

Hepatitis C Infections in Oregon

May 2017

What is Hepatitis C?

Hepatitis C is a liver disease caused by infection with hepatitis C virus (HCV). HCV is usually spread when blood from a person infected with HCV enters the body of someone who is not infected. Hepatitis C infection can range from a brief illness lasting a few weeks to a serious and lifelong (chronic) illness. Approximately 75% to 85% of people infected with HCV develop a chronic infection. Most people do not experience symptoms when they are first infected with HCV and many people have few symptoms for the first 10 to 15 years after infection. However, this does not mean that HCV is not damaging the liver and it is impossible to predict the rate of liver damage early in HCV infection. Heavy alcohol use can speed the progression of HCV disease. Other infections known to speed HCV disease progression include co-infection with hepatitis B virus (HBV) and co-infection with human immunodeficiency virus (HIV).

Over time, untreated chronic HCV infection can result in cirrhosis, end stage liver disease, and liver cancer. Approximately 20% to 30% of people with untreated chronic HCV will develop cirrhosis over 20-30 years. Cirrhosis is a disease in which liver cells are damaged and replaced by scar tissue. Among people with cirrhosis caused by chronic HCV infection, 1% to 4% develop end-stage liver disease or liver cancer each year.

HCV infection can be cured. New, highly effective HCV treatments can cure more than 90% of people living with chronic HCV infection and successful HCV treatment can slow or stop liver disease progression.

Facts at a Glance

- HCV reporting began in Oregon in 2005 and by 2015 there were 59,645 people reported with HCV.
- Between 2011 and 2015, an average of 5,213 people were reported with chronic HCV each year.
- HCV affects all Oregon counties.
- Persons under 30 years of age account for half of all acute (new) HCV infections in Oregon.
- Oregon's rates of people with chronic HCV and HCV related deaths are among the highest in the United States.
- Among chronic HCV cases in Oregon, 2/3 are 45-64 years of age.
- The majority of chronic HCV infections, liver cancer cases, HCV related hospitalizations and HCV related deaths occur among persons 45-64 years of age.
- American Indians /Alaska Natives and Blacks in Oregon experience significant HCV related health disparities.

How is hepatitis C transmitted?

Before 1992, when widespread screening of the blood supply for HCV began in the United States, the infection was spread through blood transfusions, blood products, organ transplants, other health care exposures, intranasal illicit drug use and shared equipment, including needles used to inject drugs. Today, most people become infected with the HCV by sharing equipment, including needles, to inject drugs. While health care related exposures still occur, they are rare. Hepatitis C can also be transmitted through shared personal items that may have come in contact with HCV infected blood such as razors or tooth brushes, from a pregnant mother with HCV to her infant, or by having sex with a person who is infected with HCV, although sexual transmission is rare. Sexual transmission of HCV most often involves men who have sex with men.

Hepatitis C cannot be transmitted through sharing eating utensils, breastfeeding, hugging, kissing, holding hands, coughing, or sneezing. It is also not spread through food or water or transmitted by insect bites.

Currently, there is no vaccine to prevent HCV transmission and there is no post-exposure prophylaxis (PEP) to prevent infection after exposure to HCV. The best way to prevent HCV infections is to avoid or reduce behaviors that put you at risk for HCV infection, such as injection drug use or sharing injection related equipment including syringes. Access to sterile needles and new injection equipment, medication assisted treatment (MAT) and recovery services are evidence-based public health strategies to decrease transmission of HCV in the community.

Who should be tested for Hepatitis C?

The CDC and the United States Preventive Task Force (USPTF) recommend HCV testing based on a person's age, past or ongoing risk behavior, or exposures or conditions associated with increased risk or HCV infection.

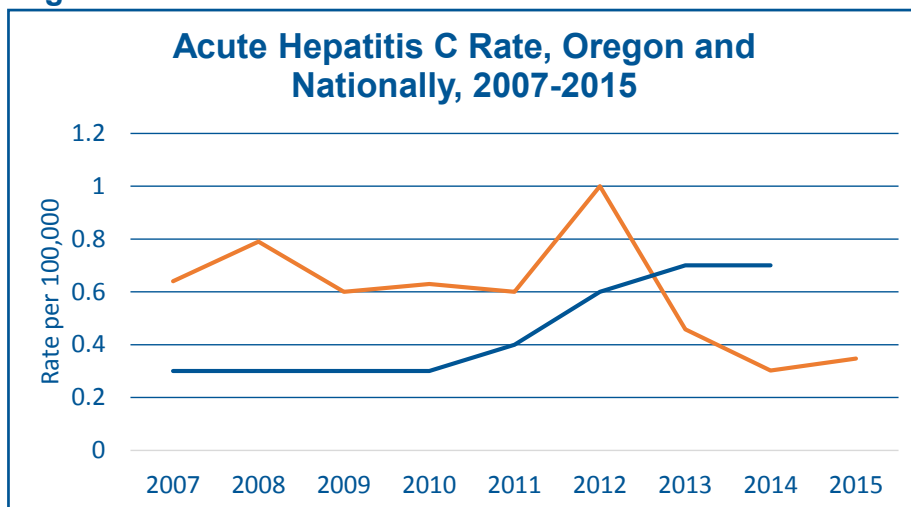
- **Age** — All persons born between 1945 and 1965 should be screened for HCV once without determining risk. This group may also be referred to as the "Birth Cohort" or "Baby Boomers."
- **Risk behavior or exposure** — Other persons should be screened for past or on-going risk behaviors or exposures associated with an increased risk of HCV infection. Persons with past behaviors or exposures should be tested once and persons with current or on-going risk behaviors or exposures should be tested for HCV infection regularly.
 - Risk behaviors include
 - History of injection drug use, including people who have injected once
 - Intranasal illicit drug use.
 - Risk exposures include
 - Long term blood dialysis
 - Needle exposure in unregulated settings such as informal body piercings or tattoos
 - Healthcare, emergency medical, and public safety workers after needle sticks, sharps, or mucosal exposures to HCV-infected blood
 - History of incarceration
 - Children born to women living with HCV infection
 - Prior recipients of blood transfusions or organ transplants, including persons who:
 - Received blood from a donor and was notified that the donor tested positive for HCV infection
 - Were recipients of a blood transfusion, blood components, or organ transplant before July 1992
 - Received clotting factor concentrates produced before 1987
- **Conditions** — Persons with conditions associated with increased HCV infection risk, including people
 - Living with HIV
 - Who are sexually active and starting pre-exposure prophylaxis (PrEP) for HIV
 - With unexplained chronic liver disease or chronic hepatitis including elevated liver enzymes

What is the burden of Hepatitis C in Oregon?

Acute Hepatitis C Infection

Hepatitis C is the most commonly reported blood-borne disease in the US and in Oregon. The annual number of acute (recent) HCV infections in Oregon has remained stable with an average of 21 cases per year from 2011 to 2015. After accounting for asymptomatic cases and under reporting, these 21 cases likely represent about 277 annual acute infections because most acute infections are not reported. Oregon's annual acute HCV rate was higher than the national acute HCV rate from 2007 until 2012,

Figure 1.

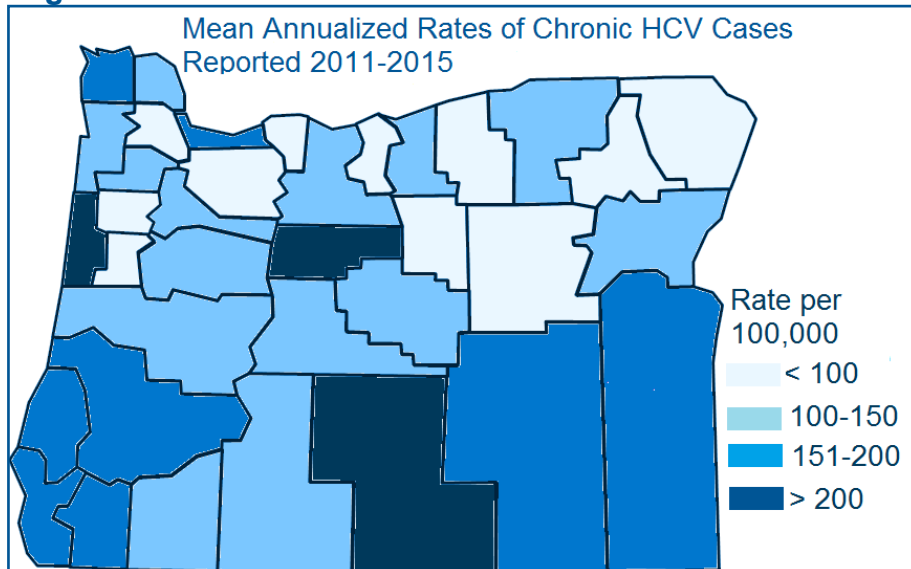


when the national rate increased significantly due to the growing number of acute HCV infections related to the national opioid crisis. From 2011 to 2015, 66% of acute HCV cases reported injection drug use, and this percentage was similar for males and females. Lastly, persons 15-34 years of age accounted for 61% of Oregon's acute HCV cases from 2011-2015.

Laboratory Reports of Hepatitis C Infection

Chronic HCV infection became reportable in Oregon in 2005 and since that time, 59,645 cases of chronic HCV have been reported in Oregon, including an average of 5,125 cases each year from 2009 and 2015. Figure 2 shows the mean annualized rates of chronic HCV cases by county from 2011 to 2015. Some of our state's highest chronic HCV rates are in rural areas. A recent CDC-supported study¹ calculated standardized state-level estimates of HCV prevalence to describe and compare the extent of the HCV epidemic between the states for the first time. The researchers estimated that in 2010 90,500 people in Oregon had antibodies to HCV (meaning they have been exposed to HCV at some point in their lives). This figure corresponds to a chronic HCV prevalence rate of 3,050 cases per 100,000 population, or 3.05% of the population of the state. This prevalence was third highest in the US, after Oklahoma and the District of Columbia.

Figure 2.



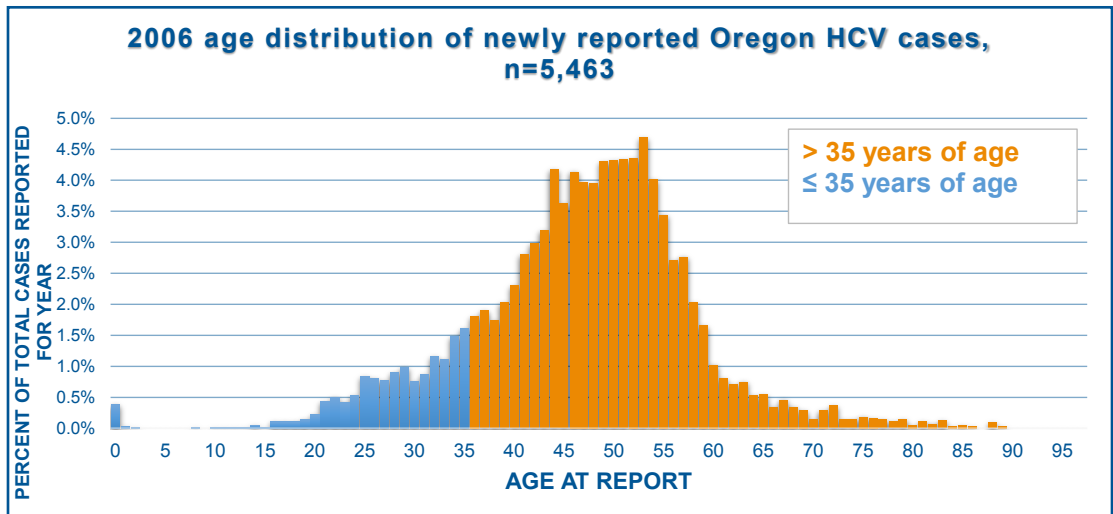
1. Rosenberg ES, Hall EW, Sullivan PS, Sanchez TH, Workowski KA, Ward JW, et al. Estimation of State-Level Prevalence of Hepatitis C Virus Infection, US States and District of Columbia, 2010. Clin Infect Dis. 2017.

Laboratory Reports of Hepatitis C Infections in Oregon

Since many people with HCV infections may experience few to no significant symptoms for years, “newly reported” HCV cases are rarely “newly infected.” In Oregon, people born between 1945 and 1965 represent the majority of persons newly reported with chronic HCV infection. We have had an increase, however, in the proportion of newly reported cases in young adults over the past

decade. Figure 3 shows the ages of Oregon’s newly reported HCV cases in 2006. The blue bars indicate cases in persons 35 years of age and younger, while the orange bars represent persons over the age of 35 years. In 2006, persons 35 years and younger accounted for 7.5% of reported cases that year.

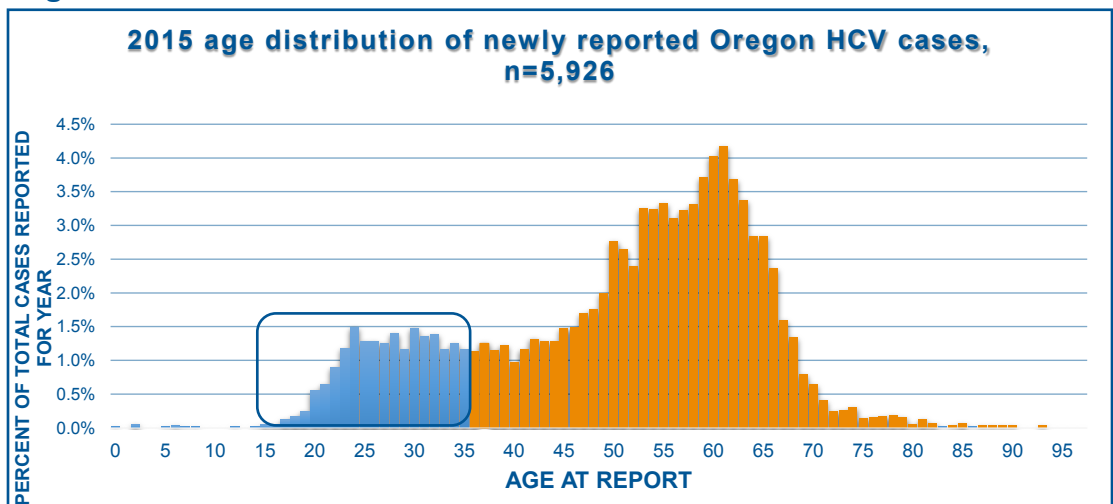
Figure 3.



In contrast, Figure 4 shows the state’s newly reported HCV case age distribution for 2015, when 11.9% of cases were part of this younger age group, an increase of 60%. This increase in cases under 35 years of age in 2015 reflects HCV infection likely acquired more recently through risk behaviors or exposures such as shared injection equipment, including needles, unregulated or un-

sterile tattoos or piercings, high-risk sex, or blood exposures during incarceration. The emergence of this younger group suggests a failure to address the HCV prevention needs of persons with risk behaviors or exposures associated with increased HCV infection risk. The lack of comprehensive substance abuse prevention; recovery and

Figure 4.

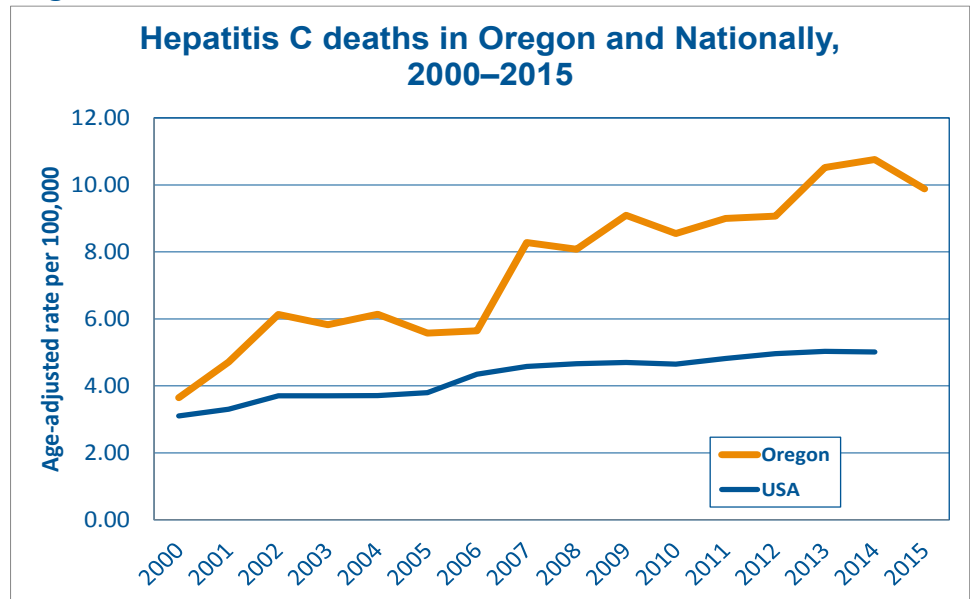


community services that use harm reduction strategies; providers trained to provide medication assisted treatment (MAT); methamphetamine treatment programs; and barriers to accessing clean injection equipment, including sterile syringes, hinder effective community responses to prevent new infections in urban, suburban and rural areas.

Hepatitis C Deaths in Oregon

Since 2000, Oregon's HCV-related mortality rates have nearly tripled and have also consistently been higher than the national average; in 2014, Oregon's age-adjusted rate was 10.8 per 100,000 population, twice the US rate of 5.01 per 100,000 (Figure 5).

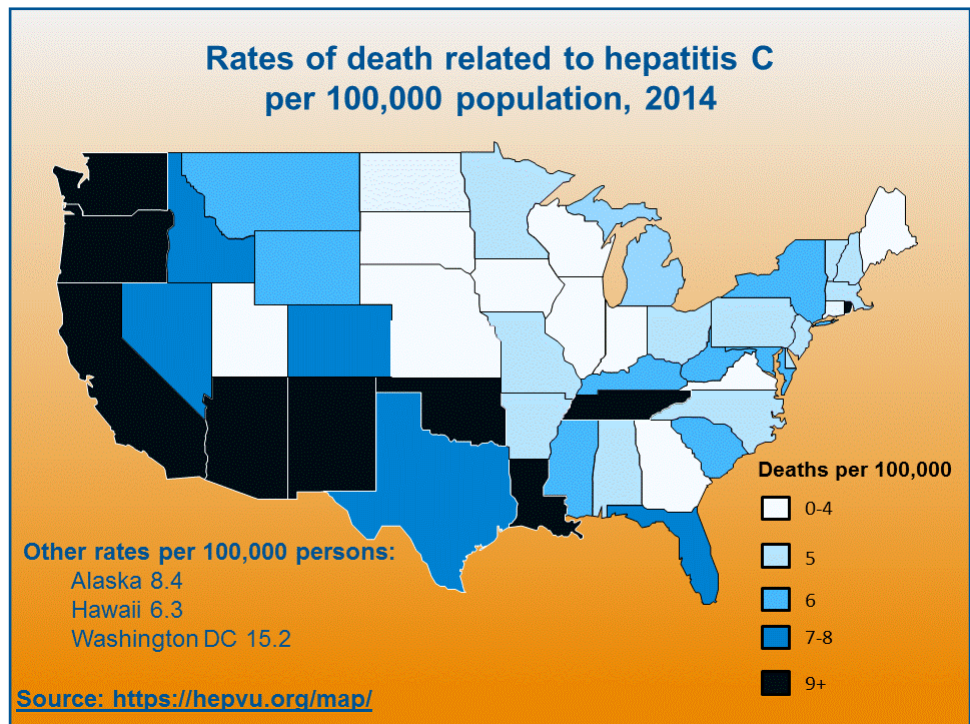
Figure 5.



The CDC recently launched an interactive web site in collaboration with Emory University, called HepVu*, that allows the user to view state-specific HCV prevalence and mortality rates.

In 2014, Oregon had an unadjusted HCV mortality rate of 15 per 100,000 population, the highest in the nation that year¹⁻² (Figure 6).

Figure 6.



The CDC/Emory University state-specific HCV website can be found at www.HepVu.org.

1. Source: National Vital Statistics System (NVSS), and U.S. Census data – intercensal data (1999-2012) and 2010 data. Any records that included the ICD-10 code for acute viral Hepatitis C (B17.1) or chronic viral Hepatitis C (B18.2) as the underlying or multiple cause of death were used to identify deaths related to Hepatitis C.
2. The higher mortality rate reported on the HepVu website is due to use of unadjusted rates, while Oregon's own estimates have been adjusted for age.

Racial and Ethnic Hepatitis C Disparities in Oregon

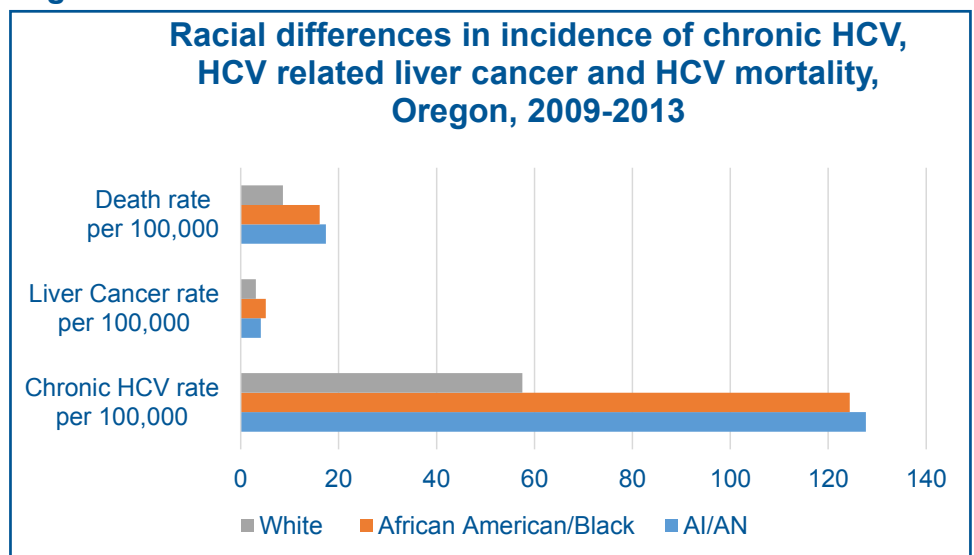
American Indians and Alaska Natives

In 2010, chronic liver disease (CLD) was the 5th leading cause of death among American Indians/Alaska Natives (AI/ANs) in the United States. In contrast CLD was the 12th leading cause of death in the US and 9th leading cause of death in Oregon overall in 2014. AI/ANs in Oregon experience some of the highest rates of HCV infection, liver cancer and deaths. In Oregon rates of acute HCV infection among AI/ANs were twice other racial or ethnic groups in 2011-2015 (0.92 per 100,000 vs 0.45 per 100,000). Chronic HCV infection among AI/ANs from in 2011-2015 was 1.8 times the rate of chronic HCV among Whites (147.7 cases per 100,000 vs 80 cases per 100,000). In addition to higher rates of acute and chronic HCV infections, AI/ANs in Oregon are twice as likely to die from HCV infection as Whites (17.4 per 100,000 vs 8.9 per 100,000).

African Americans and Blacks

While the rates of acute HCV infection in Oregon among African Americans and Blacks was not higher than Whites during 2011-2015, the chronic HCV rate was 1.7 times higher (133.8 per 100,000 vs 80.0 per 100,000). In 2009-2013, the rate of liver cancer associated with HCV was 1.6 times higher in Blacks and African Americans. In addition to higher chronic HCV infections and liver cancer, Blacks and African Americans are almost twice as likely to die from HCV infection as Whites (16.1 per 100,000 vs. 8.9 per 100,000). (Figure 7)

Figure 7.



Public health Implications

There are major HCV health disparities between AI/AN and Black and African Americans compared to Whites in the United States and in Oregon that continue to persist. Addressing the effect HCV has on the lifelong health, including the avoidable gaps in health and health care outcomes these populations experience in Oregon, is a critical health equity issue. Working toward health equity means laboring for the highest possible standard of health for all people and giving attention to the needs of those at greatest risk of poor health and health outcomes.

Public health priorities and policies are informed by epidemiologic data and community priorities. Community members become more involved in the health issues when they have relevant local data. Providing accurate and consistent HCV epidemiologic data in partnership with community members to increase awareness and inform action is an important public health function. Another is to support communities to collect and analyze their own HCV data and design and implement their own evidence informed programs, interventions and strategies to raise awareness, promote prevention interventions, screen members in the birth cohort and those with risk and ensure equal access to care and curative treatments for community members who have HCV infection.

Oregon's Epidemiologic Profile Recommendations

Hepatitis C is one of the greatest public health threats in the last century. However, we have the tools to eliminate HCV. Evidence-based interventions to prevent new infections and highly effective curative treatments exist. Curing chronic HCV infection can slow or stop liver disease progression. Taking action to prevent and cure HCV will be more cost-effective than continued inaction.

The public health recommendations outlined in Oregon's first state epidemiologic profile in 2015 are even more relevant today and include the need to prioritize and invest in the following:

Assessment

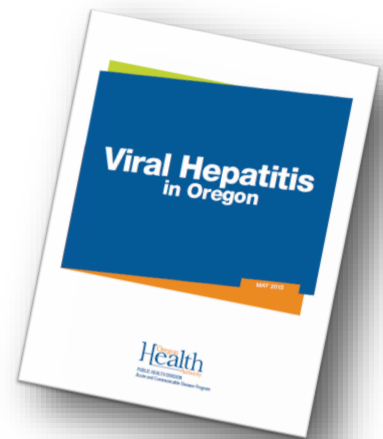
- Monitor trends in incidence, prevalence, liver cancer and mortality.
- Investigate epidemiologic trends, respond to outbreaks and study health disparities.

Policy Development

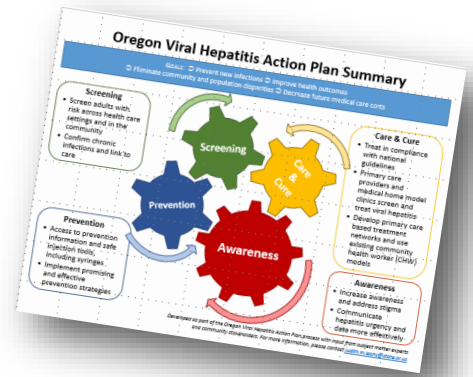
- Develop and implement evidence-based policies to prevent new HCV infections, identify people early and link people to care and treatment.
- Support comprehensive efforts to address opioid dependency and prevent people from transitioning to injection drug use.
- Conduct culturally appropriate awareness and testing campaigns that focus on populations with increased prevalence, immediate risk of advanced disease or ongoing transmission risks.
- Develop culturally appropriate health promotion interventions to reduce barriers to testing, care and treatment.

Assurance

- Enforce laws and regulations that mandate hepatitis surveillance, promote health care safety and expand access to hepatitis testing and preventive services.
- Support equitable syringe access and education about safe injection practices, and safe syringe disposal through local health departments, community-based agencies and pharmacies.
- Ensure priority access to drug and alcohol treatment programs for people with chronic viral hepatitis B and C.
- Integrate viral hepatitis prevention and screening with other public health services; collaborate with substance treatment and care providers to promote HBV vaccination, viral hepatitis testing and access to care; provide surveillance data to support registries to link persons with viral hepatitis to care.
- Evaluate surveillance, clinical and laboratory data to assess the accessibility, quality and outcomes of hepatitis preventive services and care.



Oregon's Viral Hepatitis Action Plan



In 2016, following the completion of the state epidemiologic profile, the Viral Hepatitis Program convened a Viral Hepatitis Action Plan group. The purpose of the group was to develop and begin to collectively implement a community centered and coordinated response to viral hepatitis in Oregon. The issues surrounding viral hepatitis in Oregon are complex and cross community, government, health system and health sectors. The Viral Hepatitis Action Plan group worked together over the course of the year to develop a living action plan. Over the coming years, members will work to align efforts and collaborate on shared priorities and strategies. The Viral Hepatitis Action Plan's aims, priorities, actions and strategy examples are below.

Aims

- Prevent new infections.
- Improve health outcomes.
- Reduce and eliminate community and population health disparities.
- Decrease future medical care costs.

Priorities and Actions

- Confront stigma directed at persons and populations affected by viral hepatitis.
- Educate communities and decision-makers about the urgency and need to address viral hepatitis prevention, treatment and health disparities.
- Address broader health issues faced by persons who use drugs to more effectively address viral hepatitis.
- Increase community based HCV screening and linkage to prevention, care and treatment efforts in affected populations.
- Improve access and reimbursement across all settings for screening, care, treatment and cure.
- Use data to focus prevention and evaluate interventions, and monitor viral hepatitis care continuums.

Strategies (examples)

- Implement communication and education campaigns.
- Initiate a cross-sector group to address health disparity, outcome and equity issues among persons who use drugs.
- Endorse and expand evidence-based and promising strategies and interventions for populations with viral hepatitis health disparities such as syringe access, syringe exchange and safer injection facilities.
- Expand coverage and reimbursement of curative HCV treatments across all payers and health systems.
- Increase stakeholder infrastructure and capacity to monitor, prevent and respond (including public health surveillance, primary care and public health workforce, community-based agencies and community members).
- Utilize data and evaluation information to direct and inform priorities and actions.