

# Washington County Infectious Disease Report

A report of surveillance and services provided by Washington County Public Health



**2018** a year in review



**Public Health**  
Prevent. Promote. Protect.



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# Washington County Health and Human Services Statement on Structural Inequity

When reporting on health disparities, information and data may have the opposite effect that is hoped for, by perpetuating negative stereotypes or victim-blaming. In harmony with its vision of a healthy, equitable and supportive community, Washington County Health and Human Services is committed to dismantling structural inequality and uphold the following foundational statement:

“ Washington County Health and Human Services acknowledges that generations-long social, racial, economic and environmental inequities result in negative health outcomes. They affect communities differently and have a greater influence on health outcomes than individual choices or access to health care. Reducing health disparities through policies, practices and organizational systems will improve opportunities for all who live, work and play in Washington County, Oregon. ”

# Executive Summary

Washington County Public Health (WCPH) has a dedicated team of communicable disease nurses, community health workers, environmental health specialists, epidemiologists, a health officer, and other public health staff who work to detect, prevent and respond to diseases and outbreaks reportable under Oregon statute and rules. When discussing the communicable disease program at Washington County, services for communicable diseases, outbreak investigations, sexually transmitted infections, HIV, tuberculosis, access to care, and immunizations are included.

A strong disease prevention system includes partnering with community organizations to offer personal testing and treatment, focusing on social determinants of health and creating strategies for prevention and community engagement. Washington County endeavors to achieve its mission of improving and protecting the public's health through prevention and education by taking action at all levels of the communicable disease system.



## COMMUNICABLE DISEASE TEAM

The Communicable Disease Team assesses risk factors that may have made an individual ill, provides education about diseases and how to prevent spreading diseases to others, and determines who has been exposed to ensure proper testing and treatment for over 80 legally required reportable diseases. In 2018, the Communicable Disease Team investigated over 1,000 disease reports. In comparison to 2017, there were increases in fecal-oral diseases associated with several large outbreaks, sexual contact with an ill person, and contaminated food. There was also a rise in *legionella* cases with several different risks identified and some associated with travel.

Washington County does experience rare diseases that can have devastating consequences. One of these is Zika virus. Although there was a decrease in the number of Washington County residents with Zika in 2018, there continued to be congenital Zika cases. This means that a pregnant woman was infected with Zika from an infected mosquito or from sexual contact with an infected partner and passed the virus to an unborn child. Infected unborn children may have smaller heads (microcephaly) or other brain and physical abnormalities at birth. It is essential to investigate these rare diseases to better understand how many individuals in Washington County are affected, to define the risks associated with these diseases, and to prevent future individuals from becoming ill.

## OUTBREAK TEAM



In the course of disease investigation work, there are times when there are more cases of disease than expected in a specific place or group of people over a defined period. These would be considered outbreaks. When this happens, the County's Outbreak Team opens an investigation.

The purpose of an outbreak investigation is to identify what disease is making individuals ill, how the disease is being transmitted to others, and to prevent other people from becoming sick. The Outbreak Team investigates outbreaks that occur in long-term care facilities, schools, day care centers, restaurants and other community locations.

In 2018, Washington County investigated 34 outbreaks that sickened over 500 people. Half of the outbreaks investigated were in long-term care facilities; 15% occurred in day care facilities; and 12% were associated with private events at residential homes. Over 40% of outbreaks were caused by respiratory transmission, primarily the coughs and sneezes of a sick person; over a quarter were caused by direct contact with a sick individual; and 14% were caused by contaminated food.



## **SEXUALLY TRANSMITTED INFECTIONS AND HIV TEAM**

The Sexually Transmitted Infections (STIs) and HIV Team interviews individuals with gonorrhea, syphilis and human immunodeficiency virus (HIV) to provide education, assess risk factors that led to infection, ensure adequate care and follow-up services, and to identify exposed partners who need testing and follow-up. The team also reviews laboratory and health care provider reports for all chlamydia cases and reports all confirmed cases to the state. Exams, treatment or referral services are provided by the team to individuals at high risk for sexually transmitted infections, including HIV. Those who have tested positive for HIV or have been diagnosed with AIDS are linked with specialized health care and social services.

In 2018, chlamydia continued to be the most reported sexually transmitted infection, with over 2,400 new cases. Gonorrhea infections rose more than 200% from 2007 to 2018, with the greatest increase in infections affecting women. The rate of syphilis infections among women increased by more than 250% from 2012 to 2018, increasing the risk for congenital syphilis cases. Congenital syphilis can lead to miscarriages, stillbirths and complications such as blindness and deafness in infants. The number of newly diagnosed Washington County HIV infections increased in 2018 — the first increase since 2014. The number of people living with HIV continues to grow as the county population grows. Overall, the rate of newly diagnosed HIV infections has decreased by over half in the last 10 years. More men than women continue to be infected with HIV, with 95% of newly diagnosed HIV infections being in men. Latino men continue to be affected disproportionately higher than the general population.

Despite the Disease Intervention Specialists' (DIS) continued efforts, Washington County, like other counties in Oregon, continues to see rising rates of chlamydia, gonorrhea and syphilis. There are disparities in this data, meaning some populations are experiencing higher rates of infection and/or are being diagnosed later in the disease process. Due to harmful stereotypes and societal stigma about sexuality, it may be easy to look at the rates and attribute them to individual behavior. Culturally responsive sexuality education in schools, communication about sexual health with patients, and access to prevention tools and treatment are just a few ways WCPH can shift these disparities.



## **TUBERCULOSIS TEAM**

The Tuberculosis (TB) Team provides investigation, evaluation, treatment and case management for individuals with active TB disease and latent TB infection. While TB is often considered a disease of the past, it remains an important global challenge today. Active TB disease means an individual has symptoms of the bacterial disease and can spread the disease to others through tiny droplets released into the air via coughs and sneezes. Latent TB infection means an individual is infected with the bacterium and their immune system is controlling the infection; the person has no symptoms and cannot spread the disease to others but may develop active TB disease in the future. The TB Team ensures individuals receive the treatment and testing they need to prevent additional people from becoming infected and to stop the development of multidrug-resistant TB. Individuals with active TB disease are interviewed about all personal contacts, family and friends, and activities in public settings while they were ill, such as work, church and school, to identify everyone who needs testing and treatment.

People who are identified to have been in personal contact with the person diagnosed with TB are contacted by the TB Team. They are notified of a possible exposure, provided education, and offered or referred for testing. As with all WCPH's communicable disease work, including STI and TB, the identity of the person who has been diagnosed with the disease is maintained in strict confidence and not shared during an investigation.

In 2018, the TB Team managed the treatment of 18 individuals with active TB disease. Of these active cases, 165 contacts were identified; seven of these contacts developed active TB disease. Of the contacts identified, 32 (21%) were diagnosed with latent TB infection. Treatment for active TB disease lasts at least six months and sometimes a year or more. During this time, individuals may be restricted from work and public activities.



## **IMMUNIZATIONS TEAM**

The Immunizations Team oversees the annual immunization reporting process of schools and child care facilities required by Oregon Immunization School Law. Vaccines are required by law for children to attend public and private schools, preschools, child care facilities and Head Start programs. Nearly every place that provides care for a child outside the home requires documentation of vaccines. Parents also can provide documentation of a medical or non-medical exemption for all or some vaccinations to stay enrolled in schools or child care facilities.

To help facilities adequately document their students' immunization records, training and education is provided annually to over 500 schools and child care facilities. Washington County also works to support and expand the Vaccines for Children (VFC) Program within the county. The VFC program is a federally-funded program that provides vaccines at no cost to children who might not otherwise be vaccinated because of inability to pay. This program is offered through an established network of safety net clinics in Washington County.

The Washington County immunization rate is above the state average for fully vaccinated two-year-olds. The County's non-medical vaccine exemption rates for children are below Oregon's average rate. Children in child care facilities and in grades K-12 are most likely to have non-medical vaccine exemptions for hepatitis A, hepatitis B and chickenpox. Children in grades K-12 are most likely to have non-medical vaccine exemptions for hepatitis A, hepatitis B and measles.

By monitoring and evaluating immunization coverage for children, supporting and expanding access to immunizations through the VFC programs, and implementing community-based outreach, the Immunization Team is protecting the health of Washington County against vaccine-preventable diseases.



## **2019 PRIORITIES**

In 2019, in addition to daily efforts to control reportable diseases and outbreaks in the community, Washington County is tackling harm reduction programming and public health modernization efforts.

In alignment with national, state and regional efforts to combat opioid misuse and overdose and to control the spread of communicable diseases associated with drug use, Washington County is continuing to work with community partners and key stakeholders to develop comprehensive harm reduction services. Harm reduction is focused on connecting people who use drugs to services for communicable disease testing and treatment, substance abuse treatment and social services.

Regional public health modernization efforts to expand prevention work continue with a focus on creating a health equity plan, both internal and external facing, for communicable disease services. Locally, Washington County continues work started in 2017 to identify and treat latent TB infections to prevent active TB disease in the community.

# The Communicable Disease System as Population Health

A strong disease prevention system includes taking public health action at many levels — individual, organizational and population-wide. This means that Washington County Public Health (WCPH) partners with community organizations to offer personal testing, immunizations and treatment at the individual level; focuses on social determinants of health, such as improving access to needed community services, at the organizational level; and creates strategies for prevention and community engagement at the population level. Washington County endeavors to achieve its mission of improving and protecting the public’s health through prevention and education by acting at each level of the communicable disease system (see page 6).

Washington County’s Disease Control and Prevention (DCAP) and Research, Analytics, Informatics and Data (RAID) programs support population health by:

- Implementing population-level prevention activities, including outreach and community engagement.
- Collecting, analyzing and disseminating population-level disease and risk behavior information for surveillance activities and community health reports.
- Providing leadership and policy support to foster collaboration across partner organizations and ensure the community has a wide range of individual and population-level strategies.
- Maintaining primary prevention and response strategies at the personal level such as immunizations, disease investigation, risk behavior education, and outbreak mitigation to prevent the spread of diseases.

As you read through this report, you will see many examples of public health action at all levels of the system from each communicable disease team.

**Communicable Disease Team:** The Communicable Disease Team spans all areas of the communicable disease system: surveillance, outreach, interaction with the laboratory, disease detection, data analysis, and providing education to individual contacts.

**Outbreak Team:** This team uses laboratory reports and surveillance systems to find unusual occurrences of disease at the population level. This often involves laboratory testing, data analysis, and providing education to those affected by the outbreak.

**Sexually Transmitted Infections & HIV Team:** Members of this team provide education to those with STIs/HIV and their partners, facilitate access to care for those in need, and ensure proper treatment for these infections.

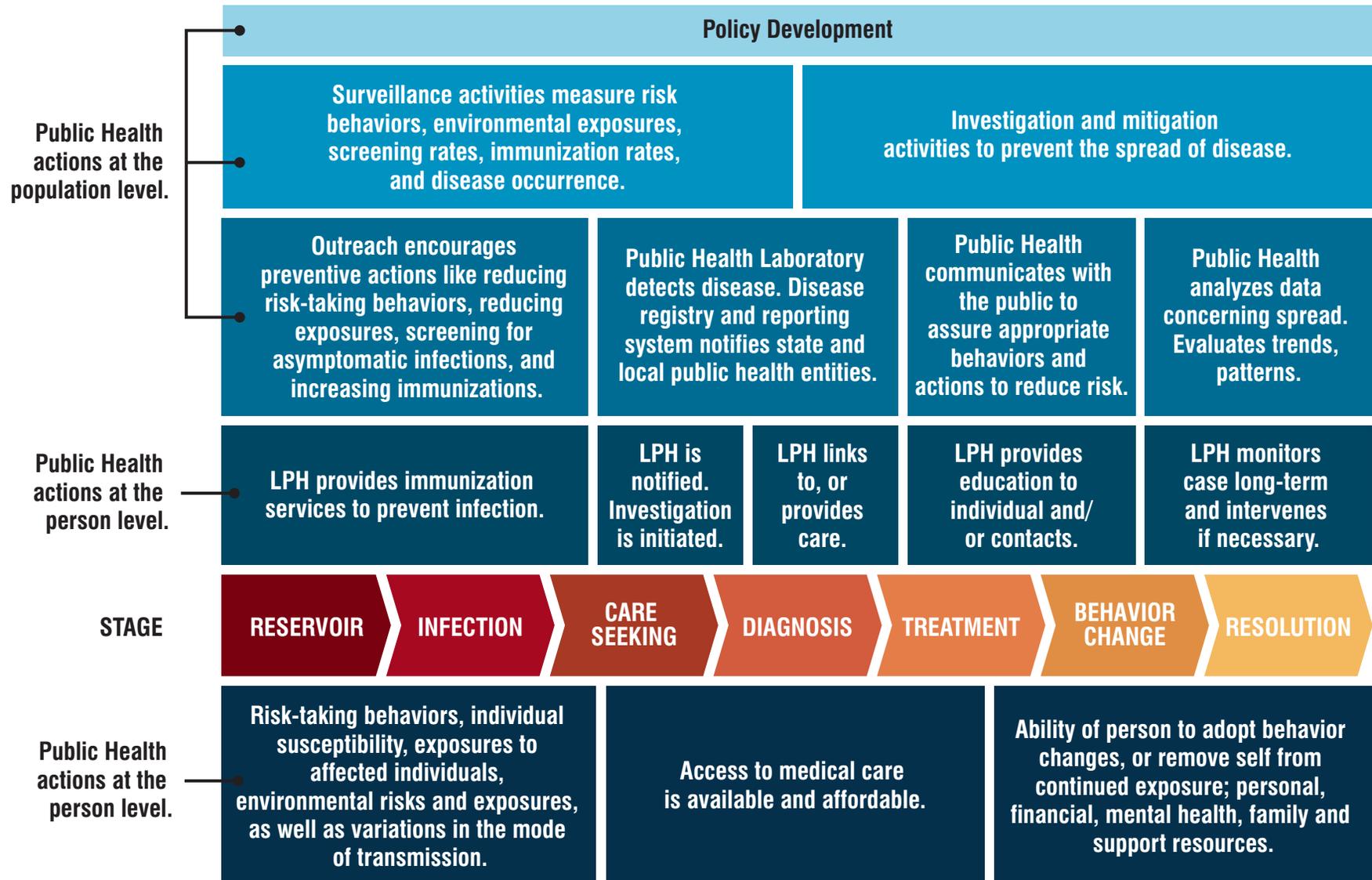
**Tuberculosis Team:** For Washington County residents with active tuberculosis disease, latent tuberculosis, and those who were exposed to a person with TB disease, this team provides care, education, and long-term monitoring for those needing treatment.

**Immunizations Team:** The Immunizations Team not only uses surveillance to monitor vaccination rates in the county, they also provide direct immunization services and connect those in need to care.

# The Communicable Disease System

Adapted from Anne Barna, Barry-Eaton District Health Department

LPH = local public health



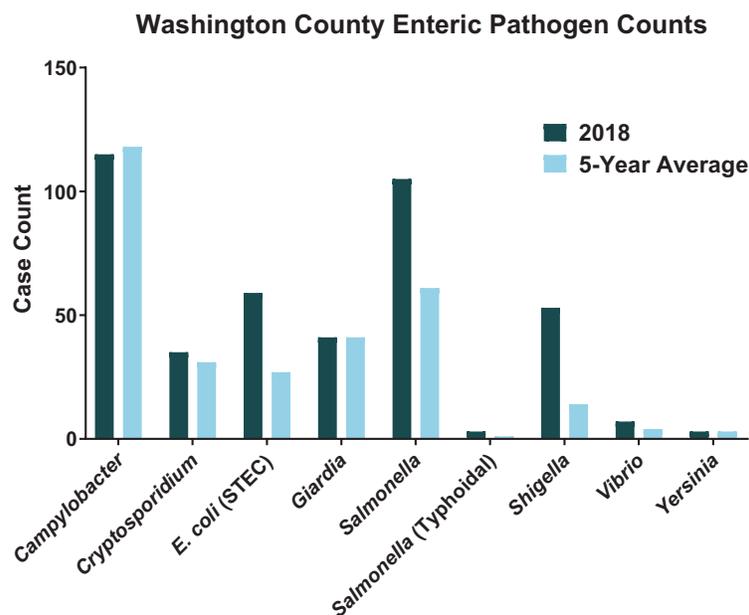
# Communicable Disease Team

The Communicable Disease Team receives daily reports from health care providers and laboratories, as well as calls directly from the public or through the Environmental Health Team. By Oregon law, physicians, other health care providers and laboratorians are required to report certain diseases and conditions to local health departments. Reporting helps prevent the spread of disease by allowing for appropriate public health patient follow-up, identifying potential outbreaks, and building an understanding of disease patterns and trends that affect Washington County.

If the information received meets public health investigation thresholds, the Communicable Disease Team initiates a case investigation. The goals of an investigation are to ensure proper testing and treatment, assess risk factors leading to the illness and provide education about the disease. Future illnesses are prevented by determining who has been exposed, who needs treatment, and if there is a source of infection that presents an ongoing risk of transmission to others. Prompt and complete reporting allows for crucial interventions to prevent others from becoming sick, such as vaccination of susceptible cases, and proper cleaning and disinfection.

Communicable disease data are routinely evaluated by epidemiologists to look for common exposures and increases in disease numbers to identify outbreaks and common sources that may be making Washington County residents ill. Case information gleaned from interviews or chart reviews is entered into the Oregon Health Authority's reporting system so that data can be shared with other state and national partners, including the Centers for Disease Control and Prevention (CDC), to inform national case counts, identify national outbreaks and determine novel sources of reportable infections.

In 2018, the Communicable Disease Team investigated over 1,000 disease reports. In comparison to 2017, there were increases in fecal-oral diseases associated with several large outbreaks, sexual contact with an ill person, and contaminated food. There was also a rise in *legionella* cases. Washington County *legionella* cases had a number of risks identified, some related to travel.



## Communicable Disease Case Counts, 2018\*

Diseases	2018 (Total: 1,083)	Previous 5-Year Average (Total: 1,061)
<b>Enterics:</b>		
<i>Campylobacter</i>	115	118
<i>Cryptosporidium</i>	35	31
Shiga toxin-producing <i>E. coli</i> (STEC)	59	27
<i>Giardia</i>	41	41
<i>Salmonella</i>	105	61
<i>Salmonella (Typhoidal)</i>	3	1
<i>Shigella</i>	53	14
<i>Vibrio</i>	7	4
<i>Yersinia</i>	3	3
<b>Hepatitis:</b>		
Hep B (chronic)	85	107
Hep C (acute)	3	1
Hep C (chronic)	436	494
<b>Vaccine-Preventable:</b>		
<i>H. influenzae</i> (only b preventable)	5	9
Mumps	3	3
Pertussis	24	46
<b>Vector-borne:</b>		
Lyme	5	2
Malaria	2	2
<b>MISC CD:</b>		
Coccidiomycosis	3	3
<i>Cryptococcus</i>	7	9
<i>Legionella</i>	11	6
NTM	7	5
CRE	12	9
Other MDRO	2	3

\*Diseases with 0 or 1 case counts in 2018 have been removed from the table to protect privacy. These diseases include: acute flaccid myelitis, botulism, chikungunya, Creutzfeldt-Jakob disease (CJD), dengue, enterotoxigenic *E. coli* (ETEC), hemolytic uremic syndrome (HUS), hepatitis A, hepatitis B (acute), hepatitis E, measles, *Listeria*, leishmaniasis, leptospirosis, meningitis, scombroid, taeniasis/cysticercosis and Zika virus.

Case counts pulled by onset date. Case counts include both confirmed and presumptive cases.

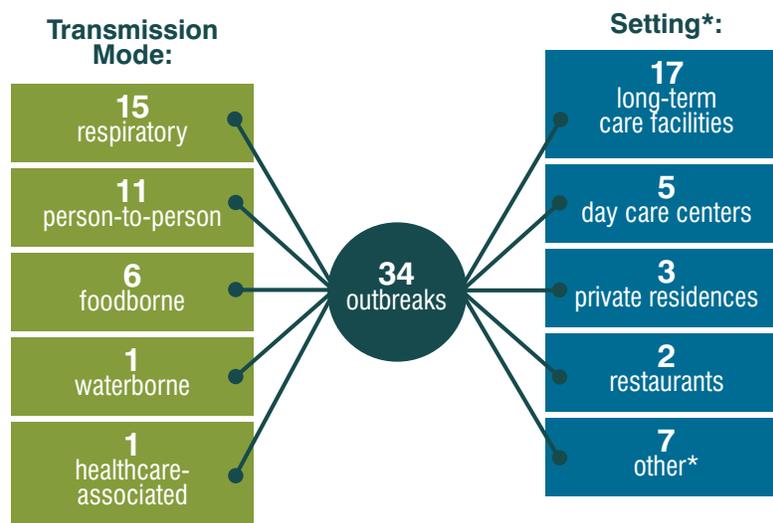
# **Outbreak Team**

Washington County’s Outbreak Team is a robust team that includes dedicated communicable disease nurses, environmental health specialists, epidemiologists, a health officer, and a veterinarian. This team investigates outbreaks that occur in long-term care facilities, schools, day care centers, restaurants and other community locations. For outbreaks that cross county or state boundaries, the team works closely with public health agencies in other jurisdictions to coordinate an outbreak response.

An outbreak is the occurrence of more cases of disease than expected in a specific place or group of people over a defined period. The purpose of an outbreak investigation is to identify what disease is making individuals ill, how the disease is being transmitted, and to prevent other people from becoming sick.

In 2018, the team investigated 34 outbreaks affecting over 500 people, down from 50 outbreaks in 2017. Transmission occurred through coughs and sneezes for 44% of outbreaks and by direct person-to-person contact with an ill individual for a quarter of the outbreaks. About 15% of the outbreaks were connected to a contaminated food item. One outbreak was related to recreational water exposure, and one was related to receiving care in a hospital setting.

**Reported outbreaks by transmission mode and setting, Washington County, 2018**

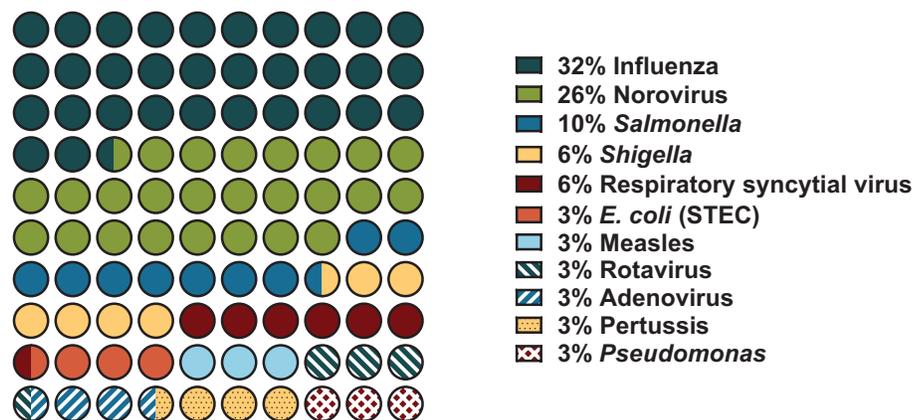


\*Other locations include: grocery stores, hospitals, prisons, schools or other public venues

Half of the outbreaks investigated were reported from long-term care facilities; 15% occurred in day care facilities; and 12% were associated with private events at residential homes. Of the nursing home outbreaks, over half were caused by influenza and about 30% were caused by norovirus. Additionally, Washington County’s Environmental Health program received 76 foodborne illness complaints, down from 118 complaints received in 2017, leading to the investigation of two restaurant-associated outbreaks and one outbreak investigation related to food served in a grocery store. The team also investigated a handful of outbreaks in retirement or independent living facilities, hospitals, schools, prisons and other public venues.

Of the outbreaks investigated, 31 (91%) were laboratory-confirmed, meaning a microbe was isolated in the laboratory. Of these confirmed outbreaks, over a third were caused by influenza (flu); over a quarter were caused by norovirus, an easily transmitted gastrointestinal virus; 10% were caused by *Salmonella* infections of numerous subtypes; and 6% were caused by *Shigella* infections of various subtypes. The team also investigated a measles outbreak associated with international travel and an *E. coli* O111 outbreak in a day care facility.

**Causitive Agent of Lab-Confirmed Outbreaks,  
Washington County, 2018 (N=31)**





## Outbreak Team in Action: Curbing an *E. coli* Outbreak in a Day Care

The investigation began when a second electronic laboratory report was received for a child who attended the same day care as a previously confirmed case. Both cases were under two years of age and were positive for Shiga-toxin producing *E. coli* (STEC), bacteria that cause abdominal cramping, diarrhea — often bloody — and vomiting, and can lead to a complication called hemolytic uremic syndrome (HUS). HUS is a serious condition caused by the toxins released by the bacteria which leads to blood vessel and organ damage. Anyone infected with STEC can develop HUS, but it is most common in children under five years of age due to their under-developed immune systems, tendency for hand-to-mouth activities (thumb sucking, mouthing objects, touching face) and poor hygienic practices.

Person-to-person spread is common in STEC outbreaks, especially among diapered children in day care settings, because it only takes a small dose of bacteria to make someone ill. Since small children are at higher risk for becoming severely ill, the team was concerned about the ongoing risk of infection for children in the day care. Washington County epidemiologists, an environmental health specialist and a communicable disease nurse were on-site at the facility the next morning to discuss excluding ill children and staff, increasing cleaning and disinfecting of the facility and to review policies, such as diapering, food preparation and sick policies. The primary focus was preventing other children from becoming ill.

Later that day, and for the next several weeks, Washington County epidemiologists interviewed parents and staff of the day care center to identify other ill individuals and possible risks for how the disease was spreading through the facility, to understand attendance and work schedules for the facility, and to explore how children interacted with each other in the facility. Washington County attended an all-staff training to ensure new policies were in place and answer staff questions. Along with partners from the Oregon Health Authority, environmental samples were taken at the facility to better understand how the disease was spreading to guide our infection control recommendations. A parent meeting was held, along with Oregon's Early Learning Office of Child Care, to address concerns and answer questions about the investigation.

Throughout the investigation, the team worked closely with the day care facility director and staff to create stronger policies, as well as to ensure proper disinfection, cleaning and repairs. Numerous site visits to the facility were conducted, often multiple times a week, to support the facility in implementing their infection control best practices. Washington County worked with parents to get ill children tested and to ensure children did not attend the facility while sick.

Overall, 16 children became ill from all classrooms in the facility, though most illnesses were in classrooms serving children two years of age and younger. All cases recovered from their illnesses and no children were hospitalized or developed HUS. No ill staff or family members were identified. Washington County's ability to quickly intervene and work with the facility kept the outbreak from continuing to spread and protected the health of many children.



## Zika Virus

Zika was relatively unknown until the last few years. It is primarily transmitted by a species of mosquito (*Aedes aegypti* and *Aedes albopictus*). Zika may also be transmitted from an infected pregnant woman to her fetus, through sexual contact with someone who has been infected, and through blood transfusions from infected donors. It was first discovered in 1947 with the first outbreak identified in 2007 on Yap Island (Federated States of Micronesia). In 2015, Brazil reported an increase in cases of congenital birth anomalies, such as abnormally small head size (microcephaly), related to Zika virus infections. This led the CDC to activate its Emergency Operations Center in 2016 and the World Health Organization to declare a public health emergency to respond to the Zika epidemic. Areas with known risk for transmission from endemic mosquitoes include countries in Africa, Asia, the Caribbean, Central America, North America, the Pacific Islands and South America.

Most individuals with Zika infections have mild illnesses that include a rash, fever, joint pain and/or conjunctivitis. Congenital Zika infections can lead to microcephaly, and Guillain-Barre Syndrome, a rare but serious autoimmune disorder, is a major complication associated with Zika infection. As former CDC director Dr. Tom Frieden explains, “Never before in history has there been a situation where a bite from a mosquito could result in such a devastating malformation” (Fortune Magazine, April 13, 2016). Zika infection during pregnancy is the first known vector-borne disease resulting in birth defects and has taken huge medical, social and economic impacts on a generation.

While the risk of acquiring Zika in Oregon is low, the danger of infection continues from travel and sexual exposures. Follow-up care and management for families affected by Zika are lifelong. Although there was a decrease in the number of Washington County residents with Zika infections in 2018, there continue to be congenital Zika cases with devastating outcomes.

Laboratory tests help diagnose and identify Zika virus but, as of today, there is no treatment or cure for the infection. Health care providers play a key role in educating men and women prior to conception and assessing risk during prenatal visits for possible exposure to Zika virus.

## Investigating Lead Poisoning

Lead is a poisonous metal that damages the brain, nervous system, kidneys and reproductive system of children and adults when consumed in high levels. Very high lead levels may cause seizures, unconsciousness and death. The greatest risk is to brain development, where irreversible damage can occur, causing difficulty learning, paying attention and behavioral disorders. At highest risk for developing long-term complications from lead poisoning are unborn babies and children under six years of age. Demographic risk factors for lead exposure include living in poverty or being born in another country.

Lead is absorbed into the body through mucus membranes. An individual can be exposed by touching their eyes with a lead containing product or by putting objects, such as lead-based painted toys, into the mouth. The most common exposure route is ingestion. Most children with lead poisoning do not look or act sick. The only way to know if a person has been exposed to abnormal levels of lead is to have their blood tested for lead.

Health care providers and laboratories report all children's tests showing high levels of lead to the Communicable Disease Team. Washington County provides support to families of these children by conducting an environmental assessment to determine the lead source and assisting families with treatment and educational resources.

In 2018, 48 lead poisoning cases were investigated in adults and children of Washington County. Children under six years old made up 38% of 2018 cases. Children under two years of age made up 23% of cases. There was a slight decrease in the number of children with blood lead poisoning in 2018 as compared to 2017. From 2017 to 2018, we saw a decrease in the blood lead levels reported of children tested under six years of age.

The most common cause of lead poisoning in children across the country is exposure to deteriorating lead-based paint and dust in homes due to home age or renovation. This source was identified for 8% of confirmed child cases in Washington County in the past five years. About 10% of investigated cases were attributed to a parental occupation or hobbies that the child was exposed to, such as construction, painting, auto repair, fishing or hunting. The remaining investigations found a probable source associated with items or products from another country.

Nearly 30% of investigations identified exposures to items while in other countries as the probable risk. A quarter of investigated child cases were attributed to a traditional medicine or imported cosmetic. Imported or traditional foods were identified in about 20% of child cases. Nearly 10% of investigations identified multiple sources of lead. Drinking water and soil were not identified as the source of any Washington County child lead cases.

In the last few years, Washington County has experienced an increase in lead poisoning cases attributed to cosmetics, time in a foreign country, use of home or folk remedies, and cooking or storing food in pottery containing lead. Here are the most common products from abroad known to contain lead:

- 1. Cosmetics and Religious Powders** – Kohl, kajal, surma and tiro are traditional eye cosmetics used for cultural, religious and medical purposes, often by women and children. They are imported from South Asia, the Middle East and Africa and may have high levels of lead. Sindoor, a red cosmetic powder used by children and adults for religious purposes in South Asia, may also contain high levels of lead.
- 2. Ceramics and Pottery** – High levels of lead have been found in the glazes and paints used to decorate traditional or handmade ceramics and pottery from Latin American and Asian countries.
- 3. Supplements and Health Remedies** – High levels of lead have been found in supplements and herbal medicines from the Middle East, Latin America and Asia.
- 4. Spices** – Lead may be added to spices at any point in the supply chain. Spices purchased directly from Georgia, Bangladesh, Pakistan, Nepal, Morocco and India can contain high levels of lead. Lead has been more commonly found in spices purchased abroad than those purchased in the U.S.
- 5. Jewelry, amulets, toys and other children's products** – A variety of painted, metal and plastic jewelry, amulets and toys imported into the U.S. have been found to contain lead.
- 6. Mexican candies** – Lead has been found in Mexican candies, such as tamarind pulp flavored with chili powder. It has also been found in the inks used in Mexican candy wrappers.
- 7. Chapulines** – Chapulines, or grasshoppers, are prepared in glazed clay pottery in Mexico and Central America that often contain lead. The pottery can contaminate the crickets during the cooking process.



# Sexually Transmitted Infections and HIV Team

The Sexually Transmitted Infections (STIs) and HIV Team interviews individuals with gonorrhea, syphilis and human immunodeficiency virus (HIV) to provide education, assess risk factors that led to infection, ensure adequate care and follow-up services, and identify exposed partners who need testing and treatment. The team also reviews laboratory and health care provider reports for all chlamydia cases and reports all confirmed cases to the state. Exams, treatment and referral services are provided directly by the STIs and HIV Team to individuals at high risk for sexually transmitted infections, including HIV. Those who have tested positive for HIV or diagnosed with AIDS are linked with specialized health care and social services.

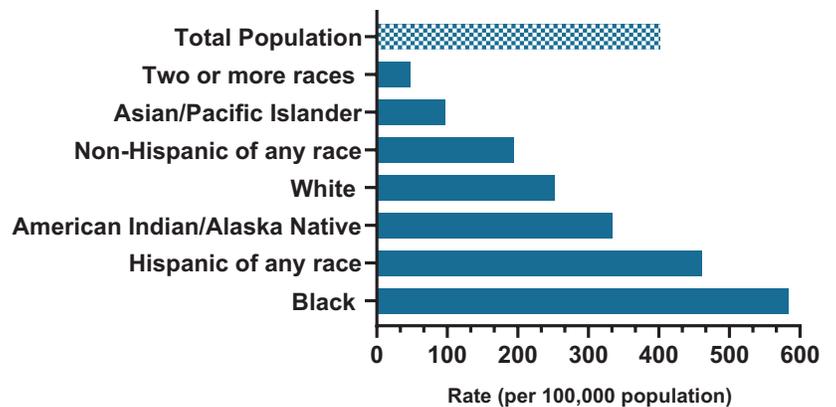
Washington County continues to see rising rates of chlamydia, gonorrhea and syphilis, and for the first time since 2014 saw an increase in the number of newly diagnosed HIV infections. Disparities exist in the rates of STIs among communities of color, particular age groups and between genders.

## Chlamydia

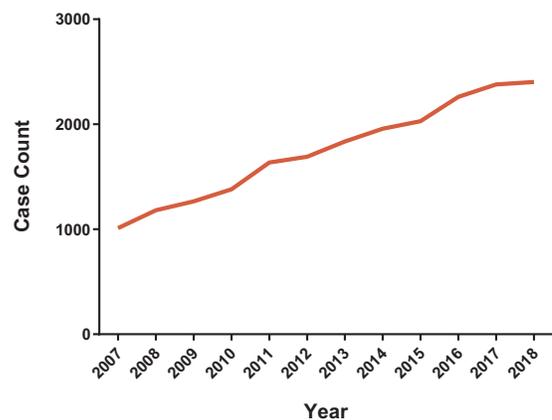
In 2018, chlamydia continued to be the highest reported STI in Washington County, reflecting state and national trends. By the end of the year, 2,402 new infections had been reported, with rates of infection in women almost double that in men. There are higher numbers of reported infections among women compared to men because the U.S. Preventive Services Task Force specifically recommends screening for chlamydia in sexually active women age 24 years and younger.

Chlamydia is an infection disproportionately seen in younger adults, with the highest rate seen in those 15 to 24 years old. Black and Hispanic Washington County residents experience disproportionately higher rates of chlamydia, compared to the average chlamydia rate for Washington County.

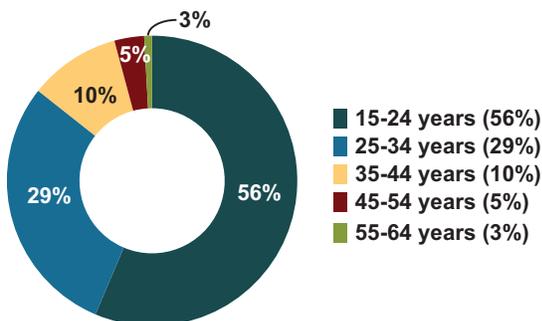
**Chlamydia Rates by Race and Ethnicity, Washington County, 2018**



**Chlamydia Trend in Washington County, 2007-2018**

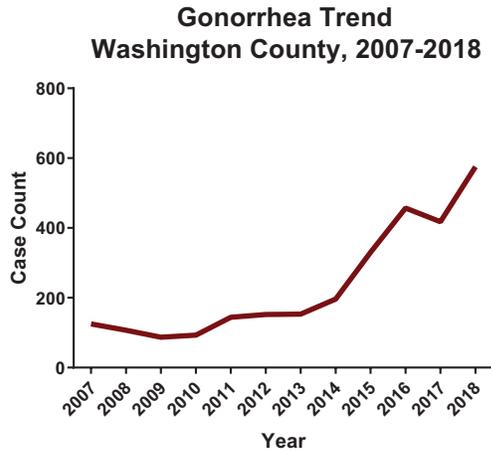


**Chlamydia Count by Age Washington County, 2018 (N=2,391)**

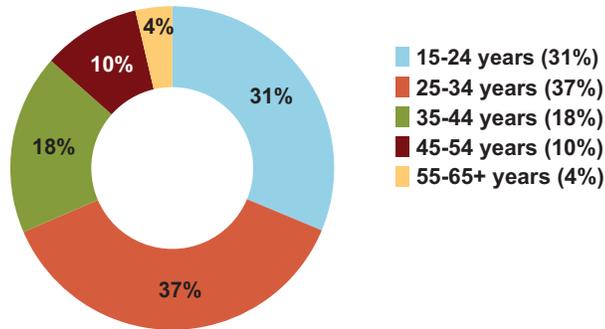


## Gonorrhea

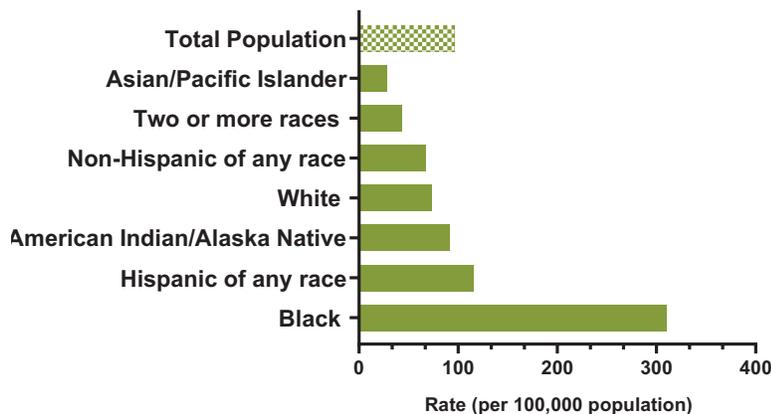
Over the last 10 years in Washington County, the number of reported gonorrhea infections has risen over 400%. In 2018, the rate of gonorrhea infections among men was double the rate among women. Persons 25 to 34 years of age had the highest rate of gonorrhea, though gonorrhea continues to heavily impact all sexually active adults. Communities of color and men who have sex with men (MSM) experience higher gonorrhea rates compared to the total county population.



**Gonorrhea Count by Age  
Washington County, 2018 (N=572)**



**Gonorrhea Rates by Race and Ethnicity,  
Washington County, 2018**



## Partner Services

Disease intervention specialists (DIS) are highly skilled staff who work to interrupt and prevent the spread of STIs in the community by providing partner services. Partner services include identification of recent sex partners who may have been exposed to an STI; providing education on disease risk and transmission; and ensuring access to medical care and other services as needed to help reduce further transmission and prevent adverse health effects of infection. Early linkage of partners to testing, medical care and needed prevention interventions aims to interrupt the spread of infections in the community.

Expedited Partner Therapy (EPT) is the treatment of sex partners who have tested positive for certain sexually transmitted diseases, such as chlamydia and gonorrhea, with prescriptions or medications. This treatment can be offered without requiring partners to be tested or seen by health care providers. EPT has been shown to be highly effective at reducing reinfection rates and is recommended for heterosexual partners of individuals with gonorrhea or chlamydia who are unlikely to seek or successfully obtain timely medical treatment. The Oregon Board of Pharmacy outlines key details for providers and pharmacists needing more information on prescribing EPT for their patients' sex partners.

## Early Syphilis

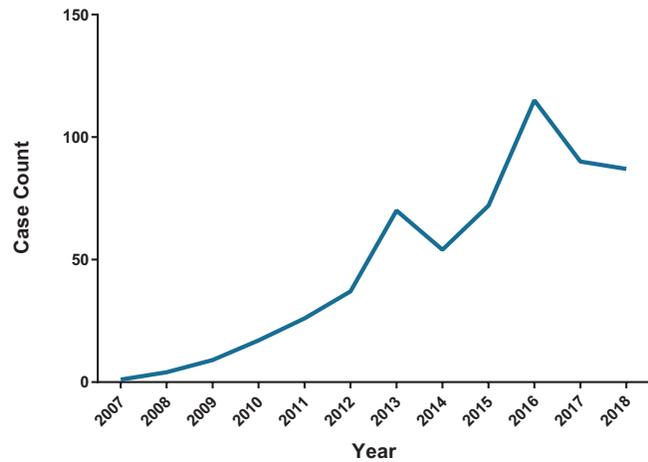
In 2018, Washington County investigated 87 cases of syphilis in the early stage (primary, secondary, and early non-primary non-secondary). In contrast, in 2007 there was only one syphilis infection reported in the county. Men, and more specifically MSM, experience the most reported syphilis infections. In 2018, 92% of reported early syphilis infections were among men, and MSM accounted for 84% of total reported cases. Among the MSM with early syphilis infections in 2018, 35% reported Hispanic ethnicity. Communities of color experience higher early syphilis rates.

In addition to MSM being disproportionately affected by syphilis, there is an increase in women diagnosed with syphilis. The rate of early syphilis infections among women in Washington County increased more than 250% since 2012. Identification of infections, especially among women of childbearing age, is crucial for the prevention of congenital syphilis, which is transmission to the baby in utero or during delivery.

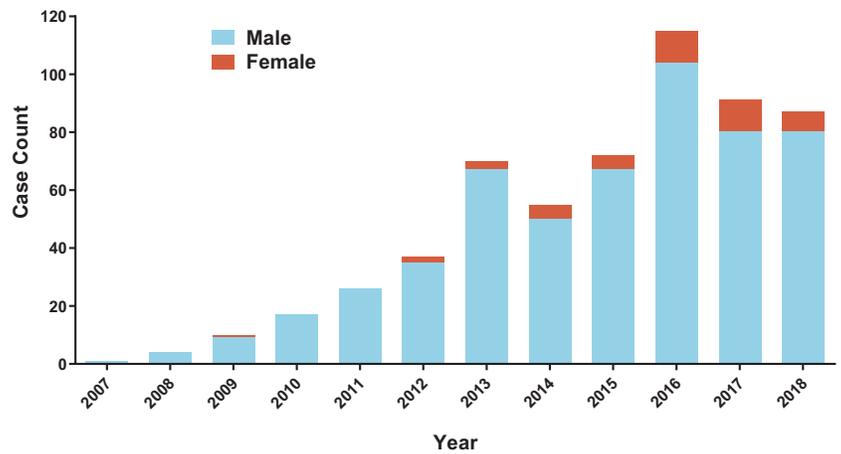
Washington County had its first congenital syphilis case in 2016 and continues to see additional cases. Congenital syphilis can cause miscarriages, stillbirths and complications such as blindness and deafness in infants. Untreated early syphilis in women can lead to infection of the fetus in up to 80% of cases. In up to 40% of cases, stillbirth or death may occur. Treatment of pregnant women who deliver after 20 weeks is 98% effective in preventing infection in the baby.

The increase in syphilis cases highlights the important role the County's DIS play in prevention. Once a case of syphilis is identified, DIS work with the person diagnosed to identify sex partners who might have been exposed and to provide them with education and access to screening. An important focus is to identify any female partners of childbearing age.

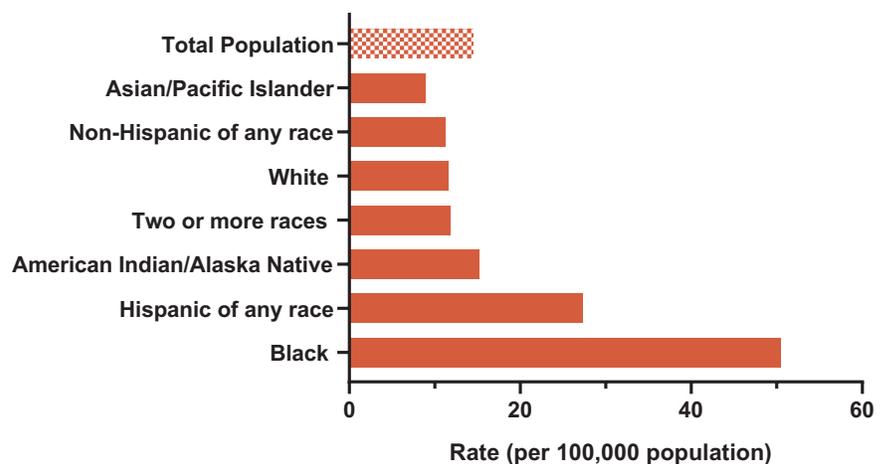
**Early Syphilis Trend  
Washington County, 2007-2018**



**Early Syphilis Cases by Sex  
Washington County, 2007-2018**



**Early Syphilis Rates by Race and Ethnicity,  
Washington County, 2018**



## Human Immunodeficiency Virus (HIV)

The number of newly diagnosed Washington County HIV infections increased in 2018 — the first increase since 2014. The number of people living with HIV continues to grow as the county population grows and as more effective medical treatments for HIV are available. Overall, the rate of newly diagnosed HIV infections has decreased 35% in the last 10 years. High-risk sexual behaviors, injection drug use, and a history of at least one STI (chlamydia, gonorrhea or syphilis), remain the main risk factors for HIV infection. In 2018, 65% of the newly diagnosed HIV infections in Washington County had at least one previous STI.

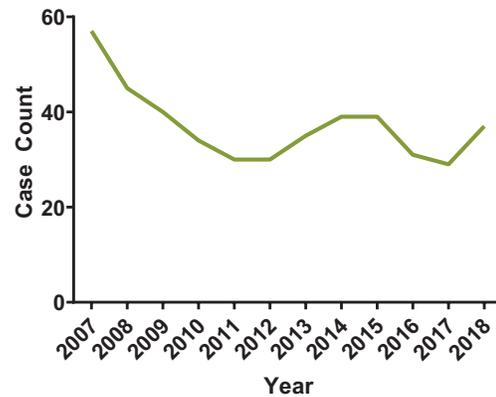
In 2018, rates of HIV infection among men remained higher than women, with MSM accounting for 86% of men newly diagnosed. Of the total newly diagnosed cases, 65% were white, and the average age was 34 years. Injection drug use was reported among 14% of these new cases and almost 14% had a partner who injected drugs.

Of new HIV cases in 2018, 14% had a partner with HIV and 11% reported a history of pre-exposure prophylaxis (PrEP). PrEP is a highly effective medication that, if taken daily, reduces the risk of HIV infection for those at highest risk for HIV, including MSM, individuals with a partner who is HIV positive, individuals with anonymous partners, and people who inject drugs. Syphilis and gonorrhea infection are indicators that someone may be more likely to be exposed to HIV infection and could benefit from PrEP.

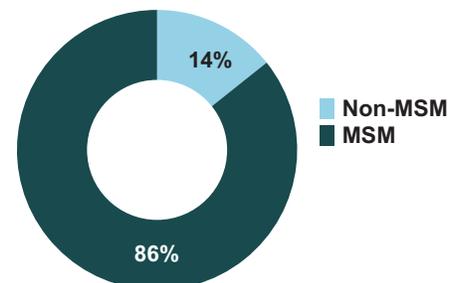
Despite the success of PrEP at reducing the risk of HIV infection, PrEP is only reaching a small proportion of those who could benefit from it. Challenges include access to prescribing providers, a lack of knowledge about PrEP, perceived stigma of taking it, and the cost of medication. Racial and ethnic disparities exist in those who take PrEP. Washington County refers at-risk clients to PrEP navigators to help remove barriers to access and provide culturally specific education on PrEP usage.

MSM and injection drug use are used to define behaviors and not populations.

Newly Diagnosed HIV/AIDS  
Washington County, 2007-2018



Newly Diagnosed HIV/AIDS Cases  
Men Who Have Sex With Men (MSM)  
Washington County, 2018



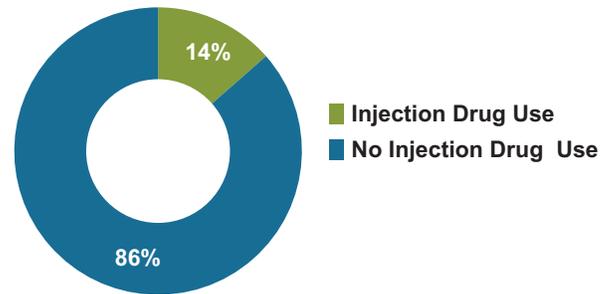
While most newly diagnosed cases are white, there is a huge disparity among Latino men, who represent six times the rate of infection when compared to the total population. In Oregon, it is estimated that six out of 10 people have never been tested for HIV and are unaware of their status. Only 76% of people living with HIV are virally suppressed.

**Viral suppression occurs when antiviral medication decreases HIV in the body to levels that are not measurable through lab tests. A person who is virally suppressed can live a healthy life and will not pass the virus to others. Viral suppression does not mean that the person is cured of HIV. If a person stops taking antiviral medication the virus will return to levels in the body that can cause illness and transmission to others. Achieving viral suppression is an important intervention to prevent new HIV infections.**

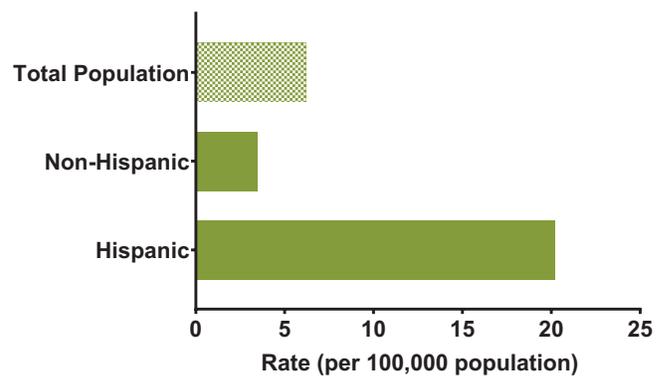
If 100% of known HIV-infected Oregonians were virally suppressed, over two-thirds of new HIV infections could be prevented statewide. Barriers such as poor access to a treatment provider, unstable housing, and underemployment make it difficult to get and stay on medication.

Washington County is working to create educational opportunities for medical providers about the importance of incorporating HIV and other STI testing into medical visits and addressing sexual health with their patients.

**Newly Diagnosed HIV/AIDS Cases Reporting Injection Drug Use, Washington County, 2018**



**Newly Diagnosed HIV/AIDS Rate of Infection by Ethnicity Washington County, 2018**





# Tuberculosis Team

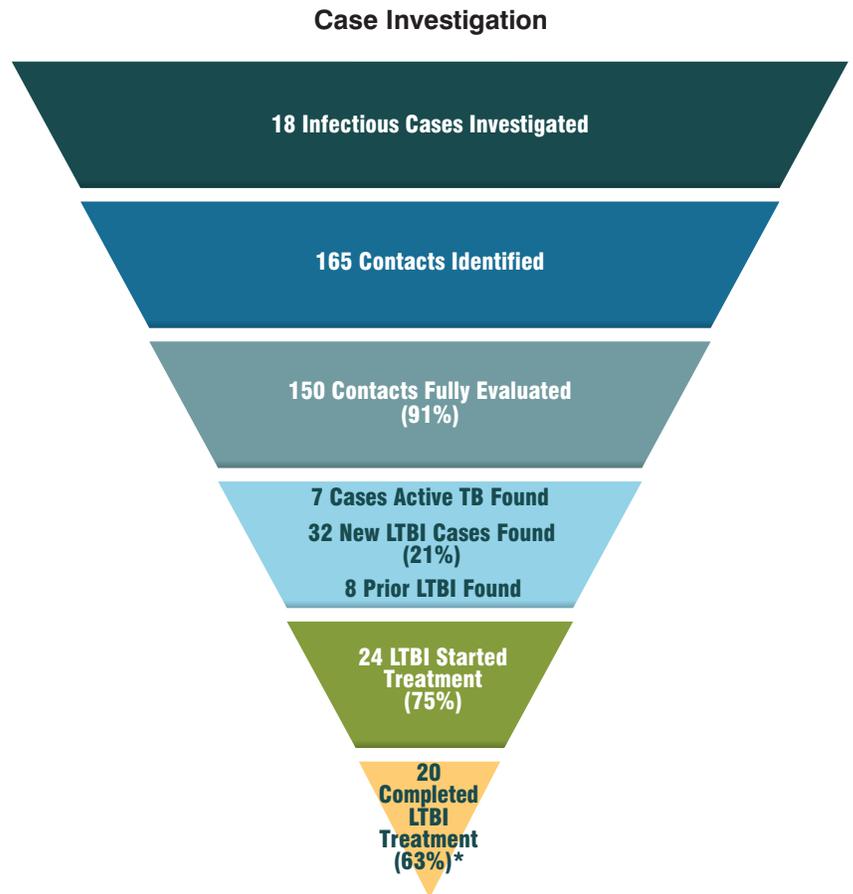
The Tuberculosis (TB) Team provides investigation, evaluation, treatment and case management for individuals with active TB disease and latent TB infection. The TB Team ensures individuals receive the treatment and testing they need to prevent additional people from becoming infected and to stop the development of multidrug-resistant TB.

Individuals with active TB disease are interviewed about all contacts they had and activities they participated in while ill to identify everyone who needs testing. Interviews capture personal contacts, such as family and friends, as well as contacts from public exposures, such as work, church and school exposures. Contacts are screened for active TB disease and tested for latent TB infection. Prophylactic medications may be given to individuals with latent TB infection to lessen the lifetime risk of progressing to active disease.

Nurse case managers ensure that individuals complete treatment and prevent others from becoming ill by directly providing medications and treatments to individuals with active TB disease and by linking individuals to crucial social services. Epidemiologists assist with contact investigations to identify individuals who may have been exposed to an active case in public settings, such as work places, churches and schools and decide who should be tested based on the risk of each exposed individual.

In 2018, the Tuberculosis Team evaluated 22 reports of suspected active TB disease and managed the treatment of 18 individuals with active TB. Active cases ranged from infants to 71 years of age with a median age of 39 years old, and 72% were male. Of these active cases, 165 contacts were identified, and seven of these contacts developed active tuberculosis disease. Over 20% of all evaluated contacts were diagnosed with a new latent TB infection and 63% of these newly diagnosed LTBI contacts completed treatment.

**Active TB disease means an individual has symptoms of the bacterial disease and can spread the disease to others through tiny droplets released into the air via coughs and sneezes. Latent TB infection means an individual is infected with the bacteria and their immune system is controlling the infection; the person has no symptoms and cannot spread the disease to others but may develop active TB disease in the future.**



\*As of 7/15/19, some LTBI cases are still receiving treatment but have not completed; others were unable to start or finish treatment due to medical problems.



# Immunizations Team

Immunizations are a key component of a healthy community. The Washington County Immunization Program is dedicated to reducing the incidence of vaccine-preventable diseases. The Immunizations Team oversees the annual immunization reporting process of schools and child care facilities required by Oregon Immunization School Law. Vaccines are required by law for children in attendance at public and private schools, preschools, child care facilities and Head Start programs in Oregon. Nearly every place that provides care for a child outside the home requires documentation of vaccines. Parents also can provide documentation of a medical or non-medical exemption for all or some vaccinations to stay enrolled in schools or child care facilities.

The Immunization Program tracks childhood vaccination rates through the ongoing monitoring and assessment of compliance with Oregon Immunization School Law, the Perinatal Hepatitis B Prevention Program and the Vaccines for Children (VFC) Program. The VFC Program is a federally-funded program that provides vaccines at no cost to children who might not otherwise be vaccinated because of inability to pay. This program is offered through an established network of safety net clinics in Washington County.

Oregon's immunization law protects school-aged children from 11 vaccine-preventable diseases by requiring child attendees to have received immunizations or exemptions for the following diseases: diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b (Hib), polio, varicella, hepatitis B, hepatitis A, measles, mumps and rubella. Immunization requirements vary based on the child's age, grade and the date of last immunization. The law also requires children's facilities and schools record and conduct an assessment of their attendees' immunization status and provide annual reporting to the County.

**The definition of a children's facility is a certified child care center, certified child care home, Head Start or preschool, or a program caring for children six weeks of age or kindergarten entry that is operated by or shares space with a children's facility or school.**

In 2018, based upon feedback provided by County partners, education on the school law requirement was identified as a high priority need. By the end of December 2018, the Immunization Program provided comprehensive training to over 400 employees of county schools and children's facilities. School and children's facility employees, many of whom are tasked with a variety of responsibilities, were fully engaged in the exchange of information and demonstrated a genuine interest in maintaining the health and wellness of children attending their sites.

Exclusion letters are sent to parents to inform them that their children might be kept out of school due to incomplete vaccination records provided by their child's school or child care facility. Children who are not up-to-date on their vaccinations and do not have medical or non-medical exemptions for required vaccines are excluded each year on School Exclusion Day, the third Wednesday of February, until documentation of vaccinations or exclusions is provided. Among all 508 Washington County sites (schools and children facilities), with a reported enrollment of 106,242 children, there was a decrease in the number of students who received exclusion letters and students excluded in 2018-2019 when compared to the previous school year. These decreases were attributed to the increase in school and children's facility trainings.

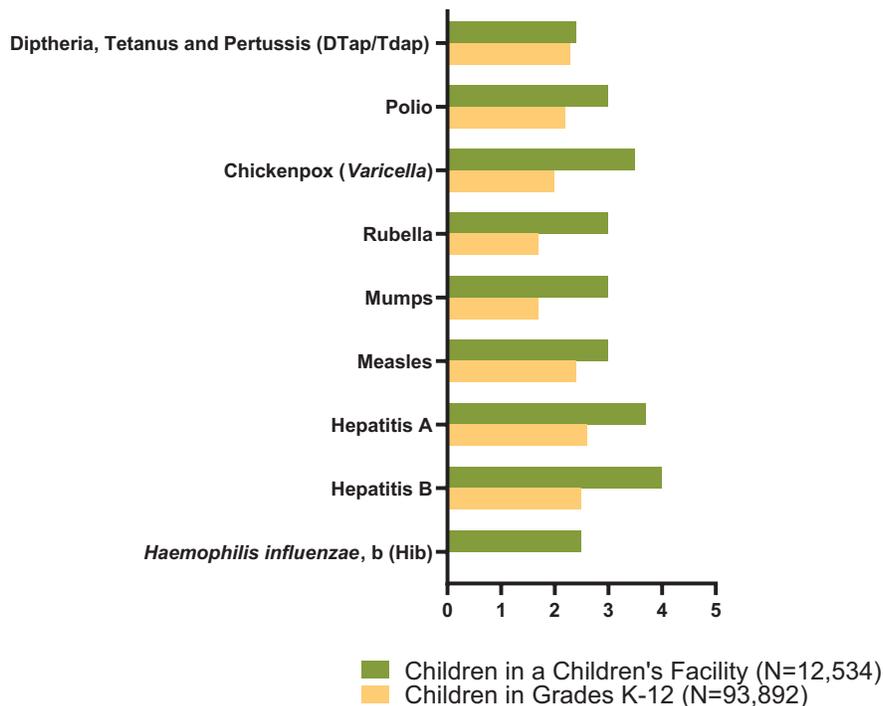
During the 2018-2019 school year, Washington County children’s facilities reported that over 94% of attendees completed all required disease vaccinations and only 5% had one or more non-medical exemption. Children in these facilities were most likely to have non-medical vaccine exemptions for hepatitis A, hepatitis B and chickenpox. Washington County schools, representing children in kindergarten through twelfth grade, reported that over 95% of these students completed all required doses of vaccine and just under 4% of students had one or more non-medical exemption. Children in grades K-12 were most likely to have non-medical vaccine exemptions for hepatitis A, hepatitis B and measles.

The aggregate data shows that collectively a significant percentage of children are adequately vaccinated in Washington County to achieve herd immunity.

**Herd immunity is the resistance to the spread of a contagious disease within a population that results if a sufficiently high proportion of individuals are immune to the disease, especially through vaccination.**

To maintain and achieve herd immunity across all schools and child care facilities, the Immunization Team will continue to educate employees and parents on the importance of immunizations, protecting individual children and those most at-risk who are unable to receive vaccinations.

**Nonmedical Exemption Percent by Vaccine, Washington County, 2018**



# 2019 Priorities

In 2019, in addition to the daily efforts to control reportable diseases and outbreaks in the community, Washington County is leading several initiatives to improve our communicable disease services as well as efforts to increase community engagement and health equity.

## Harm Reduction Programming

Opioid misuse and overdose was declared a public health emergency in 2017 by President Trump, and Oregon declared addiction and substance misuse a public health crisis. The governor outlined specific outcomes to be achieved throughout the state.

- Reduce the percentage of Oregonians with a substance use disorder from 9.55% to 6.82% in five years.
- Increase the percentage of Oregonians in recovery from substance use disorder by 25% in five years.
- Reduce alcohol and other drug-related morbidity and mortality.

Besides the social and physical impact addiction has on a person's life, increased opioid and methamphetamine use has been linked to rising STI, HIV and hepatitis C rates in Washington County. WCPH has been working with community partners to develop comprehensive harm reduction services. Harm reduction focuses on supporting people's efforts to make positive changes in their lives by connecting them to needed services. Preventing drug overdose by expanding naloxone distribution, testing, and linkage to medical and social services all aim to mitigate individual and community health issues related to substance use.

In 2018, Washington County's DCAP Program conducted a feasibility assessment for harm reduction services to identify gaps in services and barriers to receiving services. The assessment included interviews with residents who are clients of harm reduction programs or substance use treatment facilities and key stakeholders from Washington County agencies with knowledge of the needs of the community. The assessment found that 63% of clients and 33% of stakeholders identified access to new needles in Washington County as a top service priority, 93% said they would visit a mobile syringe exchange site, and 58% identified the syringe exchanges in Multnomah County as a current source of new syringes. Interviewees also emphasized the importance of having safe ways to dispose of used syringes. From this work, recommendations were made for new and improved policies and services to control the spread of diseases associated with injection drug practices. Starting a needle exchange program is a key focus of Washington County's 2019 harm reduction efforts.



## Public Health Modernization

In 2013 the Oregon Legislature recognized the need for significant changes to the governmental public health system as a foundational aspect of health system transformation to meet the needs of the population in the years to come. A taskforce was convened and put forth recommendations to improve the foundational capacities and programs of all counties throughout Oregon. These recommendations were operationalized in 2015; funding began in 2017 with a focus on communicable disease programs. Initial funding in Washington County was used to develop a regional infrastructure around communicable disease control in the tri-county area focused on mitigating disease risks and reducing health disparities.

Public health modernization work continues into 2019, with a focus on developing a Tri-County Communicable Disease Health Equity Plan following on the heels of the Health Equity Assessment. Regional work continues in the following areas:

**Current Efforts to Build Organizational Capacity** — All three counties have committed to health equity in their strategic plans; conducted focused training for their health department staff to increase understanding and skills around health equity; and have human resources policies to expand diversity in the workplace. This work is ongoing.

**Meaningful Community Engagement for Health Equity** — All three counties participate in the regional Healthy Columbia Willamette Collaborative Community Health Assessment; conduct health assessments at the local level; and have community advisory groups driving their community health improvement plans. How the advisory groups are structured and the types of engagement varies between the three counties.

**Identifying and Understanding Health Inequities** — Identifying and understanding health inequities through data are at the core of the work being done in all three counties. Multnomah County has conducted several health equity assessments to drive their strategic planning, which have included reports focused on specific populations. Clackamas County has identified health equity zones — smaller regions based on school districts — to provide localized information within their economically and geographically diverse county. Washington County has started a health indexing project to identify health equity needs/areas within their county. Regional data visualization projects are in process to help communicate health equity data in ways that are more accessible for communities; this will help support communities in decision making and planning.

Locally, Washington County continues to work with the community to identify the barriers and needs to address latent TB.



# Conclusion

Sharing the department's vision of a healthy, equitable and supportive community, Washington County Public Health is available 24 hours a day, seven days a week for reporting of public health emergencies. WCPH has a robust team of communicable disease nurses, community health workers, environmental health specialists, epidemiologists, a health officer, and others dedicated to the detection, prevention and response of communicable diseases under Oregon statute and rules. Addressing the social determinants of health through a health equity lens is a priority across all communicable disease program areas. This team offers services for communicable diseases, outbreak investigations, sexually transmitted infections, including HIV, immunizations, tuberculosis and facilitating access to care. WCPH endeavors to achieve its mission of improving and protecting the health of all Washington County residents by offering personal testing and treatment, disease prevention strategies, and creating meaningful partnerships with the community.



# Data Statement

## Collection Methods

All communicable disease, sexually transmitted disease, HIV and tuberculosis data were pulled on July 5, 2019 from the Oregon Public Health Epidemiologists' User System (ORPHEUS) — a centralized, passive database used by all counties in Oregon for infectious disease surveillance. Data in Orpheus are collected from case interviews, electronic laboratory reports and medical records. Information such as race and ethnicity are self-reported upon case interview. Immunization data were reported directly from schools and child care facilities to the Oregon Health Authority's Immunization Program. These data were pulled on July 25, 2019.

This report summarizes recent trends and data from 2018. Disease counts for 2018 are presumptive and may not match final Oregon Health Authority numbers.

## Limitations

The accuracy of Washington County's disease data is reliant on several factors. First, it relies on laboratories and clinicians to report all suspect and confirmed reportable illnesses. Second, it captures only sick individuals who sought medical care. As such, reported cases for most diseases represent a major underreporting of the true number of cases.

Data in Orpheus are subject to biases including: recall, response and participation biases. Recall bias may exist because interviews can occur anywhere from days to months after an individual first became sick. Response bias is likely, as the sensitivity of questions involving individual risk behaviors may cause underreporting. Data collection may be affected by participation bias due to language and cultural barriers, and fear of reporting.

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