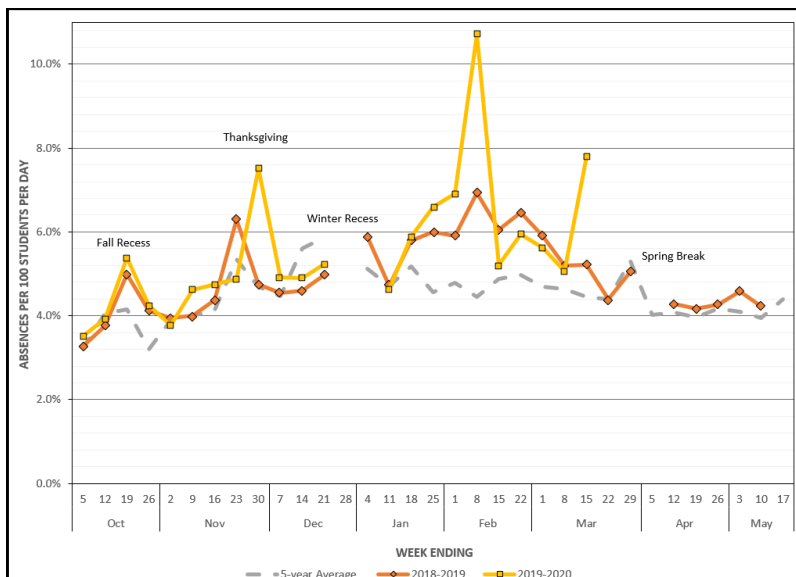
In addition, medical providers, hospitals, and laboratories are required by state law to report hospitalized influenza cases and pediatric influenza deaths to the local health departments. These two levels of reporting help public health evaluate disease severity, which is another important aspect of surveillance.

Davis County Health Department also partners with Davis School District to monitor elementary school absentee data. When schools experience a higher than expected absentee rate, the district is notified and an investigation is conducted to determine the cause. Increases in absenteeism are often observed when influenza season peaks (see Figure 25). During March 2020, schools were closed due to the COVID-19 pandemic. This impacted tracking of absentee data.



Flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness.

Figure 25. Elementary School Absenteeism—Davis County, 2018-19, 2019-20, 5-Year Average



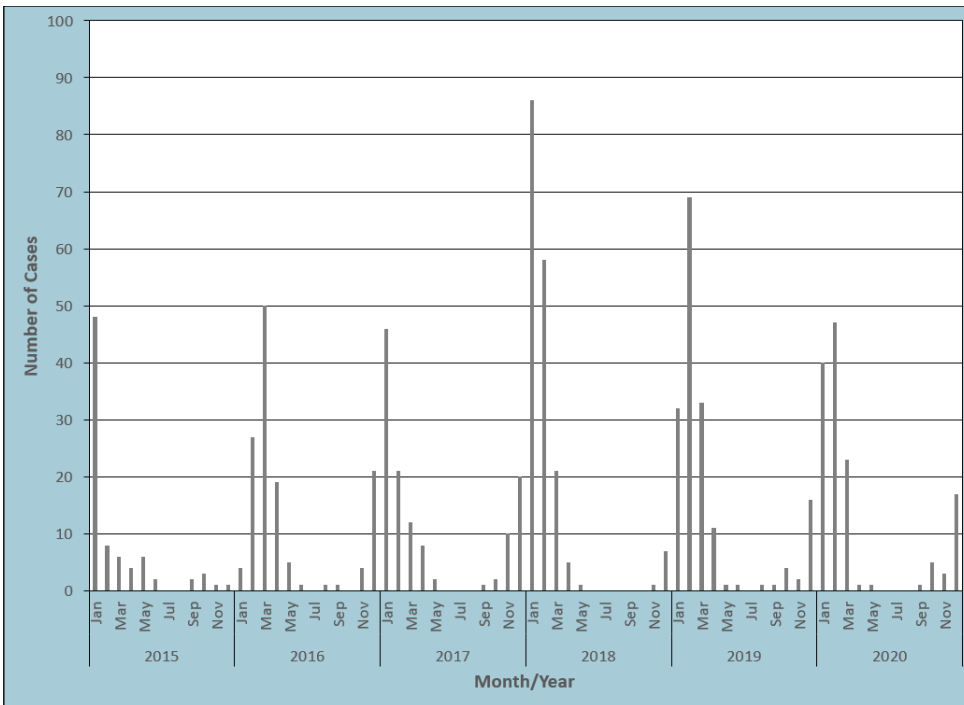
Overview

A total of 154 hospitalized-influenza cases were reported during the 2018-19 influenza season.

A total of 134 hospitalized-influenza cases were reported during the 2019-20 influenza season.

Due to the COVID-19 restrictions, the 2019-20 influenza season was shortened.

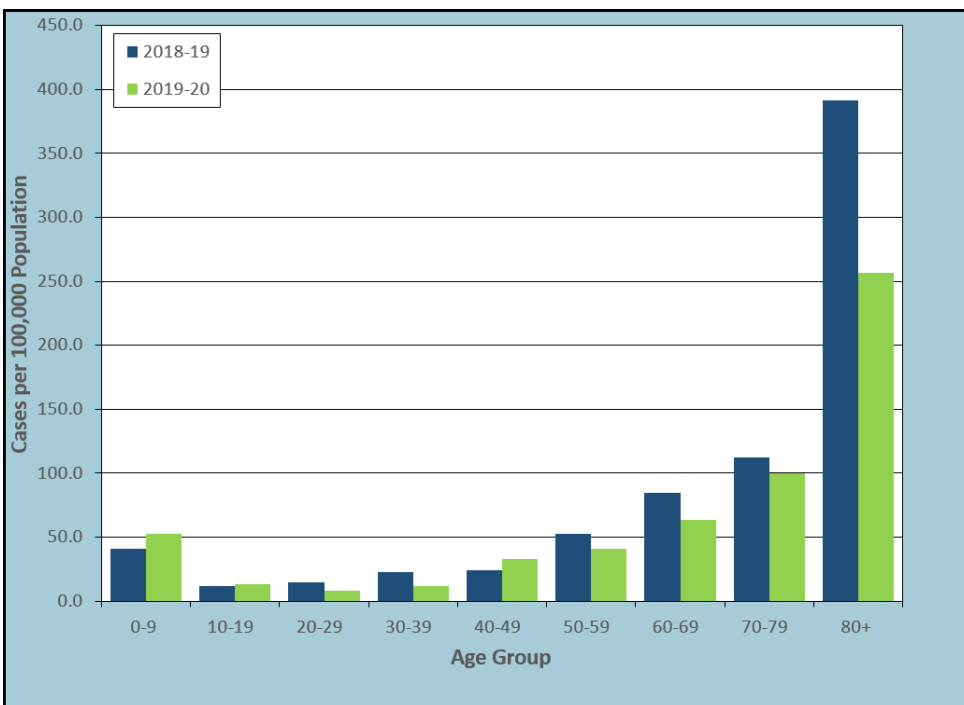
Figure 26. Hospitalized Influenza Cases by Month, Davis County, 2015—2020



The 2018-19 influenza season (October 2018 - May 2019) was less severe than the previous influenza season in Davis County (see Figure 26). A total of **154** hospitalized-influenza cases were reported during the 2018-19 season, a 24.1% decrease compared to the 2017-18 season. The 2019-20 influenza season, continued to decline. There was a total of **134** hospitalized-influenza cases, a 13.0% decrease from 2018-19 season.

Although influenza cases can occur at any time of the year, influenza viruses thrive during cold weather and cases typically peak in the winter months (January and February). The 2018-19 and 2019-20 influenza season were no different with cases peaking in February.

Figure 27. Incidence of Hospitalized Influenza Cases by Age Group, Davis County, 2018-19, 2019-20 Influenza Seasons

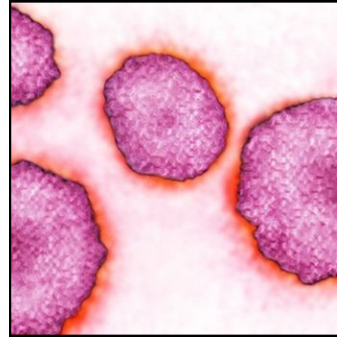


The very young and very old are the populations most severely affected by influenza infection. These groups had the highest rates of hospitalizations in the 2018-19 and the 2019-20 influenza seasons. In both years, over 41% of the hospitalized cases were 60 years of age or older (see Figure 27).

The most recent influenza season (October 2020 - May 2021) was drastically less severe, largely due to community-wide infection control measures in place because of the ongoing COVID-19 pandemic.

Mumps

Mumps is a contagious disease caused by a virus and is spread through saliva or mucus from the mouth, nose, or throat. The infection can be spread through any means in which saliva or mucus comes into contact with another individual or an object that an infected individual touches. Examples of potential modes of transmission are coughing, sneezing, talking, sharing items, and touching objects or surfaces with unwashed hands that are then touched by others. The best way to prevent mumps is by getting vaccinated.



Mumps is a contagious disease caused by a virus. It typically starts with fever, headache, and loss of appetite and is followed by swollen salivary glands.

After the mumps vaccination program started in 1967, the United States has seen a 99% decrease in mumps cases. Today, the number of cases ranges from a few hundred to few thousand; however, outbreaks do still occur occasionally (see Figure 28).

During 2019, **one** suspect case and **two** probable cases of mumps were reported in Davis County. No cases of mumps were reported in 2020. Historically, Davis County has a low rate of mumps when compared to the United States (see Figure 29).

Because mumps cases have increased in recent years, the Advisory Committee on Immunization Practices (ACIP) now recommends that high-risk groups, who were previously vaccinated with two doses of MMR vaccine, receive a third dose to improve protection during an outbreak situation.

Figure 28. Reported Mumps Cases by Year — United States, 2000-2020

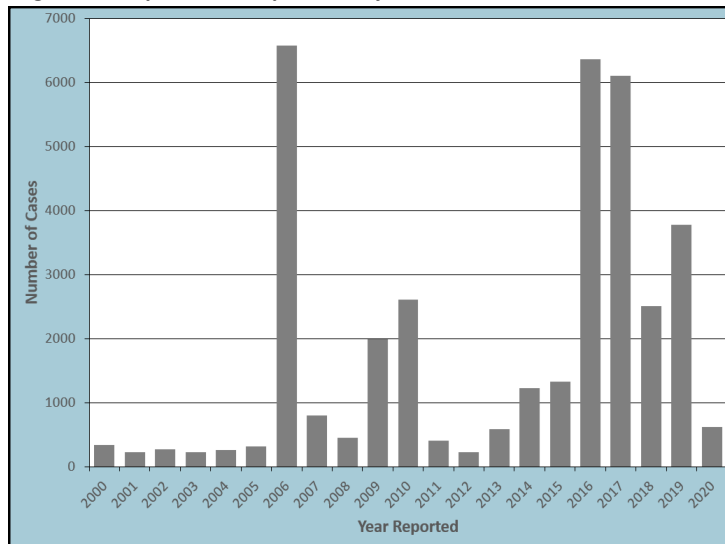
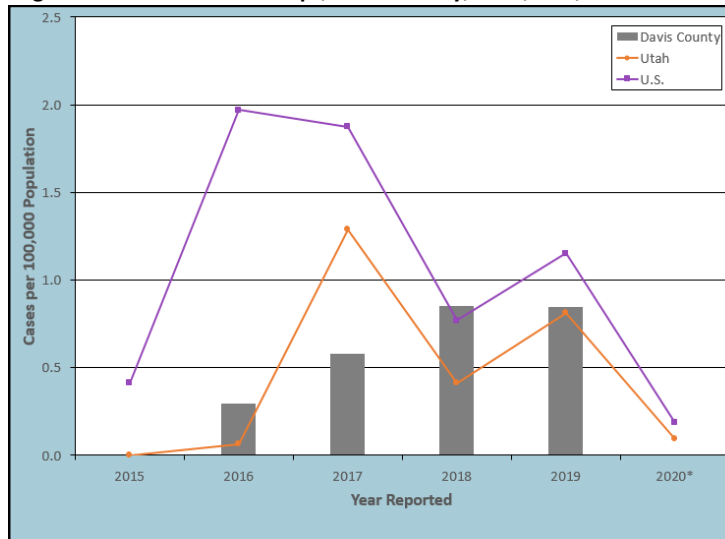


Figure 29. Incidence of Mumps, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.

Overview

Three cases of suspect or probable mumps were reported in Davis County during 2019.

There were no cases of mumps reported in Davis County during 2020.

Historically, Davis County has a low rate of mumps when compared to the United States.

Overview

There were 22 cases of pertussis reported in Davis County during 2019.

There were 16 cases of pertussis reported in Davis County during 2020.

No outbreaks of pertussis were investigated during 2019 or 2020.

Pertussis is a vaccine-preventable disease caused by the bacteria *Bordetella pertussis*. The disease is of particular concern in infants because of higher rates of hospitalization, pneumonia, and death, when compared with older children and adults.

All reported pertussis cases are investigated promptly in an effort to stop disease spread. Contacts that experience a prolonged exposure to an infected case may benefit from antibiotic prophylaxis, if administered in a timely manner. Children are routinely vaccinated against pertussis before entry into the school system. Upon entry into junior high, a booster dose of TD/Tdap is required. The Tdap (tetanus, diphtheria, and acellular pertussis) is a one-time vaccine and is recommended for anyone age 11-64 years. Recent guidance from the Centers for Disease Control and Prevention recommends pregnant women receive a Tdap vaccine with every pregnancy, preferably given between weeks 27-36. Tetanus vaccination, however, is recommended every 10 years.

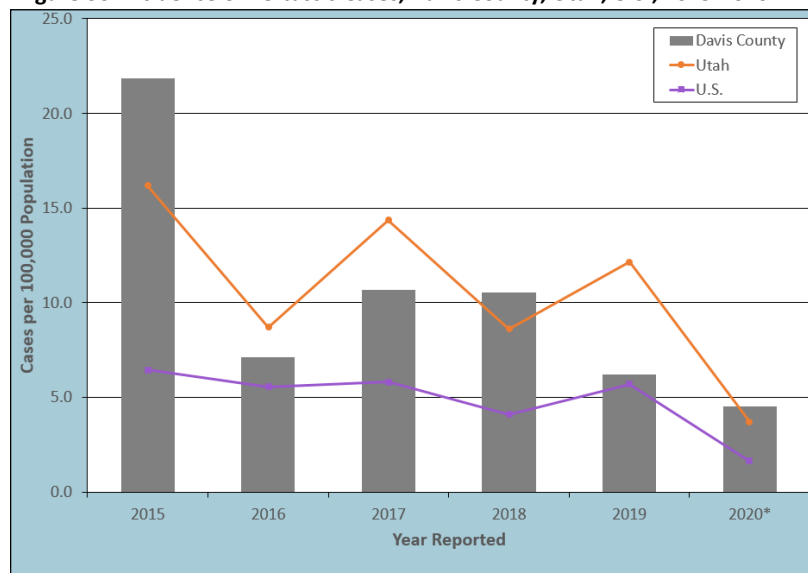
The age groups most often affected by pertussis are those who are under-vaccinated, including infants/children under five years (because they have not yet completed the full vaccination series). Although cases are also common in older children and adults due to waning immunity and vaccine exemptions, illness in these age groups is usually milder and the diagnosis is often delayed or missed.

During 2019, there were **22** cases of pertussis reported in Davis County, a 40.5% decrease from 2018, when there were 37 cases (see Figure 30). In 2020, there were **16** cases of pertussis reported in Davis County, a 27.3% decrease from 2019.

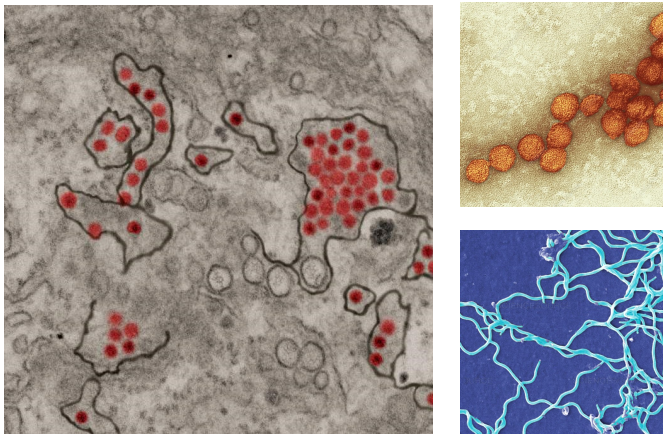


Pertussis is a respiratory illness commonly known as “whooping cough” due to the gasping sound a patient makes when they suck in air after a coughing fit.

Figure 30. Incidence of Pertussis Cases, Davis County, Utah, U.S., 2015-2020



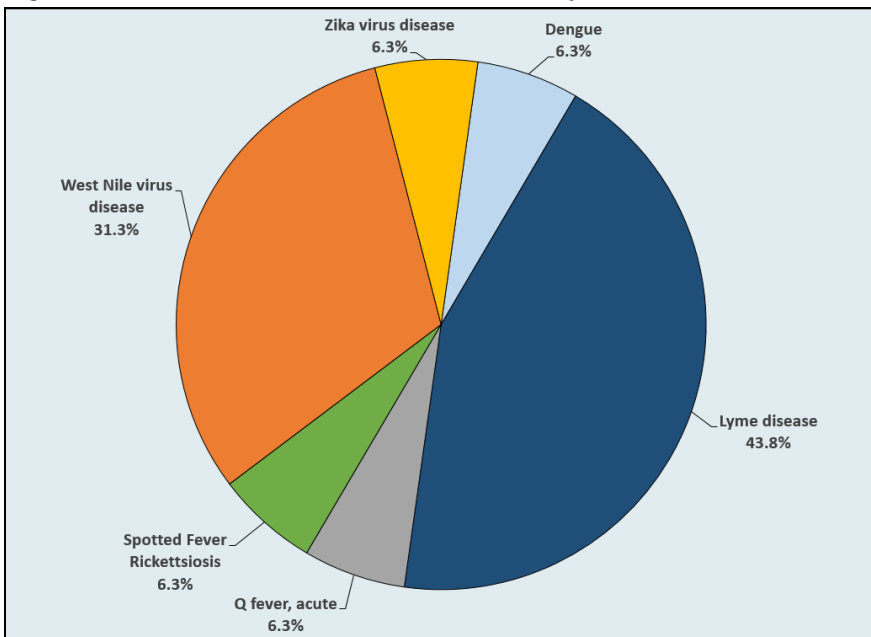
*Utah and United States 2020 data are provisional.



Vector-borne & Zoonotic Diseases

A vector-borne or zoonotic disease is one that can be passed between insect or animal to humans.

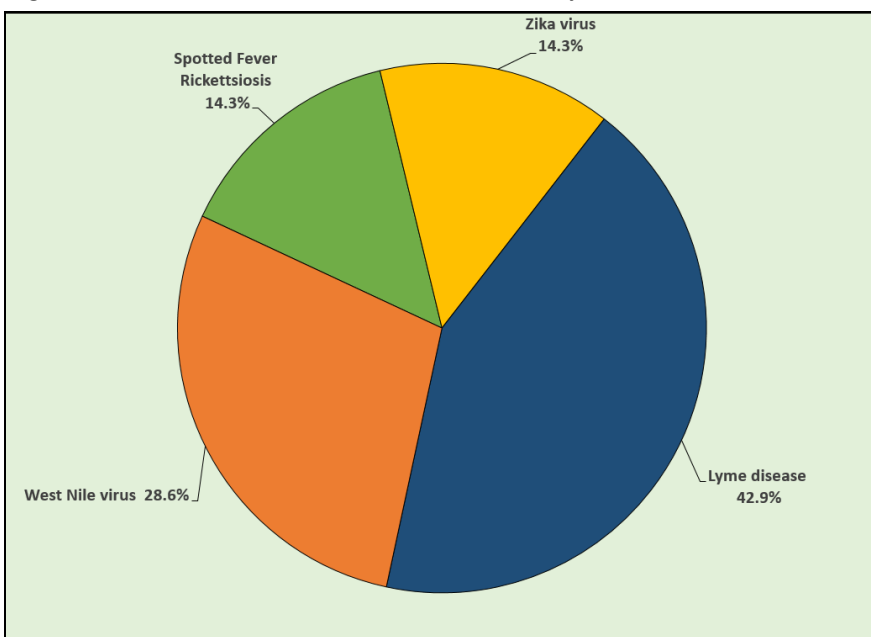
Figure 31. Vector-borne/Zoonotic Diseases, Davis County, 2019



Vector-borne/zoonotic diseases are those diseases transmitted by an animal or insect. Vector-borne/zoonotic diseases do not occur often in Davis County. Typically vector-borne/zoonotic illnesses are contracted during international or out-of-state travel.

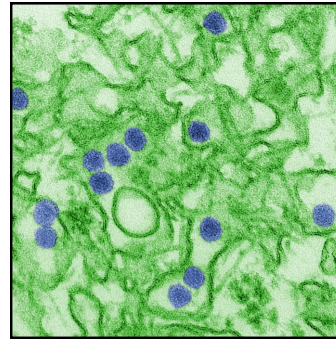
A total of **16** cases of vector-borne/zoonotic disease were reported in Davis County during 2019. Lyme disease was the most frequently reported vector-borne/zoonotic disease with **seven** cases (43.8%), followed by West Nile virus with **five** cases (31.3%). Dengue, Q fever, Zika virus, and Spotted Fever Rickettsiosis each with **one** case (6.3%) (see Figure 31).

Figure 32. Vector-borne/Zoonotic Diseases, Davis County, 2020



In 2020, a total of **seven** cases of vector-borne/zoonotic disease were reported to Davis County. Lyme disease was the most frequently reported vector-borne/zoonotic disease with **three** cases (42.9%), followed by West Nile virus with **two** cases (28.6%), and Zika virus and Spotted Fever Rickettsiosis each with **one** case (14.3%) (see Figure 32).

Zika virus is a virus that can cause fever, rash, joint pain, and conjunctivitis. It is spread mainly through the bite of an infected *Aedes aegypti* or *Aedes albopictus* mosquito. Zika virus can also be transmitted through sex with an infected person. There is currently no medicine or vaccine for Zika virus infection so the best way to prevent infection is by preventing mosquito bites. Using EPA-registered insect repellent, wearing long-sleeved shirts and pants, and limiting exposure to areas with standing water are all effective methods of mosquito bite prevention.



Zika virus is spread mostly by the bite of an infected *Aedes* mosquito, but can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause birth defects. Sexual transmission of Zika virus is also possible.

Additionally, Zika virus may be transmitted through sexual contact and can be passed from mother to fetus during pregnancy. Fetuses infected with Zika virus can experience birth defects associated with the brain, such as microcephaly.

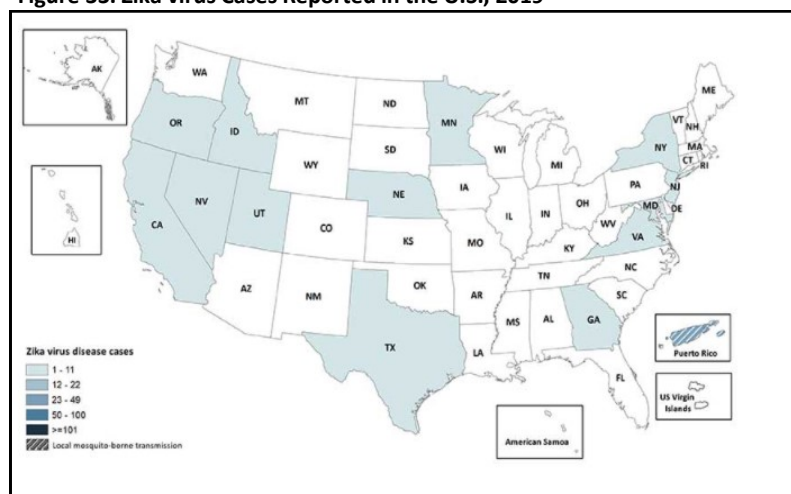
Other potential fetal complications include defects of the eye, hearing deficits, and impaired growth. Pregnant woman should refrain from travelling to areas where Zika virus is actively being transmitted. The Centers for Disease Control and Prevention continues to update and distribute travel notices for these areas. Transmission of Zika virus has also been reported in the United States in both Florida and Texas.

In 2019, Davis County Health Department had **one** confirmed case of Zika virus. In 2020, there was also **one** confirmed case of Zika virus. Both cases traveled outside of the United States, where they were exposed to Zika virus.

During 2019, 28 cases of Zika virus have been reported in the United States. Of the 28 cases, 27 were due to travel outside the United States (see Figure 33). It should be noted that during 2020, travel greatly decreased due to the COVID-19 pandemic.

Utah's local health departments continue to oversee and follow Zika virus investigations with help from the Utah Department of Health. As pregnant females deliver, additional follow-up of the mother and her baby are coordinated through the Utah Birth Defect Network.

Figure 33. Zika virus Cases Reported in the U.S., 2019

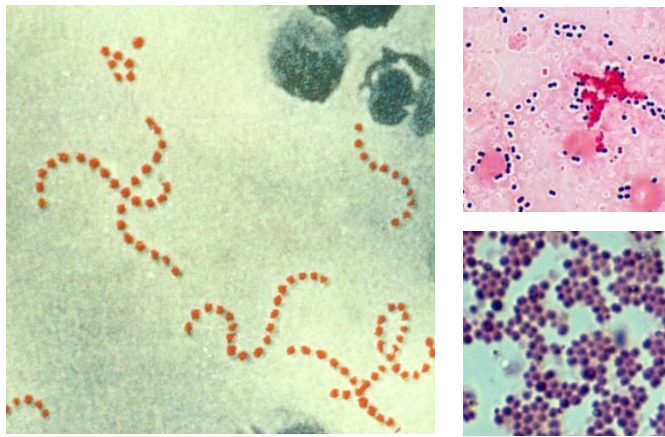


Overview

In 2019, one confirmed case of Zika virus was reported in Davis County.

In 2020, one confirmed case of Zika virus was reported in Davis County.

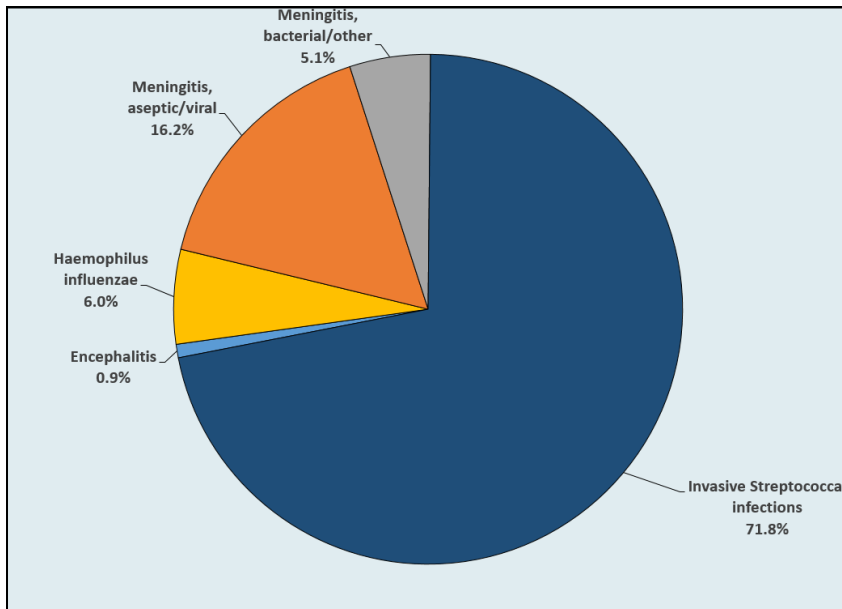
The COVID-19 pandemic hindered most travel outside of the United States.



Invasive Diseases

An invasive disease includes infections of the bloodstream, as well as meningitis and encephalitis.

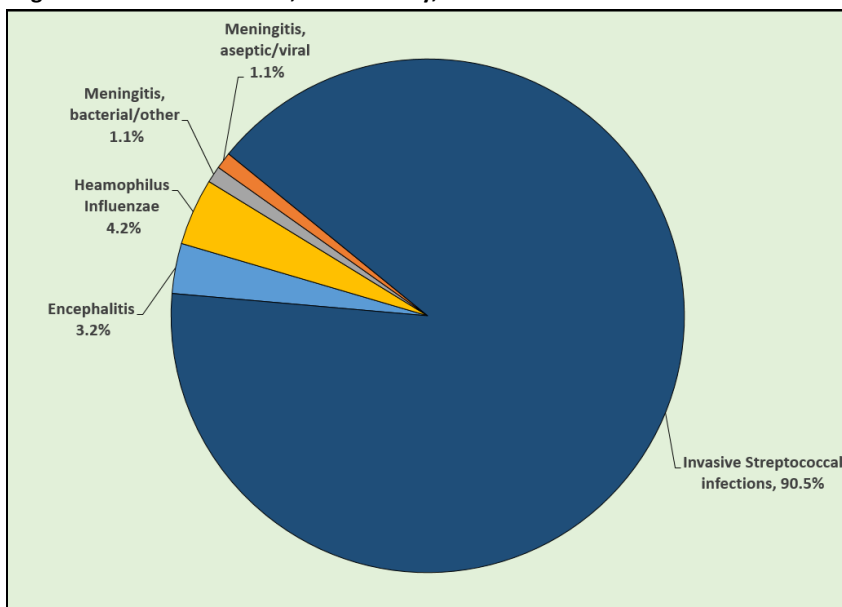
Figure 34. Invasive Diseases, Davis County, 2019



Invasive diseases include infections of the bloodstream as well as meningitis and encephalitis. All cases of meningitis, encephalitis, and toxic-shock syndrome are reportable to the health department, regardless of the causative organism. In addition, all cases of invasive streptococcal disease (isolation of *Streptococcus* from a normally sterile site) must be reported.

The most common invasive diseases reported in Davis County in 2019 were invasive streptococcal infections with **84** (71.8%) cases. These included Group A *Streptococcus*, Group B *Streptococcus*, Group C & G *Streptococcus*, *Streptococcus pneumoniae*, and other streptococcal infections. Aseptic/viral meningitis was the second most common disease in this category with **19** (16.2%) cases, then *Haemophilus influenzae* with **seven** (6.0%) cases, followed by bacterial/other meningitis with **six** (5.1%), and encephalitis **one** (0.9%) case (see Figure 34).

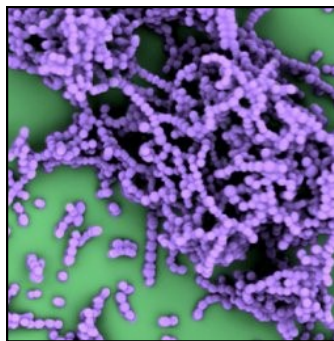
Figure 35. Invasive Diseases, Davis County, 2020



In 2020, the most common invasive diseases reported in Davis county were invasive streptococcal infections with **86** (90.5%) cases, followed by *Haemophilus influenzae* with **four** (4.2%) cases, encephalitis with **three** (3.2%) cases, an aseptic/viral and bacterial/other meningitis each had **one** (1.1%) case (see Figure 35).

The primary invasive streptococcal diseases of public health concern are Group A, Group B, and *Streptococcus pneumoniae*.

- **Group A** streptococcal invasive disease manifests as necrotizing fasciitis, streptococcal toxic-shock syndrome, bacteremia, and pneumonia. It is transmitted person-to-person by contact with infectious secretions. Asymptomatic pharyngeal carriage occurs among all age groups, but is most common among children.
- **Group B** streptococcal invasive disease (GBS) in neonates manifests as sepsis, pneumonia, and meningitis. Infection in the first week of life is called early-onset GBS. In adults, sepsis and soft tissue infections are most common. Pregnancy-related infections include sepsis and amnionitis. Asymptomatic carriage in gastrointestinal and genital tracts is common and intrapartum transmission via ascending spread from vaginal and/or gastrointestinal GBS colonization occurs. Mode of transmission of disease in non-pregnant adults and older infants (>1 week) is unknown.
- **Group C** *streptococcus* is typically a zoonotic illness and the organisms can be found as pathogens in domestic animals such as horses, cows, birds, rabbits, and guinea pigs. Laboratories may misidentify them as Group A *streptococcus*. They can also be found as part of normal human flora. Many people with Group C infections have underlying health problems, but more recent studies have implicated this disease as an emerging human pathogen.
- **Group G** *streptococcus* is a normal human flora and individuals infected with this organism usually have underlying health problems, especially cancer.
- ***Streptococcus pneumoniae*** invasive disease manifests as pneumonia, bacteremia, meningitis, and sinus/ear infections. More than 90 types of pneumococcal bacteria exist, but not all are considered to be invasive. Of the strains causing invasive disease, 88% are serotypes included in the 23-valent polysaccharide vaccine (PPSV23). Before the first pneumococcal conjugate vaccine (PCV7) was introduced in 2000, the seven serotypes which it prevents were responsible for over 80% of severe pneumococcal infections among children. Now, the PCV13 vaccine includes the original seven serotypes in PCV7, plus six additional serotypes. The best way to prevent pneumococcal disease is by getting vaccinated.



Most strep infections are relatively mild illnesses such as strep throat, scarlet fever, and impetigo. Occasionally these bacteria can cause severe and life-threatening diseases.

Overview

In 2019, there were **84** cases of invasive streptococcal infections reported in Davis County.

In 2020 there were **86** cases of invasive streptococcal infections reported in Davis County.

There was a combined **14** fatal cases of invasive streptococcal infections in 2019 and 2020.

Invasive Streptococcal Infections

Figure 36. Invasive Streptococcal Infections by Month, Davis County, 2019, 2020

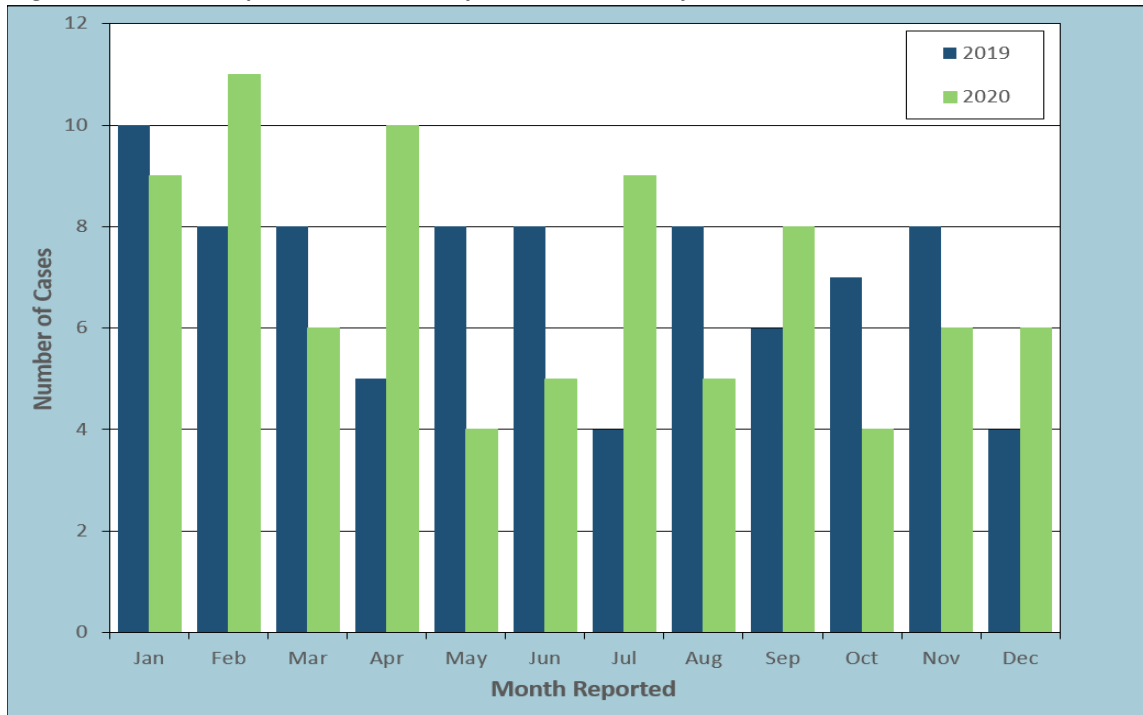


Table 7. Types of Invasive Streptococcus Infections, Davis County, 2019

Type	Number of Cases(%)
Group A <i>Streptococcus</i>	11(13%)
Group B <i>Streptococcus</i>	25(30%)
Group C and Group G <i>Streptococcus</i>	7(8%)
Other <i>Streptococcus</i> (<i>mitis</i> , <i>viridans</i> , etc.)	19(23%)
<i>Streptococcus pneumoniae</i>	22(26%)
Total	84(100%)

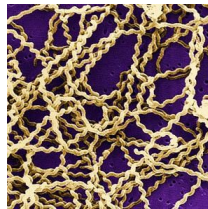
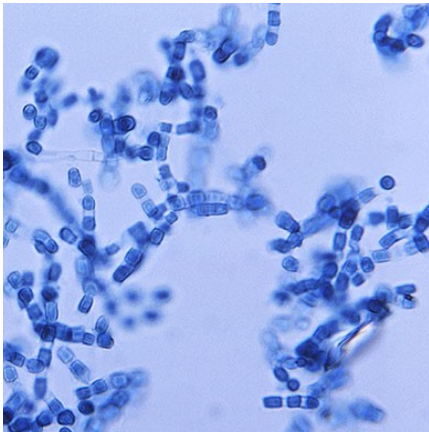
In 2019, **84** cases of invasive streptococcal infections were reported. The majority of cases were due to Group B *Streptococcus* and required investigation (see Table 7).

Invasive streptococcal infections tend to cause severe illness. In 2010, over 12% of reported invasive streptococcal infections in Davis County were fatal. Since then, the fatality rate among streptococcal infections has declined. In 2019, six out of 84 cases were fatal - a case fatality rate of 7.1%. This represents a slight decrease from the 7.7% reported in 2018.

In 2020, **86** cases of invasive streptococcal infections were reported (see Figure 36). Eight of the 86 cases were fatal - a case fatality rate of 9.3%. The majority of cases reported were due to other *Streptococcus* infections (see Table 8).

Table 8. Types of Invasive Streptococcus Infections, Davis County, 2020

Type	Number of Cases(%)
Group A <i>Streptococcus</i>	13(15%)
Group B <i>Streptococcus</i>	22(26%)
Group C and Group G <i>Streptococcus</i>	12(14%)
Other <i>Streptococcus</i> (<i>mitis</i> , <i>viridans</i> , etc.)	26(30%)
<i>Streptococcus pneumoniae</i>	13(15%)
Total	86(100%)



Other Diseases

Diseases that do not fall under a specific identified category.

Diseases that do not fall under a specific identified category will be discussed in this section.

In 2019, Hepatitis C infections made up the majority of this category, followed by carbapenem-resistant *Enterobacteriaceae*, coccidioidomycosis, e-cigarette or vaping associated lung injury, legionellosis, and leptospirosis (see Table 9).

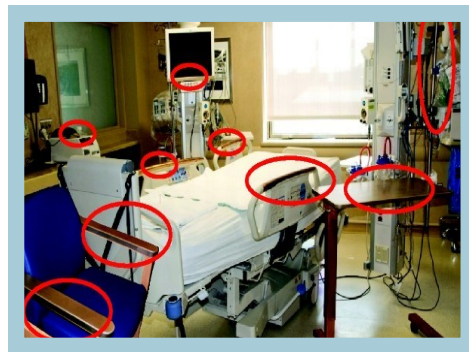
In 2020, Hepatitis C infections again made the majority of this category, followed by carbapenem-resistant *Enterobacteriaceae*, coccidioidomycosis, and legionellosis.

Table 9. Types of Other Diseases, Davis County, 2019-2020

Disease	2019	2020
Hepatitis C, acute and chronic	97	101
Carbapenem-Resistant <i>Enterobacteriaceae</i> (<i>Acinetobacter</i> , <i>E. Coli</i> —Carbapenem non-susceptible)	86	73
Coccidioidomycosis	15	6
Legionellosis	3	3
Leptospirosis	1	0
E-cigarette or Vaping Associated Lung Injury (EVALI)	13	0
Total	215	183



Hepatitis C



Carbapenem-Resistant *Enterobacteriaceae* (CRE)



Coccidioidomycosis

Carbapenem-Resistant Enterobacteriaceae

Overview

A total of **86** CREs were reported in Davis County in 2019.

A total of **73** CREs were reported in Davis County in 2020.

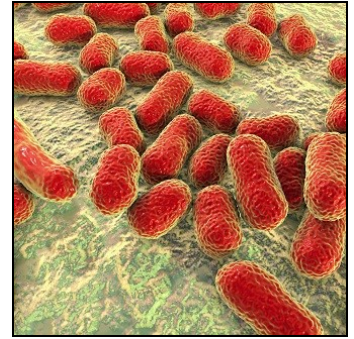
Public health continues to learn more about these organisms, including where they are occurring and how to prevent their spread.

The public health problem of antibiotic resistance is not new. However, due to the overuse of antibiotics in humans and animals, the problem is increasing in magnitude and new multidrug-resistant organisms (MDROs) are emerging. Carbapenem-resistant *Enterobacteriaceae* (CRE) are particularly concerning. Some CRE infections have developed resistance to most available antibiotics. CRE infections are very difficult to treat, can spread quickly, and may contribute to death in 40% of patients who become infected. Although these organisms are rare, they are increasingly identified in healthcare facilities throughout the United States.

Utah laboratories and healthcare facilities are required to report the following CREs to the state or local health department:

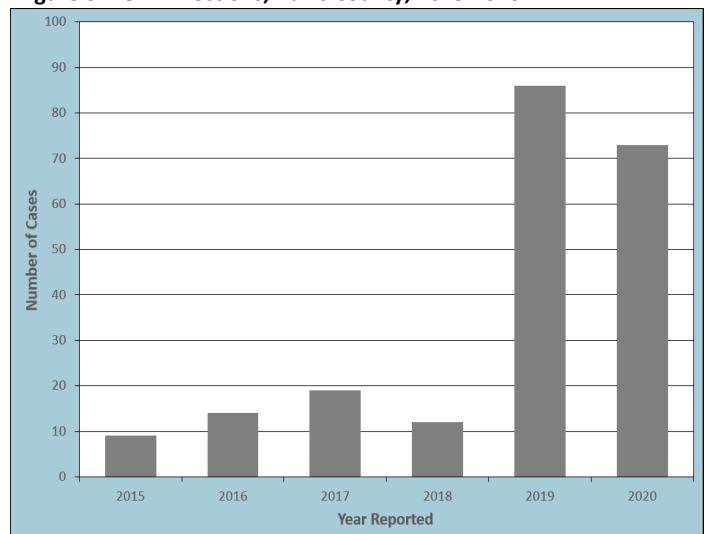
- *Acinetobacter* species with resistance or intermediate resistance to carbapenem (meropenem and imipenem) from any site.
- *Enterobacter* species with resistance or intermediate resistance to carbapenem (meropenem and imipenem) from any site.
- *Escherichia coli* with resistance or intermediate resistance to carbapenem (meropenem, ertapenem, and imipenem) from any site.
- *Klebsiella* species with resistance or intermediate resistance to carbapenem (meropenem, ertapenem, and imipenem) from any site.
- *Pseudomonas aeruginosa* with resistance or intermediate resistance to carbapenem (meropenem, ertapenem, and imipenem) from any site. This is only electronically reported and is not investigated at the local level.

A total of **86** CREs were reported in Davis County during 2019 (see Figure 37). This represents a 616.7% increase from the 12 cases reported in 2018. In 2020, a total of **73** CREs were reported in Davis County. This represents a 15.1% decrease from 2019. The addition of *Pseudomonas aeruginosa* as well as an outbreak of CREs at a Davis County specialty hospital likely contributed to the drastic increase in reported cases during 2019 and 2020.



Klebsiella is a type of Gram-negative bacteria that can cause different types of healthcare-associated infections, including pneumonia, blood infections, wound or surgical site infections, and meningitis.

Figure 37. CRE Infections, Davis County, 2015-2020



Overview

In 2019, 97 cases of HCV were reported in Davis County.

In 2020, 101 cases of HCV were reported in Davis County.

Many reports of HCV come from blood donation/plasma centers, which have limited information on individuals, making disease investigation difficult.

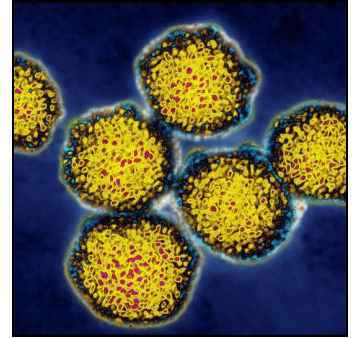
Hepatitis C is a disease caused by a virus that infects the liver. Over time it can cause liver damage including cirrhosis, liver failure, and cancer. Approximately 15-25% of those infected with hepatitis C virus (HCV) will recover from the infection. The remaining 75-85% develop chronic infection. Each year approximately 15,000 people die from the complications of liver disease caused by hepatitis C.

Most of those who develop chronic HCV infection remain asymptomatic for many years. Some experience a range of symptoms including fatigue, headache, joint aches, muscle aches, nausea, jaundice, loss of appetite, and abdominal pain.

HCV is a bloodborne pathogen that is predominantly spread by exposure to contaminated blood or blood products. Currently, the most prevalent mode of transmission is sharing needles or syringes to inject drugs. Sexual transmission of HCV can occur, but does not appear to be a common mode of transmission. HCV is not spread through casual contact, kissing, sneezing, hugging, sharing glasses/utensils, or from breast milk.

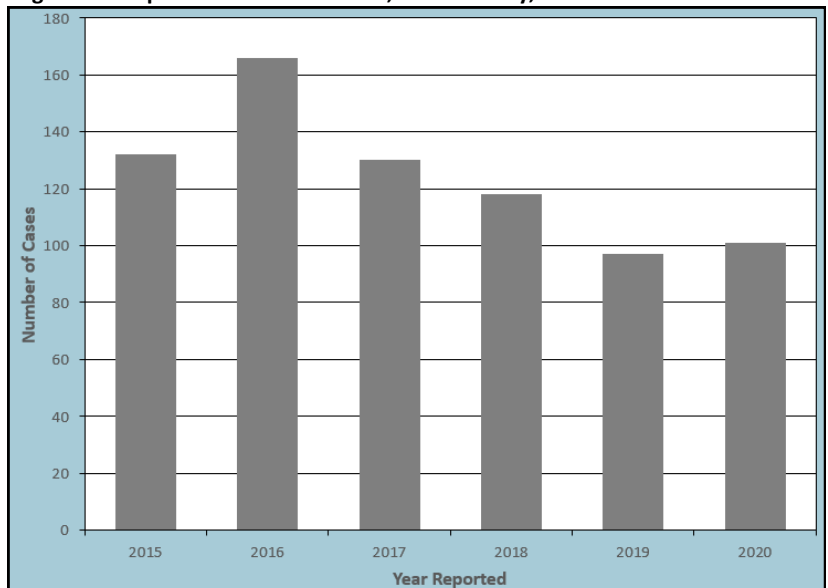
Hepatitis C is typically reported as a positive screening test for HCV antibodies. Investigation of this disease is focused on determining whether the case is acute, chronic, or has a false-positive test. To do so, confirmatory testing is necessary. Many reports of hepatitis C come from blood donation/plasma centers, which have limited contact information for the person donating, making investigation of the disease difficult. Of those investigated, the most prevalent risk factor identified was injecting drugs, currently or in the past. Most infected individuals were unaware of their infection.

In 2019, **97** cases of HCV were reported in Davis County, a 17.8% decrease from the 118 cases reported in 2018 (see Figure 38). During 2020, **101** cases were reported in Davis County, a 4.1% increase from 2019.



Hepatitis C is a bloodborne virus. Today, most people become infected with HCV by sharing needles or other equipment to inject drugs.

Figure 38. Hepatitis C Virus Infections, Davis County, 2015-2020



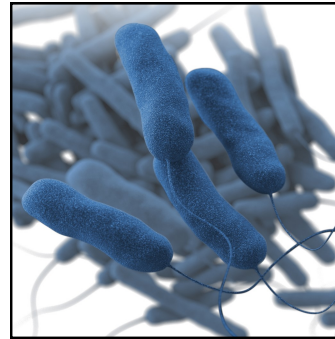
Legionellosis

Legionella bacteria can cause Legionnaires' disease or Pontiac fever, collectively known as legionellosis. The disease is transmitted through the air from a soil or water source. All studies to date have shown that the organism cannot be spread from person-to-person. Outbreaks occur when individuals are exposed to a common source of *Legionella pneumophila* bacteria in the environment.

An estimated 8,000-18,000 people need care in a hospital due to Legionnaire's disease each year in the United States. However, many infections are not diagnosed or reported, so this number may be higher. Most legionellosis cases are sporadic; 23% are nosocomial (hospital acquired) and 10-20% can be linked to outbreaks.

It is important for public health to identify the source of the infection before an outbreak occurs. Often, the source remains unknown. Aerosolizing of water, such as showers, CPAP machines, humidifiers, swamp coolers, and spas, provide a good mechanism for transmission. Healthy individuals, when exposed, typically do not develop the disease. However, those who are immunocompromised are at higher risk.

During 2019, there were **three** cases of legionellosis reported in Davis County. In 2020, there were **three** cases of legionellosis reported. Both Davis County and Utah typically have lower rates of legionellosis when compared to the United States (see Figure 39). Although *Legionella* is not spread from person-to-person, it is important for public health to identify the source of the infection before an outbreak occurs.



Legionellosis is a bacterial infection that may cause mild respiratory illness or pneumonia. It is associated with two distinct illnesses: Legionnaires' disease and Pontiac fever.

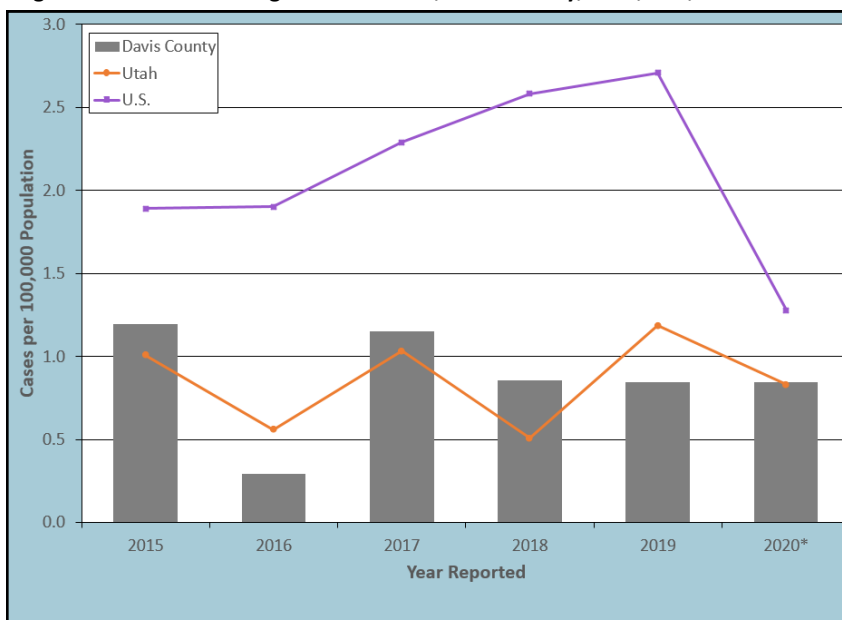
Overview

A total of three cases of legionellosis were reported in Davis County during 2019.

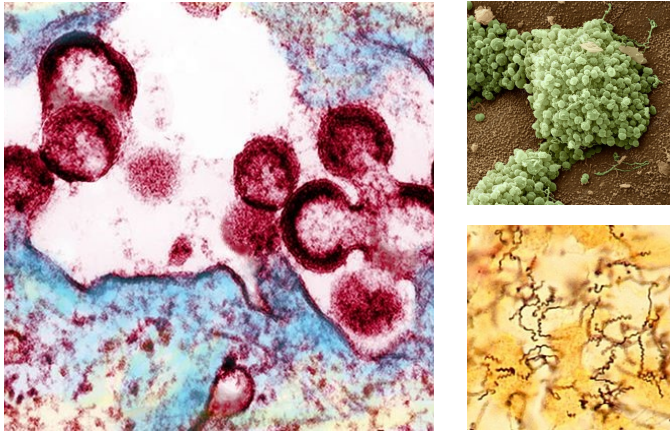
A total of three cases of legionellosis were reported in Davis County during 2020.

Both Davis County and Utah typically have lower rates of legionellosis when compared to the United States.

Figure 39. Incidence of Legionellosis Cases, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.



Sexually Transmitted Diseases

Diseases that are caused by bacteria, viruses, and other organisms transmitted from one person to another through sexual activity.

Sexually transmitted diseases (STDs) are caused by bacteria, viruses, and other organisms transmitted from one person to another through sexual activity. Bacterial STDs such as chlamydia, gonorrhea, and syphilis are curable - using appropriate antibiotic therapy. However, permanent damage may occur (e.g. pelvic inflammatory disease, sterility, organ damage, meningitis) especially if treatment is delayed. Viral STDs such as herpes simplex virus (HSV) and human immunodeficiency virus (HIV) are not curable, but treatment can slow disease progression by reducing viral load (contagiousness) and improving quality of life. Complications from STDs range from mild/moderate illness to infertility, chronic pain, cancer, and even death. Less invasive testing techniques (e.g. urine testing, self-collected oral/rectal testing) have made chlamydia and gonorrhea testing more practical and convenient.

In 2019, the most common STD reported was chlamydia with **1,160** cases (80.4%), followed by gonorrhea with **229** cases (15.9%), syphilis with **42** cases (2.9%), and HIV/acquired immunodeficiency syndrome (AIDS) with **11** cases (0.8%), (see Figure 40).

In 2020, the most common STD reported was chlamydia with **954** cases (77.9%), followed by gonorrhea with **238** cases (19.4%), syphilis with **24** cases (2.0%), and HIV/acquired immunodeficiency syndrome (AIDS) with **eight** cases (0.7%), (see Figure 41).

Figure 40. Sexually Transmitted Diseases, Davis County, 2019

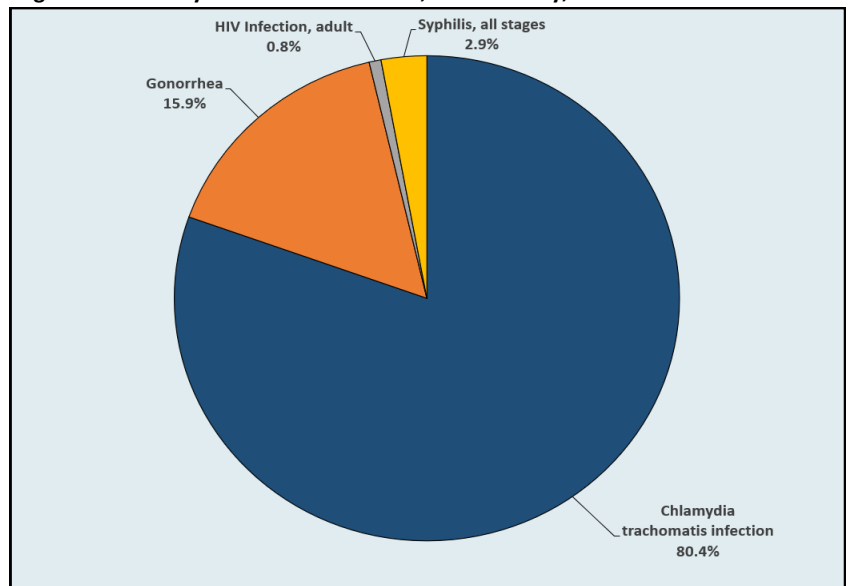
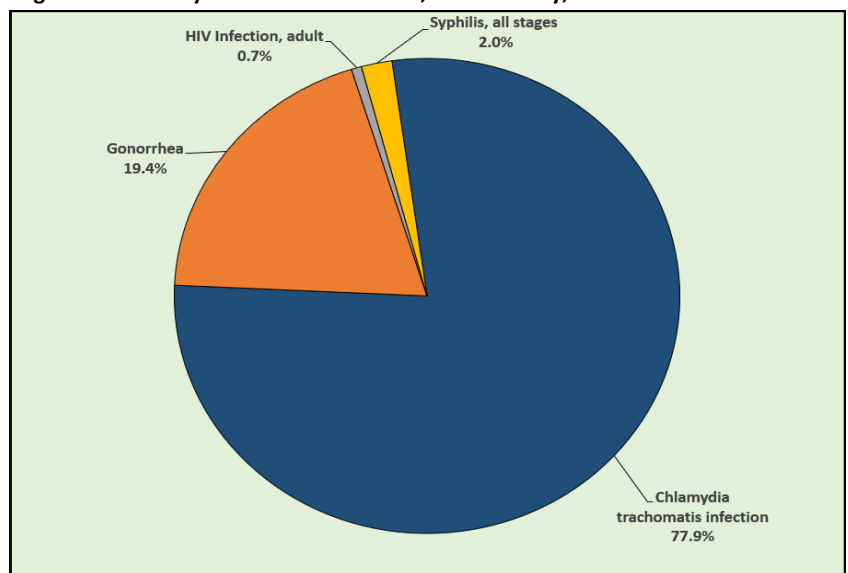


Figure 41. Sexually Transmitted Diseases, Davis County, 2020



Sexually Transmitted Diseases

Figure 42. Incidence of all STDs by City, Davis County, 2019

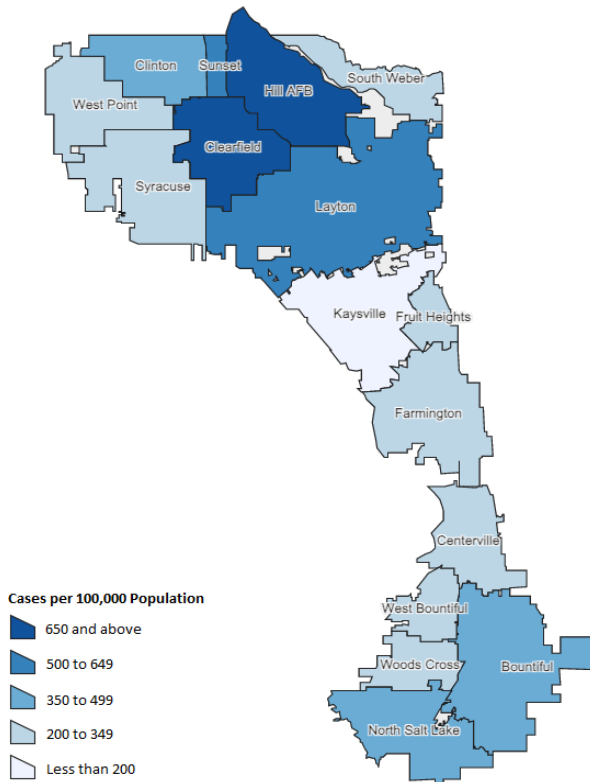


Figure 43. Incidence of all STDs by City, Davis County, 2020

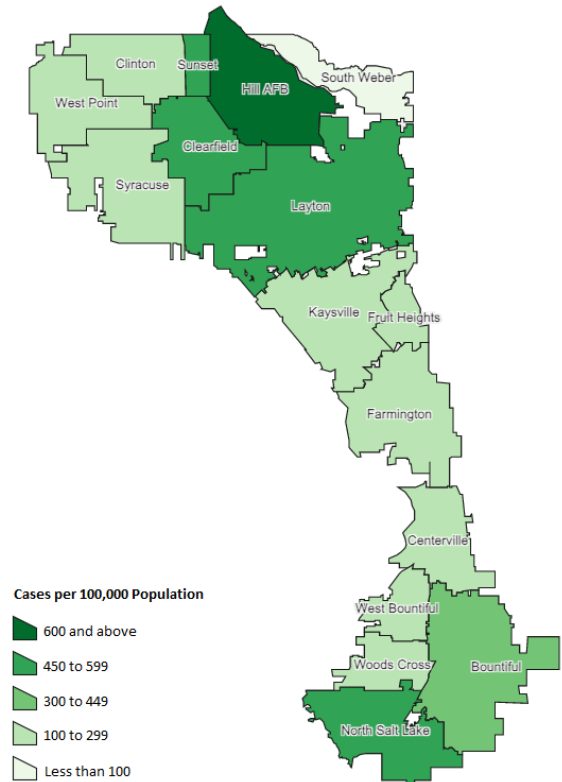
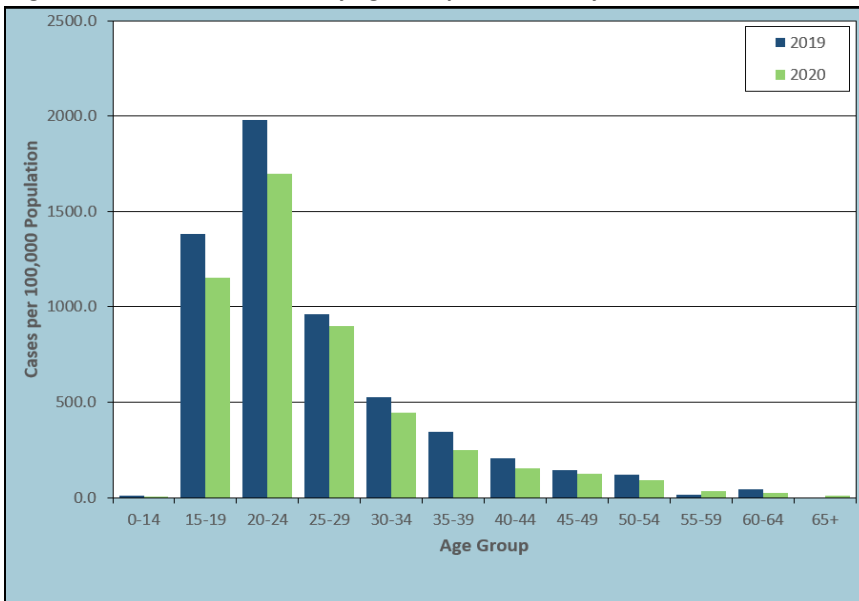


Figure 44. Incidence of all STDs by Age Group, Davis County, 2019-2020



Sexually transmitted diseases occurred among residents of every city in Davis County. The incidence rate for STDs in Davis County for 2019 was 405.6 and 2020 was 344.3 cases per 100,000 residents. The city rates were adjusted by age to account for the higher incidence of STD infection in cities with a larger young adult population. In 2019, Clearfield and Hill Air Force Base had the highest rates of STDs, while Kaysville and West Bountiful had the lowest rates (see Figure 42).

In 2020, Hill Air Force Base and Layton had the highest rates of STDs, while South Weber and Kaysville had the lowest rates (see Figure 43).

In 2019 and 2020, sexually transmitted diseases were most often reported among women and among 20-24 years old (see Figure 44). Overall, STD incidence was high from 15 years of age to 34 years of age for 2019 and 2020.

Overview

A total of 1,160 chlamydia cases were reported in Davis County during 2019.

A total of 954 chlamydia cases were reported in Davis County during 2020.

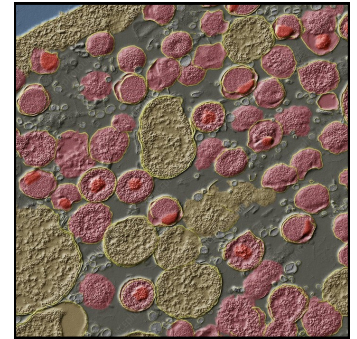
Traditionally, Davis County has lower rates of chlamydia when compared with Utah and the United States.

Chlamydia is a sexually transmitted disease caused by the bacteria *Chlamydia trachomatis*. Chlamydia is the most commonly reported sexually transmitted disease in the United States. Most females and approximately 50% of males infected with chlamydia do not have obvious symptoms. Serious complications include infertility, ectopic pregnancies, epididymitis, arthritis, and prostatitis.

Chlamydia and gonorrhea rates have been increasing for the past several years (see Figure 46). This is partially due to increased screening of high-risk individuals. During 2019, there were **1,160** cases of chlamydia reported in Davis County, a 0.2% increase from the 1,158 cases reported in 2018. In 2020, there were **954** cases of chlamydia reported in Davis County, a 17.8% decrease from 2019.

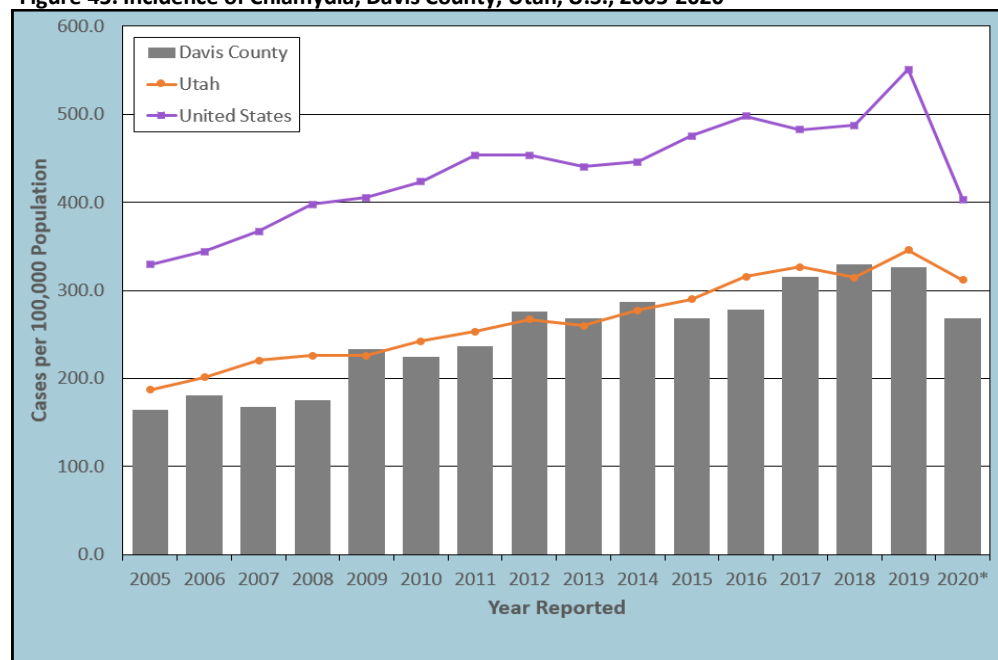
Chlamydial infections continue to account for the largest disease burden in Davis County, with the exception of COVID-19. However, Davis County traditionally has lower rates of chlamydia when compared to Utah and the United States (see Figure 45).

Through case investigations, a number of high-risk behaviors were identified, including early initiation of sexual activity, multiple sex partners, unprotected sex, anonymous partners, using drugs or alcohol while engaging in sexual activities, group sex, and anal intercourse. These high risk behaviors are commonly seen in the age group 15-24 year old, who are infected with chlamydia at higher rates (see Figure 46).



Chlamydia is the most commonly reported STD in the United States.

Figure 45. Incidence of Chlamydia, Davis County, Utah, U.S., 2005-2020



*Utah and United States 2020 data is provisional.

Chlamydia

Chlamydia is more prevalent in females versus males (see Figure 47). Women are more susceptible to infection and the female reproductive system is an excellent environment for bacteria to grow. It also makes it more difficult to determine if signs or symptoms from an infection are present. Women are less likely to have symptoms of chlamydia when compared to men. If symptoms do occur, they may go away, yet the infection can remain.

Females are often diagnosed during routine medical visits. Males are typically diagnosed following contact investigations or if they become symptomatic. It is the goal of the health department to locate partners, offer free testing and treatment, provide disease education, and assist in the development of a risk-reduction plan. Contact investigations not only limit the spread of infection to other individuals, but they also decrease the likelihood of re-infection. Re-infections can occur when appropriately treated individuals engage in sexual activity with their untreated partners or resume sexual activity before the infection is cleared.

Effective January 1, 2019, Utah’s public health procedures no longer require local health departments to attempt to investigate all cases of chlamydia. Instead, health departments individually determine local chlamydia case investigation procedures. Chlamydia remains as a reportable infection and healthcare providers and laboratories are still required to report cases within three working days from the time of identification.

Beginning in 2019, Davis County Health Department began focusing chlamydial investigation efforts on higher risk populations, including those 21 years of age or younger, men who have sex with men, and pregnant women. In 2020, Davis County Health Department did not perform as many investigations for chlamydia, due to the COVID-19 pandemic response.

Figure 46. Chlamydia by Age Group, Davis County, 2019-2020

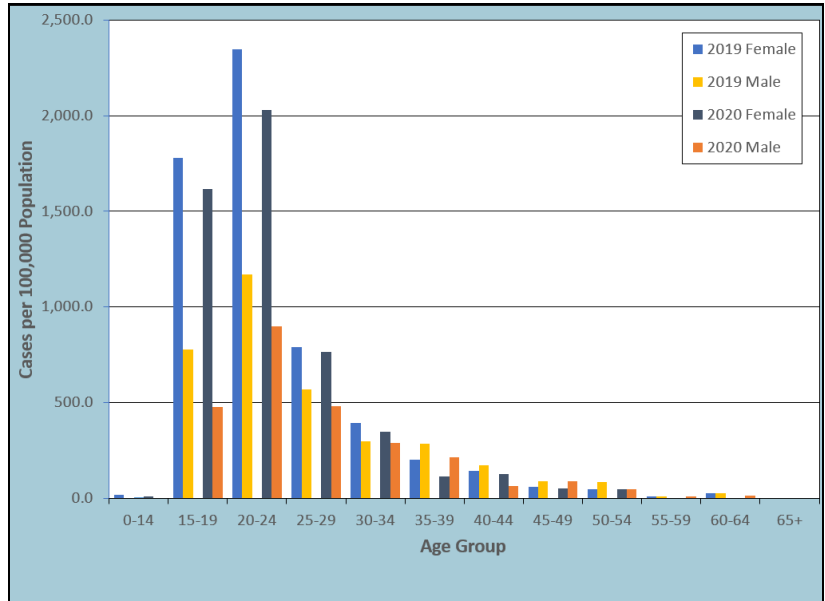
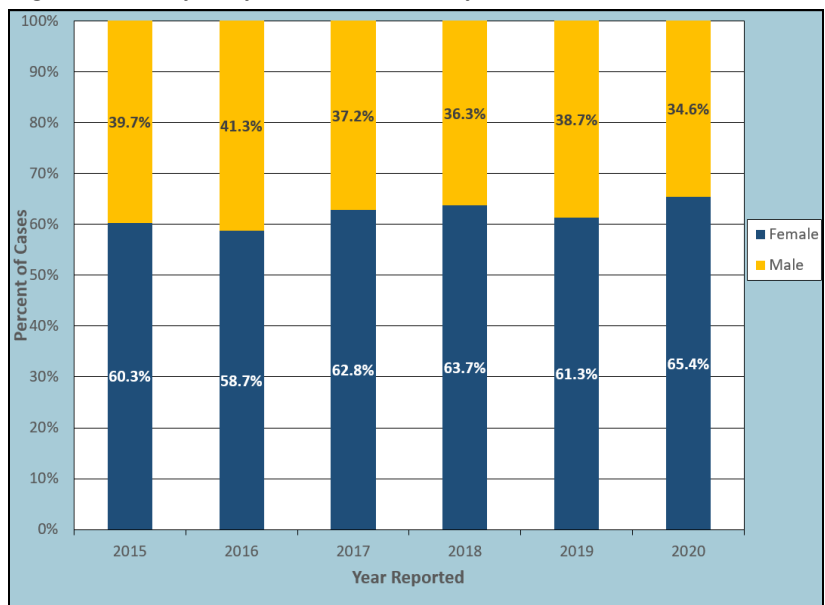


Figure 47. Chlamydia by Gender, Davis County, 2015-2020



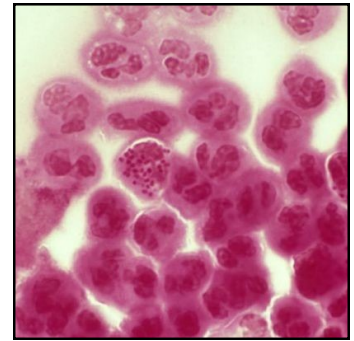
Overview

During 2019, **229** cases of gonorrhea were reported in Davis County.

During 2020, **238** cases of gonorrhea were reported in Davis County.

Davis County continues to have lower rates of gonorrhea when compared with Utah and the United States.

Gonorrhea is a sexually transmitted disease caused by the bacteria *Neisseria gonorrhoeae*. Gonococcal infections are often asymptomatic in women and are becoming increasingly so in men. If left untreated, gonorrhea may result in serious complications including chronic pain, infertility, septic arthritis, hepatitis, endocarditis, and meningitis. Gonorrhea is complex and has the ability to develop resistance to antibiotics. Fluoroquinolones are no longer recommended by the Centers for Disease Control and Prevention due to increasing resistance. Cephalosporins are the only remaining antibiotic class recommended for treatment.

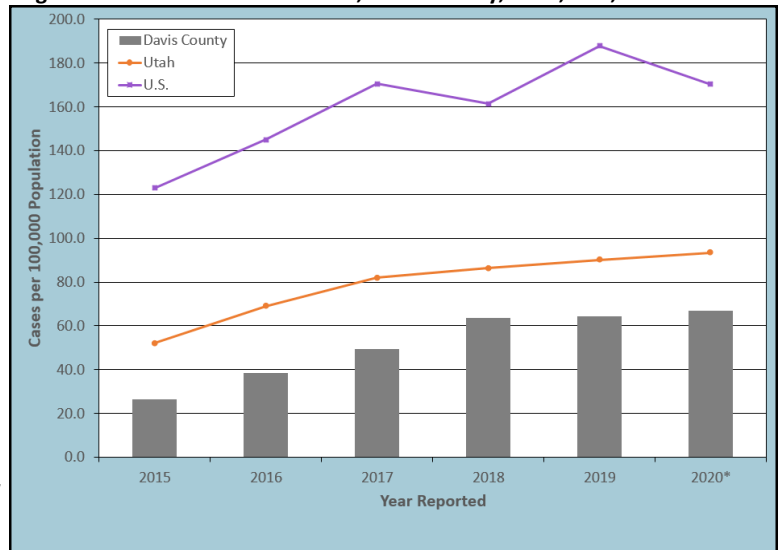


Gonorrhea has progressively developed resistance to several antibiotics used to treat it.

During 2019, there were **229** cases of gonorrhea reported in Davis County, a 2.7% increase from the 223 cases reported during 2018. In 2020, there were **238** cases of gonorrhea reported in Davis County, a 3.9% increase from 2019. Davis County gonorrhea rates continue to be well below the United States and Utah (see Figure 48).

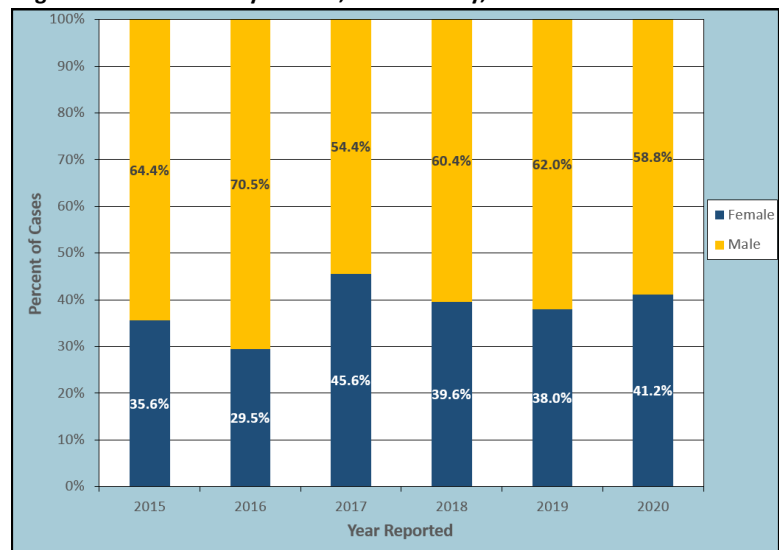
Unlike chlamydia, gonococcal infections in Davis County were more frequent in males (see Figure 49). Disease interviews identified men who have sex with men (MSM), multiple sex partners, anonymous partners, incarceration, and substance abuse as common risk factors for gonococcal infection.

Figure 48. Incidence of Gonorrhea, Davis County, Utah, U.S., 2015-2020



*Utah and United States 2020 data are provisional.

Figure 49. Gonorrhea by Gender, Davis County, 2015-2020



Gonorrhea

In 2019, the median age for those infected with gonorrhea was 27 years. In 2020, the median age of those infected with gonorrhea was 26 years. The only age group that females had a higher case rate than males was in 15-19 (see Figure 50 and 51). The primary ages of those affected by gonorrhea, across both genders are ages 15-34.

A urine sample can be used to screen for both gonorrhea and chlamydia. This less-invasive testing process is more appealing to patients and may encourage sexually-active individuals to seek testing. When patients are participating in rectal or oral intercourse, however, some STDs may be missed if exclusively using the conventional urine test. Medical providers are encouraged to include rectal/oral swabs in STD screenings for patients that engage in rectal and/or oral intercourse. Another testing option would be self-collected specimens. Studies have shown that self-collected rectal/oral specimens had test results that were of equal or better accuracy than those collected by clinical providers.

Davis County Health Department partners with Midtown Community Health Center-Davis (MTCHC) to help provide STD testing and education to high risk patients and their partners. In 2019, rectal and oral testing were added through this partnership. Two options are available to the community through MTCHC. First, the Low-Cost Screening Clinic provides a walk-in clinic where individuals can have access to STD screening. These individuals are provided with educational materials and offers testing for STDs. Results, further investigation and medications are provided by the health department. The second option is the Provider Exam STD Testing, which allows individuals who are symptomatic to receive services through MTCHC. Individuals can see a medical provider, obtain a physical examination, be tested for STDs and be treated if positive.

Figure 50. Gonorrhea by Age and Gender, Davis County, 2019

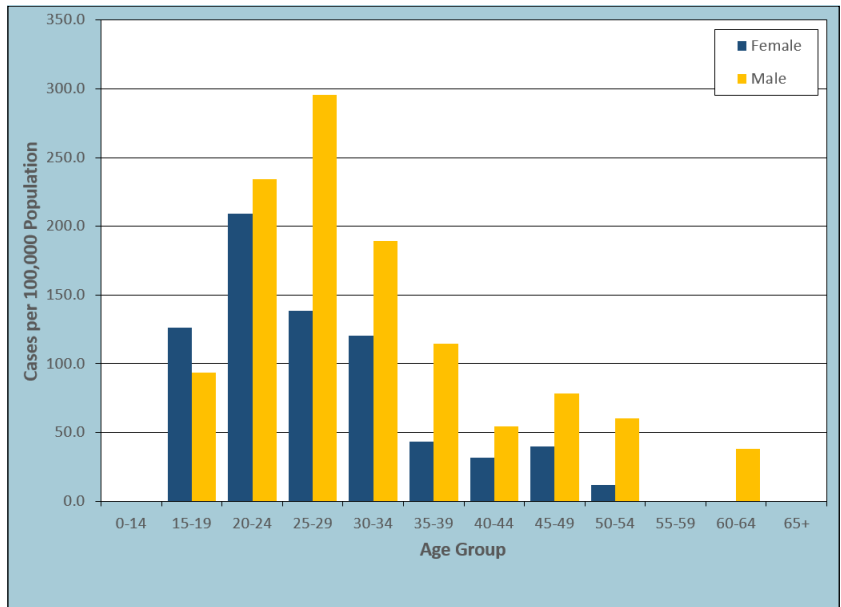
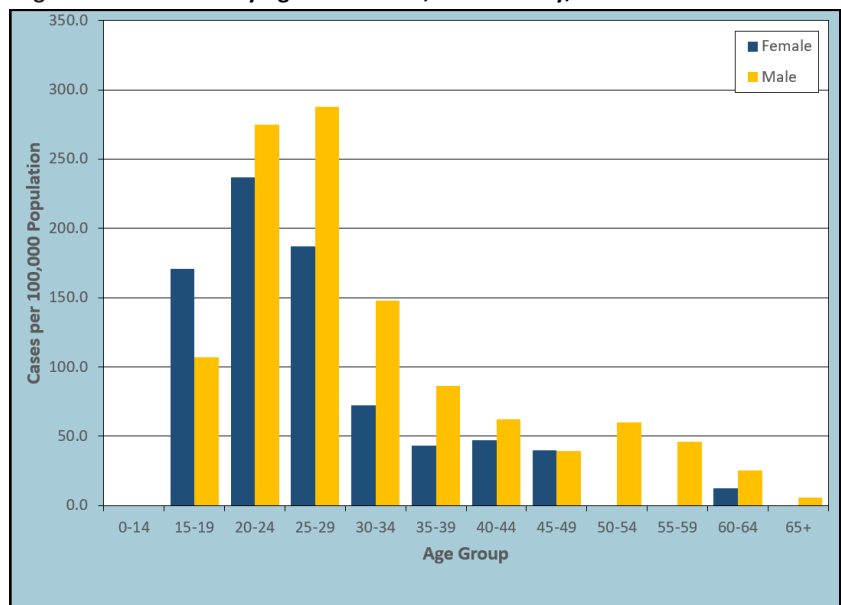



Figure 51. Gonorrhea by Age and Gender, Davis County, 2020




Unique factors place youth at risk for STIs




Insufficient Screening
Many young women don't receive the chlamydia screening CDC recommends




Confidentiality Concerns
Many are reluctant to disclose risk behaviors to doctors



Biology
Young women's bodies are biologically more susceptible to STIs



Lack of Access to Healthcare
Youth often lack insurance or transportation needed to access prevention services



Multiple Sex Partners
Many young people have multiple partners, which increases STI risk

Overview

A total of **42** cases of syphilis were reported during 2019 in Davis County.

A total of **24** cases of syphilis were reported during 2020 in Davis County.

Over the years, syphilis has continued to increase among men who have sex with men.

Syphilis is a sexually-transmitted disease caused by the bacterial spirochete *Treponema pallidum*. Syphilis in adults are classified in stages: *primary*, *secondary*, *early latent*, and *late latent* syphilis. Syphilis is usually transmitted from person-to-person by direct contact with a syphilitic sore, known as a chancre, during sexual contact. Pregnant women with the disease can transmit it to their unborn child. Transmission to an unborn fetus causes congenital syphilis and can result in miscarriages, stillbirths, and death.

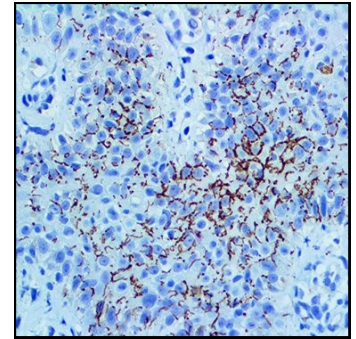
Syphilis has been called “The Great Pretender” as its symptoms can mimic many other diseases. The painless sore that appears initially when a person is first infected can be confused as a pimple or other seemingly harmless lesion.

However, many of these syphilitic sores develop in the rectum or vagina and are not noticed. Thus, most transmission is from persons who are unaware of their infection. Over the past several years, syphilis has continued to increase among men who have sex with men (MSM). Recent national outbreaks among MSM have been marked by high rates of coinfection with human immunodeficiency virus (HIV) and high-risk sexual behaviors.

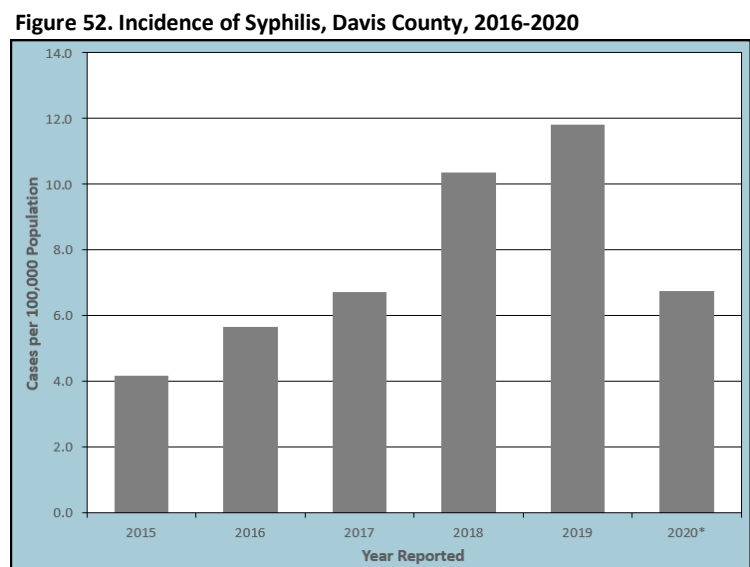
During 2019, there were **42** cases of syphilis reported in Davis County (see Figure 52). This is a 16.7% increase compared to 2018 when 36 cases were reported. In 2020, there were **24** cases of syphilis reported in Davis County. This is a 42.9% decrease compared to 2019. National and state rates for 2015 were unavailable.

Through disease investigations, it was noted that half of those infected with any stage of syphilis were men who have sex with men (MSM). Other identified risk factors include unprotected anal sex, injection drug use (IDU), multiple sex partners, anonymous sex with individuals of unknown STD/HIV status, and substance abuse. Only a few individuals that were diagnosed experienced symptoms.

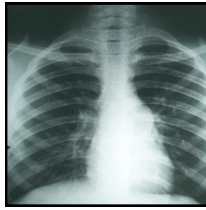
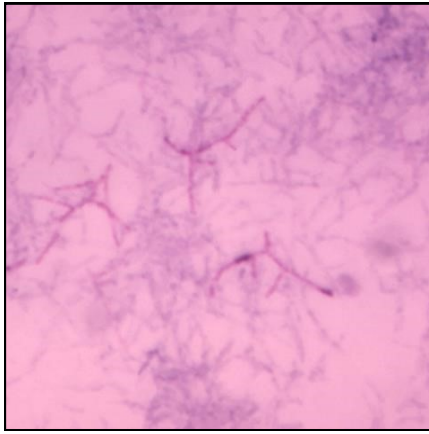
The staging of syphilis is difficult and requires obtaining a thorough history (including past test results), risk factors, previous treatment regimens, and evaluation of symptoms. Partners’ disease status also helps in the staging process.



Syphilis is an STD that can cause long-term complications if not treated correctly. Symptoms in adults are divided into stages: *primary*, *secondary*, *early latent*, and *late latent* syphilis.



*Utah and United States 2020 data is provisional.



Tuberculosis

Tuberculosis (TB) is a disease caused by bacteria that are spread from person to person through the air. TB usually affects the lungs, but can also affect other parts of the body, such as the brain, kidneys, or spine.

Tuberculosis (TB) is caused by a type of bacteria called *Mycobacterium tuberculosis*. The bacteria usually attacks the lungs, but may attack any part of the body. It is typically spread through the air when a person with TB expels tiny, airborne particles. People nearby may breathe in these particles and become infected. Not everyone infected with TB bacteria becomes sick. As a result, two TB conditions exist: active TB disease and latent TB infection.

Approximately one-third of the world’s population and 9 to 14 million people in the United States are infected with TB. On average, 10% of infected individuals will develop active tuberculosis at some point in their lives.

By the early 1980s, TB was considered to be under control and many states redirected TB prevention and control funds to other programs. As a result, the country experienced a resurgence of TB, with a 20% increase in cases reported between 1985 and 1992. Since then, the number of TB cases reported annually has decreased. With the introduction of HIV, TB rates remain a constant threat as it is a leading cause of death among those infected with HIV. Also, a new virulent strain of TB, extensively drug-resistant tuberculosis (XDR-TB), has been identified. This strain is resistant to many drugs used to treat tuberculosis and has a high mortality rate.

In 2019, there were **three** new active tuberculosis disease cases and **six** in 2020 (see Figure 53). In 2019, there were **91** latent tuberculosis infections and **51** in 2020 (see Figure 54).

Figure 53. Active Tuberculosis Cases by Year, Davis County, 2004-2020

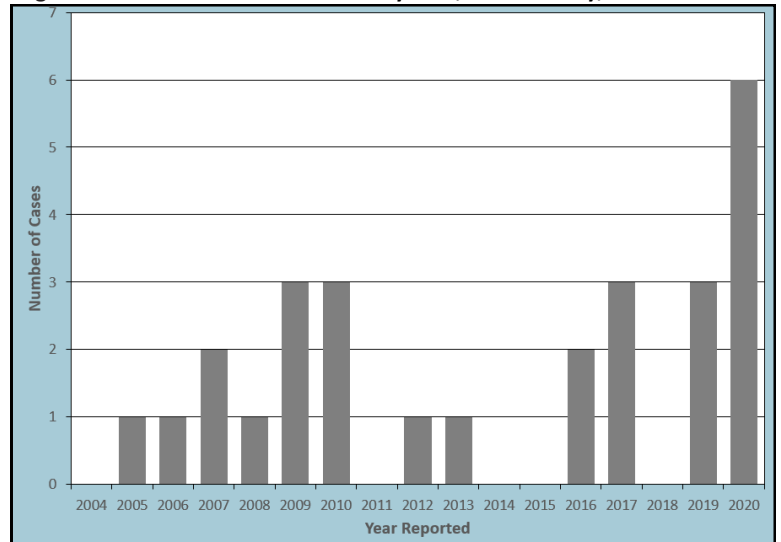
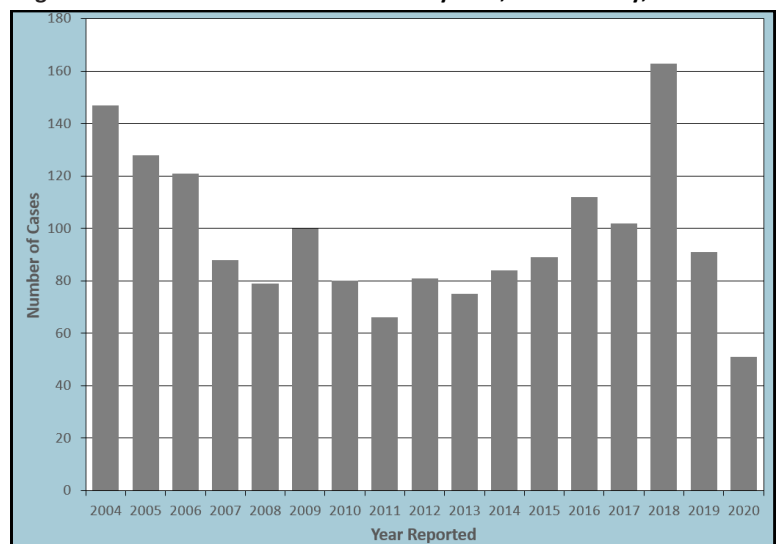


Figure 54. Latent Tuberculosis Infections by Year, Davis County, 2004-2020



Overview

Three new cases of active tuberculosis were reported in Davis County in 2019.

Six new cases of active tuberculosis were reported in Davis County in 2020.

In the United States, tuberculosis is primarily seen in individuals who are foreign-born or traveled/lived in endemic countries.

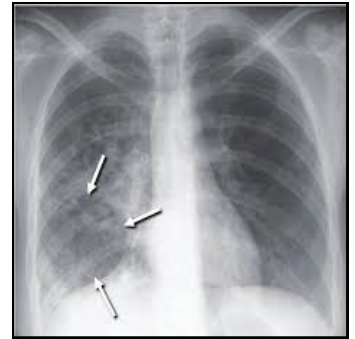
TB bacteria become active if the immune system cannot stop them from growing. When TB bacteria begin to multiply in the body, it is called active tuberculosis disease (ATBD). When ATBD manifests in the lungs, it is known as pulmonary TB. Whereas, when it manifests in other parts of the body, it is classified as extra-pulmonary TB.

In 2020, 10 million people worldwide became sick with ATBD resulting in approximately 1.5 million TB-related deaths. In the United States, there were 7,174 TB cases in 2020 (2.2 cases per 100,000 persons). This represents a 19.6% decrease compared to cases reported in 2019. This is the lowest case count on record in the United States. In the United States, tuberculosis is primarily seen in individuals who are foreign-born or have traveled/lived in endemic countries (see Figure 55).

Utah had **27** confirmed cases (0.8 cases per 100,000 persons) reported in 2019 and **29** confirmed cases (0.9 cases per 100,000 persons) reported in 2020. Davis County had **three** new cases of active tuberculosis identified in 2019 and **six** new cases in 2020.

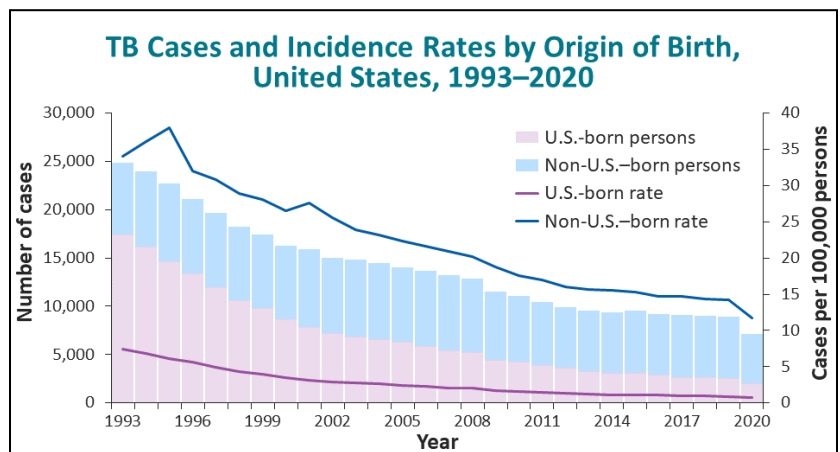
Management of active tuberculosis cases requires close collaboration between several agencies including local health departments, medical providers, the Utah Department of Health, the Utah Public Health Laboratory, and a commitment from the infected individual. Both pulmonary and extra-pulmonary TB typically require six months of treatment. Complicated cases of tuberculosis can require treatment to be extended up to two years (e.g. meningeal, multi-drug resistant/extensively-drug resistant (MDR/XDR)).

Patients with infectious pulmonary tuberculosis, which is of most concern for public health, are isolated until sputum sample tests indicate the individual is no longer infectious. To ensure compliance to treatment, medication is administered under Directly Observed Therapy (DOT). Because DOT can seem personally invasive to the patient, strategies to promote a less intrusive and more flexible schedule are implemented whenever possible. These include bi-weekly/tri-weekly treatments, home visits, and video-conferencing.



TB is a disease caused by *Mycobacterium tuberculosis*. This bacteria usually attack the lungs, but can attack any part of the body, such as the kidney, spine, and brain.

Figure 55. Percentage of TB Cases Among Foreign-born Persons, United States, 1993-2020



Latent Tuberculosis Infection

Latent tuberculosis infection (LTBI) is a condition in which tuberculosis bacteria are alive, but inactive in the body. People with LTBI have no symptoms, cannot spread TB to others, and usually have a positive skin test reaction or interferon gamma-release assay (IGRA) blood test. Development into active disease occurs in about 10% of those who do not receive treatment for LTBI.

Approximately 200 clients are referred to Davis County Health Department (DCHD) annually for tuberculosis evaluation. These evaluations can include interviews, repeat skin testing or blood screening tests, chest x-rays, sputum testing, and physical exams in order to provide an accurate diagnosis.

With the low incidence of active tuberculosis disease in Davis County and Utah as a whole, the largest disease burden for tuberculosis falls under LTBI. During 2019, Davis County managed **91** clients with LTBI, with an average of **eight** LTBI patients per month. During 2020, Davis County managed **51** clients with LTBI, with an average of **four** LTBI patients per month. Treatment reduces the risk that latent TB will progress to active disease and is essential to the control and elimination of tuberculosis disease. Case management includes initial testing to rule out active disease and ensuring appropriate treatment of the infection. The majority of individuals who receive LTBI treatment in Davis County are foreign-born (see Figure 56).

Typically, treatment for LTBI consists of daily antibiotic therapy for three to nine months. Individuals are monitored throughout therapy, but DOT is not necessary. In October 2012, use of a new LTBI treatment recommended by CDC was implemented in Utah. This new regimen is a combination of two drugs, taken once weekly for 12 doses. It is recommended for persons age two or older who are otherwise healthy, but also meet a certain set of criteria.



Persons with LTBI do not feel sick and do not have any symptoms. They are infected with *M. tuberculosis*, but do not have TB disease.

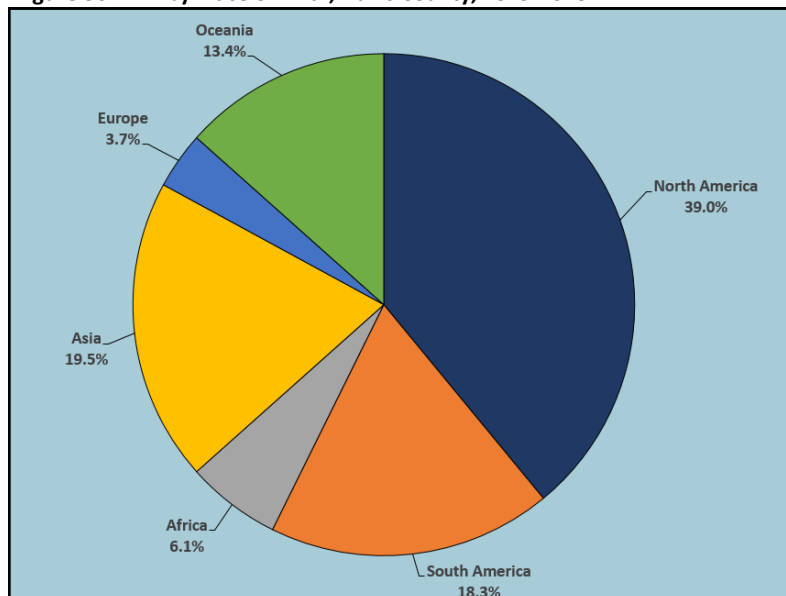
Overview

During 2019, Davis County managed 91 patients with LTBI.

During 2020, Davis County managed 51 patients with LTBI.

DCHD provided 1,097 tuberculin skin tests to the public in 2019 and 844 in 2020.

Figure 56. LTBI by Place of Birth, Davis County, 2019-2020



Davis County receives referrals for suspect active and latent tuberculosis from various medical facilities and providers. Screening tests consist of a tuberculin skin test (TST) or blood test (e.g. Quantiferon-Gold). Those with positive test results are often referred to the health department for evaluation and treatment. LTBI is not a reportable condition, but free or low-cost services are available for the community.

Davis County managed LTBI patients of almost all ages (see Figure 57). In 2019, the age group with the highest case rate was 20-24 year old. In 2020, the age group with the highest case rate was 45-49 year old.

DCHD provided **1,097** tuberculin skin tests to the public in 2019 and **844** in 2020. However, these numbers only account for a small percentage of all TB tests performed in the community. Most often, those who sought TB testing through DCHD did so for a job or school requirement (87.0%). Other reasons included pre- and post-mission requirements (5.8%), TB exposure (3.2%), personal choice (1.9%) volunteer (1.6%), refugee or immigrant requirements (0.3%), immunocompromised (0.1%) and person experiencing homelessness (0.1%) (see Figure 58).

Figure 57. LTBI by Age Group, Davis County, 2019-2020

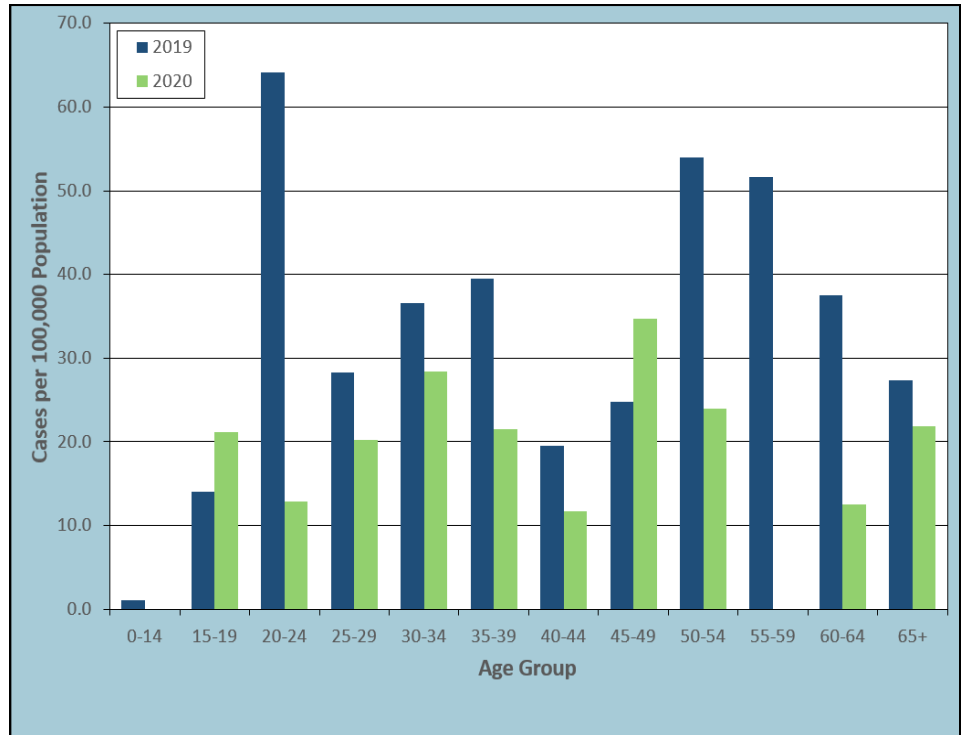
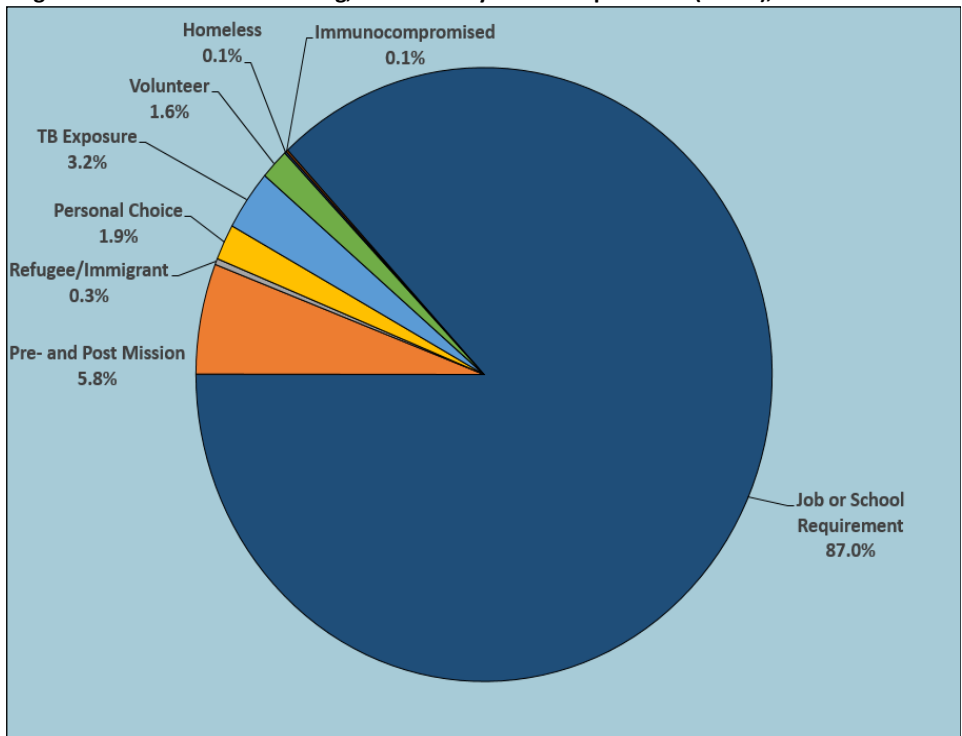
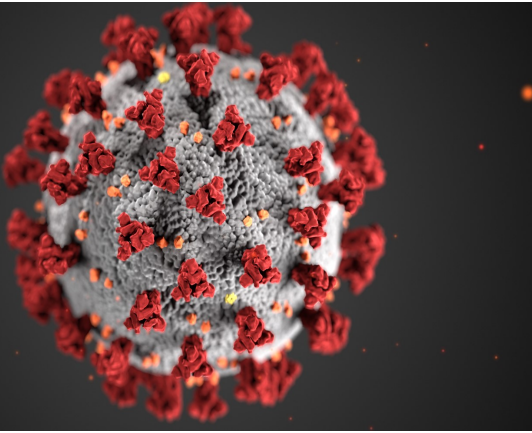


Figure 58. Reasons for TB Testing, Davis County Health Department (DCHD), 2019-2020





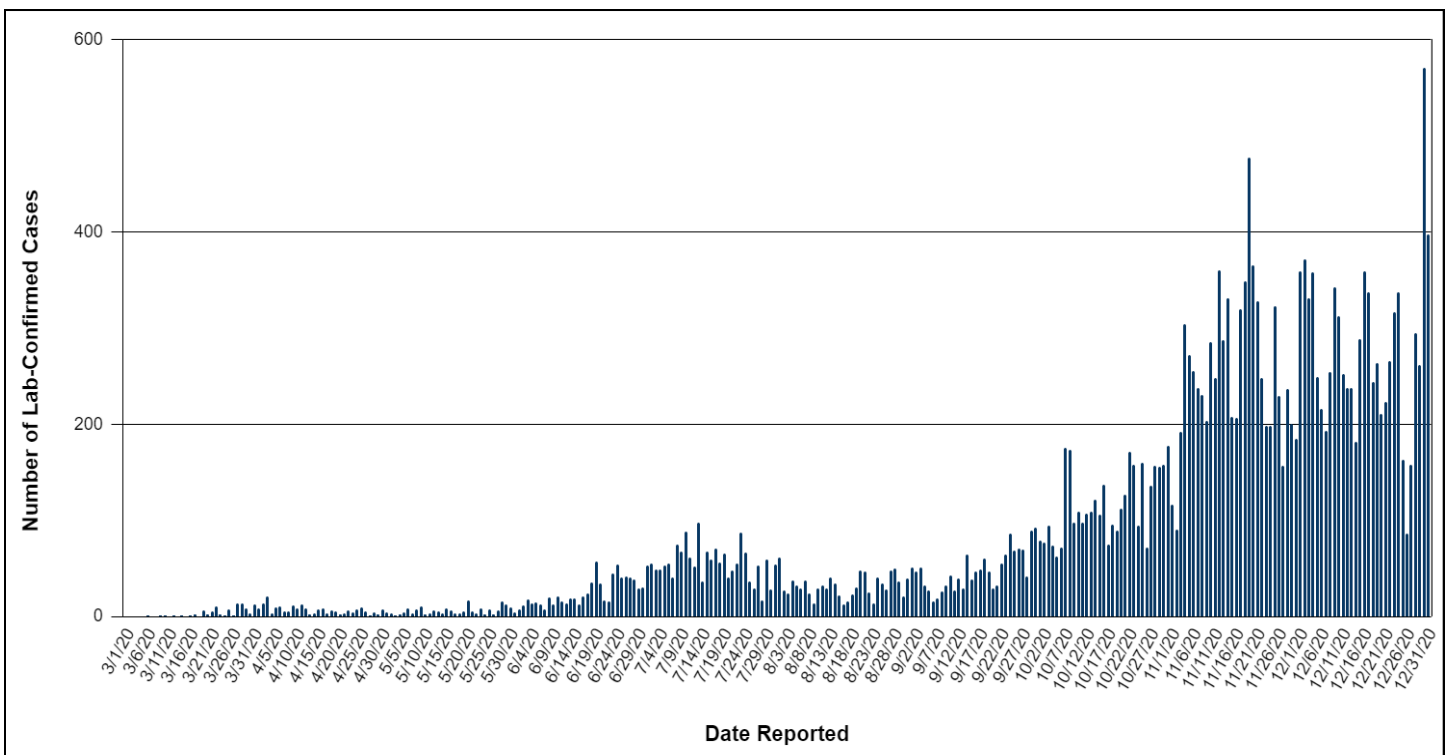
Novel Coronavirus

Severe acute respiratory syndrome coronavirus (COVID-19) is transmitted through droplets from person-to-person.

Novel Coronavirus is caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2), and is commonly known as COVID-19. Transmission of COVID-19 occurs through droplets spread from person-to-person. Droplets can enter through the eyes, mouth, or nose, usually from a cough or sneeze. Touching the eyes, nose, or mouth with hands contaminated with the virus may also cause infection. Symptoms of COVID-19 include fever or chills, new loss of smell or taste, cough, fatigue, muscle or body aches, headache, sore throat, congestion, difficulty breathing, chest pain, nausea or vomiting, and diarrhea. COVID-19 is extremely contagious, which has allowed it to spread quickly.

The virus was first identified in Wuhan, China in **December 2019**. The United States detected its first case on **January 21, 2020**, in Washington state. The first COVID-19 case in Utah was identified on **March 6, 2020**, in a Davis County resident. Shortly thereafter, COVID-19 was declared a worldwide pandemic by the World Health Organization on **March 11, 2020**.

Figure 59. Number of Lab-Confirmed COVID-19 Cases, Davis County, 2020





The following dates demonstrate a timeline of key events during 2020 in order to combat COVID-19. On **March 12, 2020**, schools were dismissed in Utah, however, classes were still held online. On **March 13, 2020**, President Donald Trump declared the COVID-19 pandemic a national emergency. This declaration allowed state governments to receive federal funding in order to combat COVID-19.

On **March 16, 2020**, Utah Department of Health issued a public health emergency. This began the closure of many businesses and services provided to the public. In the state of Utah, residents were encouraged to stay home as much as possible. If residents needed to leave their home, it was recommended to practice social distancing.

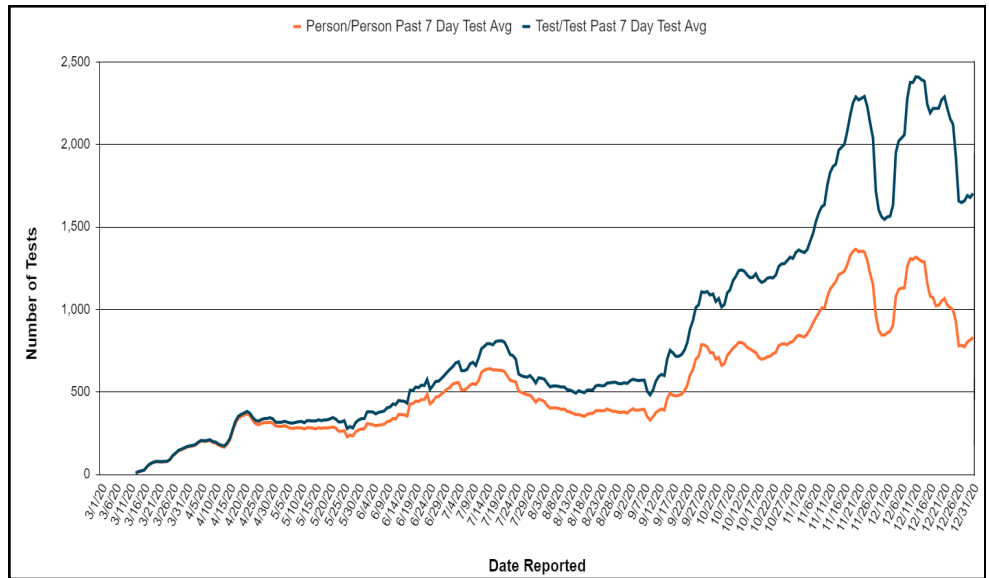
March 27, 2020, Governor Gary Herbert issues the “Stay Safe, Stay Home” directive, asking businesses to follow public health orders, residents to stay home when possible, and individuals to wear masks in public. The goal of this directive was to flatten the curve in order to not overload hospitals and the healthcare system.

“Utah Leads Together” was implemented on **May 24, 2020**, as a plan to reduce the spread of COVID-19 by following public health guidance while also trying to engage the economy safely. This plan also provided assistance to individuals and businesses in greatest need. This initiative introduced the color coded system to determine the level of restrictions for each county. Proxy growth rate, hospitalization utilization, monitoring and detection, exposure source, economic indicators, and social indicators were metrics used to determine each county’s level of restriction.

In **October of 2020**, Utah put into place the COVID-19 transmission index. The level of transmission by county corresponded directly with case rates, positivity rates, as well as ICU utilization.



Figure 60. Testing for COVID-19, Davis County, 2020

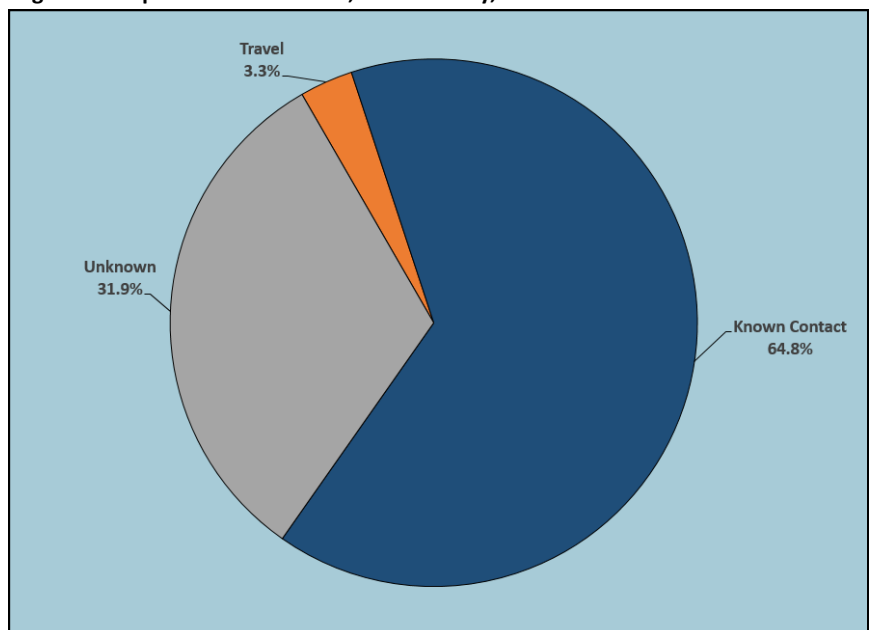


In order to combat the COVID-19 pandemic and encourage data-driven decisions, Davis County Health Department developed procedures to gather information and data for each case involving a Davis County resident. During 2020, the majority of the information was gathered through disease investigations and working with Davis County healthcare facilities. Funding was granted to Davis County Health Department through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) to receive the necessary resources, including additional staffing, to combat COVID-19. Davis County Health Department continues to keep track of positive case counts, trends over time, testing, suspected source of exposure, hospitalizations, deaths, and several other metrics.

Testing is crucial to help identify positive cases and prevent the spread of COVID-19. Testing is available throughout Davis County using PCR and antigen tests. In order to calculate the number of positive tests, Davis County Health Department used two methods. The first method is called the *test/test* method. This is calculated by taking the total number of positive tests over the number of all tests conducted within a single day. The second method is the *person/person* method, which is calculated by taking the number of people who tested positive over the number of people tested. For the *person/person* method, one test result is counted per person every 90 days. All COVID-19 cases in Davis County were lab-confirmed with a PCR or antigen test and reported to Davis County Health Department (see Figure 60).

At the beginning of the COVID-19 outbreak, a majority of Davis County cases were related to travel or a known contact to someone who had traveled. As the outbreak progressed, more positive COVID-19 individuals started having exposures from a known contact to a confirmed case or an unknown exposure. From June through the end of the year, the percentage of known, unknown, and travel-related exposures remained fairly consistent with the majority of cases having a known contact (64.8%), followed by no known exposure (31.9%), and the rest being travel-related (3.3%) (see Figure 61).

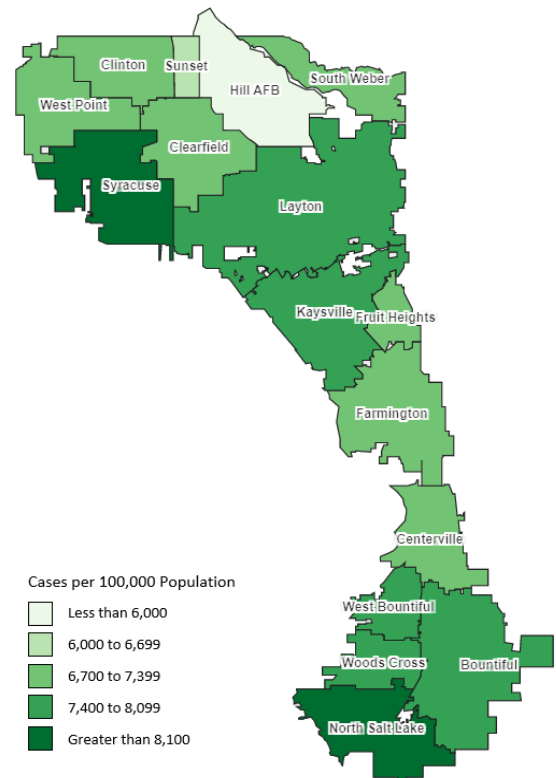
Figure 61. Exposures to COVID-19, Davis County, 2020



During 2020, COVID-19 outbreaks occurred in many different settings and were frequently identified. An outbreak is defined as two or more lab-confirmed cases associated with a setting outside of the household within 14 days, without another identified exposure. In Davis County, **305** outbreaks were identified with 2,781 associated cases during 2020. Outbreaks occurred in many different locations, but assisted living and long-term care facilities have been disproportionately affected by the COVID-19 pandemic with 32.5% of outbreak-associated cases being affiliated with these facilities. COVID-19 tends to spread quickly in congregate living settings and this population has higher severity, due to the residents being a high-risk population.

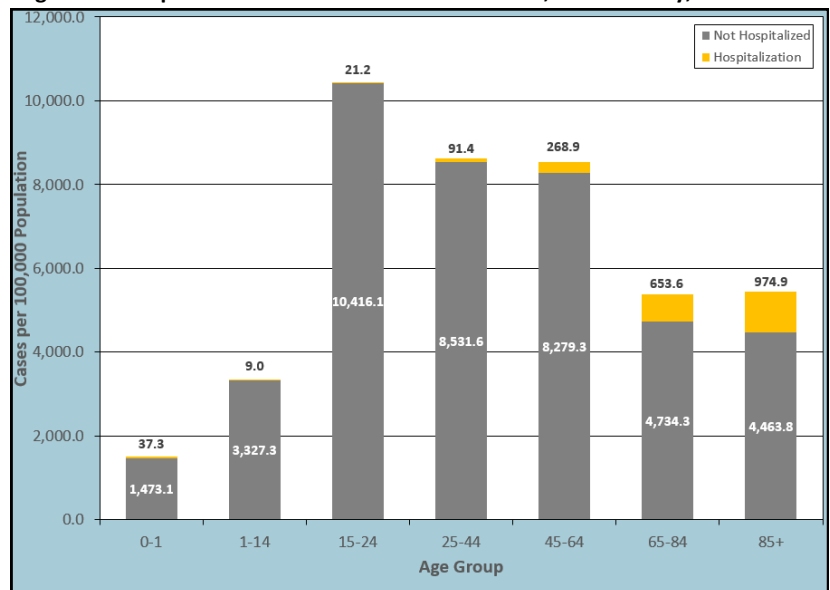
COVID-19 occurred among residents of every city throughout Davis County (see Figure 62). The cities with the highest incidence rates were North Salt Lake and Syracuse. The cities with the lowest incidence rates were Hill Air Force Base and Sunset. The incidence rate of COVID-19 in Davis County throughout 2020 was 7,116.3 cases per 100,000 population. Early in the pandemic, a majority of cases were in the southern end of Davis County. During the surge over the summer, the distribution of cases spread evenly throughout the county.

Figure 62. Incidence of COVID-19, Davis County, 2020



Severe cases of COVID-19 lead to hospitalizations and deaths. Davis County’s overall hospitalization rate for 2020 was 151.6 per 100,000 population. Individuals over the age of 45 had more severe infections and accounted for the majority of hospitalizations and deaths (see Figure 63). There were a total of **108** deaths due to complications with COVID-19 in 2020.

Figure 63. Hospitalizations associated with COVID-19, Davis County, 2020

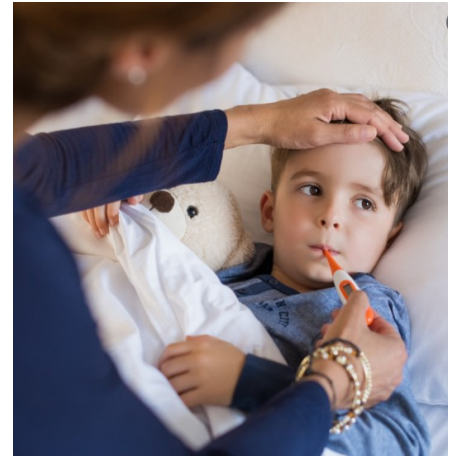


During 2020, a vaccine was developed to combat COVID-19. The first dose of the vaccine was administered in New York on December 14, 2020. The first administered vaccine in Utah was the following day. The vaccine was first administered to healthcare and other at-risk workers. Plans and procedures were developed in order to prepare

for vaccine administration to the general public in the months that followed. A two-dose series of the vaccine was required to be considered fully vaccinated. No one was considered fully vaccinated in 2020.

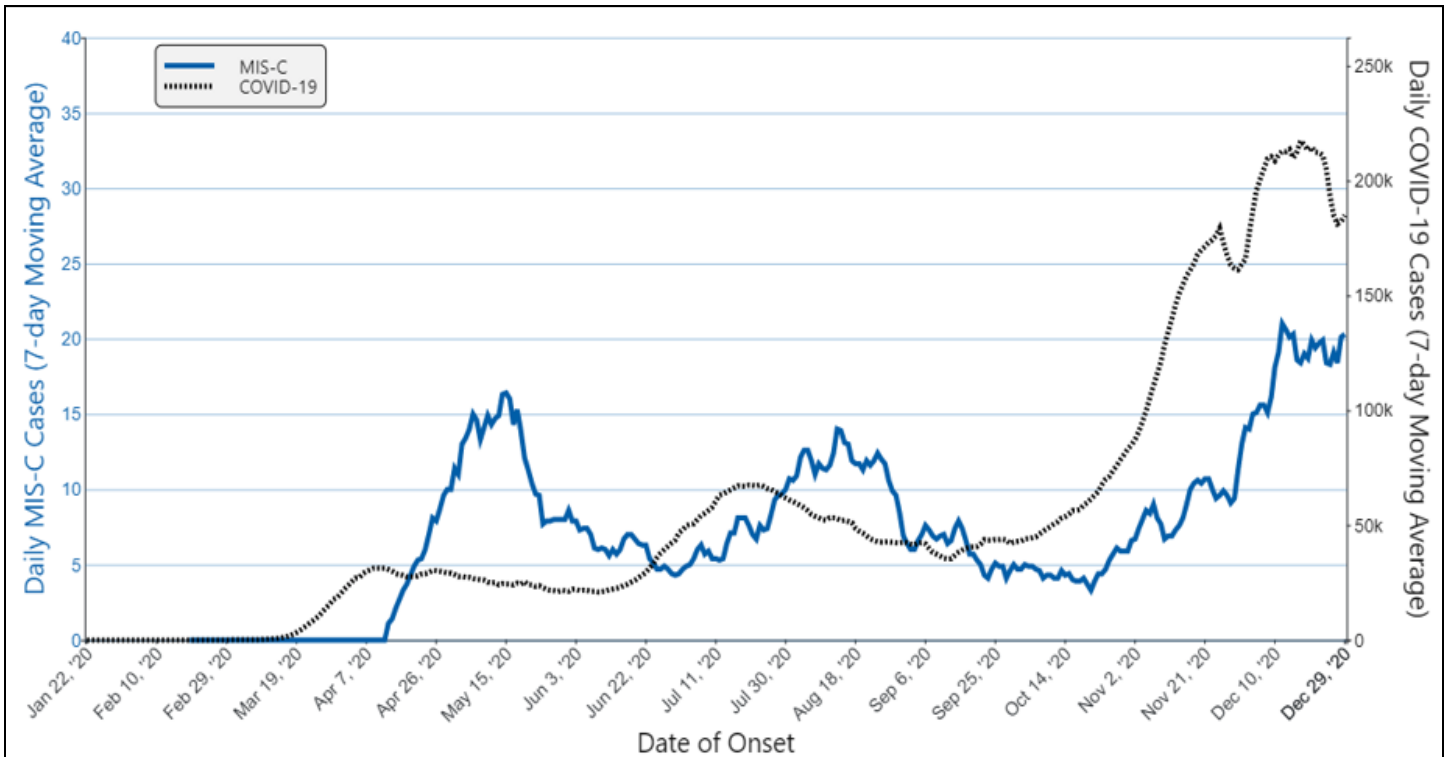
Multisystem Inflammatory Syndrome

On May 14, 2020, the CDC identified Multisystem Inflammatory Syndrome in children (MIS-C) associated with COVID-19. MIS-C is a condition that causes inflammation in the heart, lungs, kidneys, brain, skin, eyes, and/or gastrointestinal organs in individuals under the age of 21. It is still unknown as to why some children develop MIS-C and others will not. Children diagnosed with MIS-C were exposed to someone with COVID-19, or had the virus themselves, typically within four weeks of developing symptoms. The symptoms of MIS-C include stomach pain, bloodshot eyes, diarrhea, dizziness, skin rash, and vomiting. MIS-C is known to be serious, however, most children recover with proper medical care.



During 2020, Davis County had **three** cases of MIS-C, all of which required hospitalization for treatment. Cases of MIS-C throughout the United States were reported to the CDC (see Figure 64). On October 2, 2020, Multisystem Inflammatory Syndrome in adults (MIS-A) was identified. MIS-A is similar to MIS-C, as the symptoms are the same, just in individuals 21 years of age or older. MIS-A can be difficult to identify due to many cases not having the respiratory symptoms often associated with a COVID-19 infection. There were no known cases of MIS-A in Davis County during 2020.

Figure 64. MIS-C and COVID-19 Cases Reported to CDC, United States, 2020



Davis County Demographics—2019, 2020

Table 10. Davis County Population, by Age Group*

Age Group	Population
<1 year	5,363
1-14 years	88,540
15-24 years	51,814
25-44 years	102,830
45-64 years	70,296
65-84 years	32,740
85+ years	3,898
Total	355,481

Table 11. Davis County Population, by Gender*

Gender	Population
Male	179,556
Female	175,925
Total	355,481

Table 12. Davis County Population, by Race*

Race	Population
White	323,178
Black	4,376
American Indian or Alaskan Native	1,592
Asian	6,853
Native American or Pacific Islander	3,062
2 or More Races	10,776
Total	355,481

Table 13. Davis County Population, by Ethnicity*

Ethnicity	Population
Hispanic or Latino (of any race)	36,117

*Population estimates for 2020 are not yet available. These figures represent the estimates for 2019.

Source: Retrieved January 2019 from Utah Department of Health, Center for Health Data and Informatics, Indicator-Based Information System for Public Health. Available at: <https://ibis.health.utah.gov/>

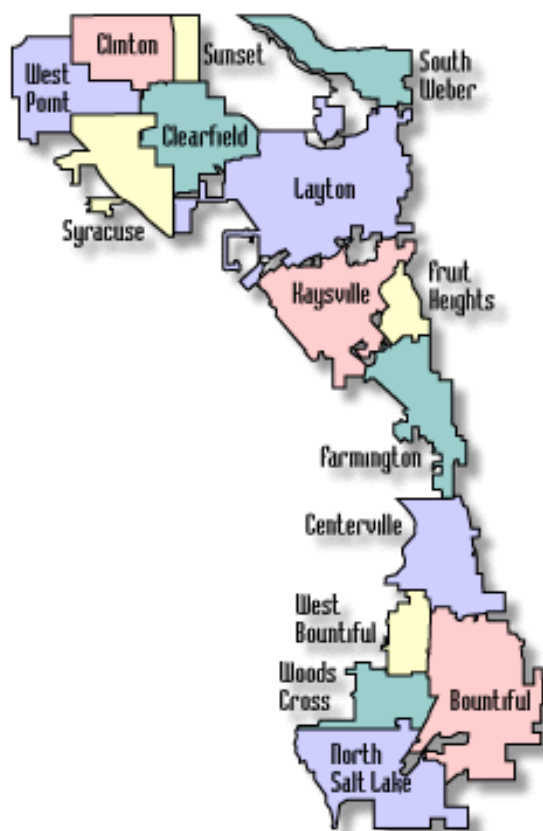


Table 14. Davis County Population, by City*

City	Population
Bountiful	43,981
Centerville	17,587
Clearfield	32,118
Clinton	22,499
Farmington	25,339
Fruit Heights	6,221
Hill Air Force Base	3,458
Kaysville	32,390
Layton	78,014
North Salt Lake	20,948
South Weber	7,836
Sunset	5,364
Syracuse	31,458
Unincorporated County	80
West Bountiful	5,800
West Point	10,957
Woods Cross	11,431
Total	355,481