Public Health Division

Oregon Health Authority

Hepatitis C Infections in Oregon

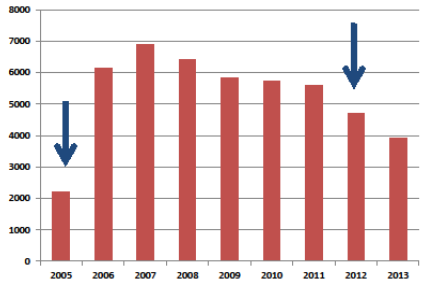
September 2014

Chronic HCV in Oregon

Since 2005, when positive laboratory results for HCV infection became reportable in Oregon, 47,252 persons with HCV infection have been reported (Figure 1). From 2009 through 2013, the average annual number of chronic HCV infection reports was 5,087. Studies have estimated that 50% of persons living with HCV have not been diagnosed, suggesting that as many as 95,000 Oregonians could be infected with HCV. It is generally accepted that 5%-25% of those infected will develop cirrhosis 20-30 years later, and 1%-5% will develop end-stage liver disease or hepatocellular carcinoma (HCC) resulting in death if liver transplantation is not performed.

Persons with positive laboratory reports reported between 2009 and 2013 were predominantly male (61%)

Figure 1. Annual Number of Chronic HCV Cases, Oregon, 2005-13



•Positive laboratory tests for HCV made reportable in 2005
•Case definition changed in 2012, resulting in fewer cases being counted in 2012-13
•For period 2009-13, 61% male and 79% over age 40 years

Hepatitis C is a liver disease that results from infection with the Hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis C is usually spread when blood from a person infected with the Hepatitis C virus enters the body of someone who is not infected. Today, most people become infected with the Hepatitis C virus by sharing needles or other equipment to inject drugs. Before 1992, when widespread screening of the blood supply began in the United States, Hepatitis C was also commonly spread through blood transfusions and organ transplants.

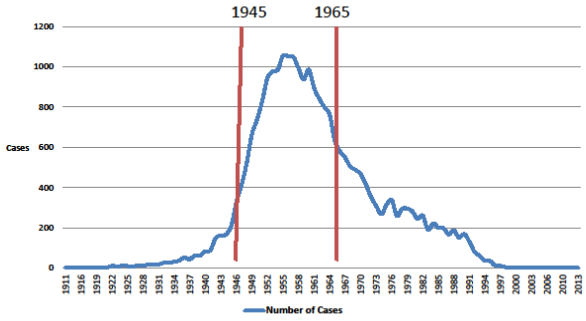
Hepatitis C can be "acute" or "chronic." Acute Hepatitis C virus infection is a short-term illness that occurs within the first six months after someone is exposed to the Hepatitis C virus. For most people, acute infection leads to chronic infection. Chronic Hepatitis C is a serious disease than can result in long-term health problems, or even death.

There is no vaccine for Hepatitis C. The best way to prevent Hepatitis C is by avoiding behaviors that can spread the disease, especially injection drug use.

Centers for Disease Control and Prevention website: www.cdc.gov/hepatitis/c/ accessed:

and over age 40 (79%). By birth year, 64% of Oregonians reported in the last five years were born between 1945 and 1965 (Figure 2). In the past five years, the rate of positive laboratory reports has declined overall, although rates in persons younger than 30 is gradually increasing (Figure 3).

Figure 2. Year of Birth among Cases of Chronic HCV reported in 2009-2013, Oregon



* 64% of cases were born between 1945-1965

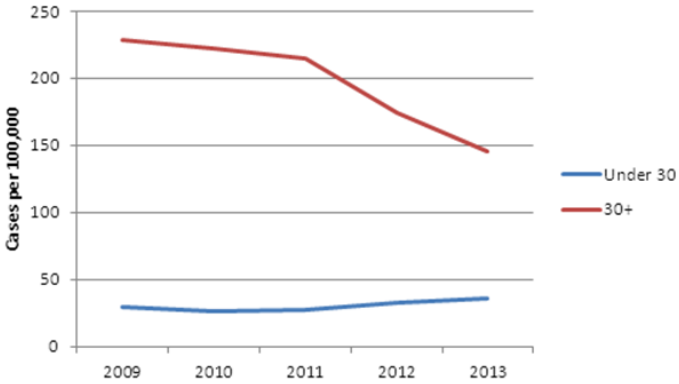
Acute HCV in Oregon

Annual numbers of acute cases in Oregon have remained fairly stable in the past 10 years, with an average of 25 acute cases per year for the period 2009-2013. After accounting for asymptomatic cases and under-reporting, these 25 cases likely represent 332 new cases of HCV in Oregon each year (Figure 4).

Acute HCV infection occurs most commonly in young adults: nearly half of cases occurred in persons younger than 30 and 68% of cases were younger than 40. Just over half (56%) of cases occurred in men. The most common risk factor among acute cases was injection drug use (64%).

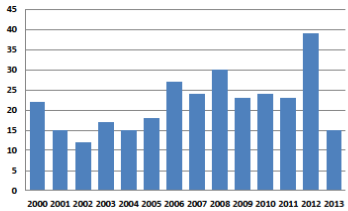
Rates of acute cases of HCV in Oregon were 50% higher than the national average during 2007-2011 (2011 is the most recent year for which national data are available) (Figure 5).

Figure 3. Rates of Chronic Cases of HCV by Age Group, Oregon (2009-13)



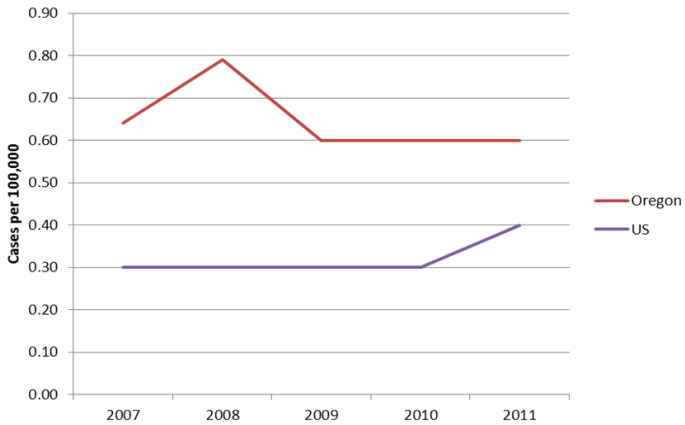
* Rates of chronic HCV infection in persons under 30 years of age have increased 27% since 2006

Figure 4. Annual Cases of Acute HCV, Oregon, 2000-2013



•Between 2009-2013, 45% of cases were < 30 years and 68% were under age 40
•56% were male
•64% reported injection drug use

Figure 5. Rate of Acute HCV in Oregon and the US, 2007-2011



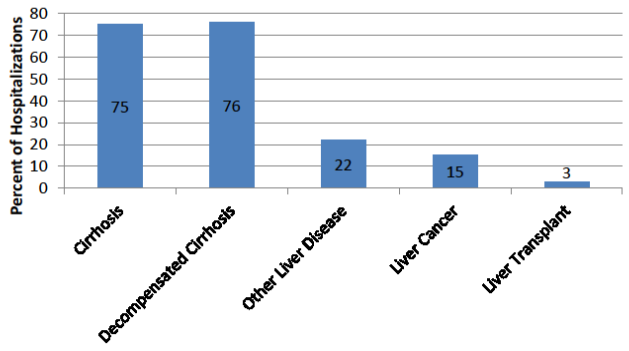
*Rates of acute HCV in Oregon were 50% higher than the national average during 2007-2011.

CDC estimates that although persons born between 1945 and 1965 comprise an estimated 27% of the population, they account for approximately three-fourths of all HCV infections in the United States, 73% of HCV-associated mortality, and are at greatest risk for hepatocellular carcinoma and other HCV-related liver diseases.

Hospitalizations

For the period 2008-12 (2012 is the most recent year for which data are available), there were 3,917 hospitalizations in which patients were identified with HCV who also had a discharge diagnosis consistent with advanced liver disease (chronic liver disease, cirrhosis, decompensated cirrhosis, liver cancer or liver transplant). The number of hospitalizations averaged 783 per year and ranged from 764 to 838 annually during this period; the average length of stay was five days. Only 8% occurred in persons younger than 45, while 70% occurred in persons ages 50-64. Two-thirds of the hospitalizations occurred in men. By category of liver disease, the most common liver discharge diagnoses were cirrhosis (75%) and decompensated cirrhosis (76%), followed by liver cancer (15%), chronic liver disease (22%) and liver transplant (3%) (Figure 6).

Figure 6. Categories of Advanced Liver Disease in Patients with HCV-related Hospitalizations, Oregon, 2008-12, (n=3,917)



During this five-year period, the average charges per patient were $26,961 and the total charges per year for these hospitalizations averaged $21,149,111 (Table 1).

Table 1. Mean Length of Stay and Health Care Charges per Admission, HCV related Hospitalizations, Oregon, 2008-2012 (3,917)

Condition	Mean length of hospital stay in days	Mean hospital charges per admission
Cirrhosis (n=2,919)	4.4	$23,942
Decompensated Cirrhosis (n=2,969)	4.9	$27,234
Other chronic liver disease (n=849)	4.4	$22,230
Liver cancer (n=597)	5.1	$34,281
Liver transplant (n=103)	6.9	$52,345

Liver transplant

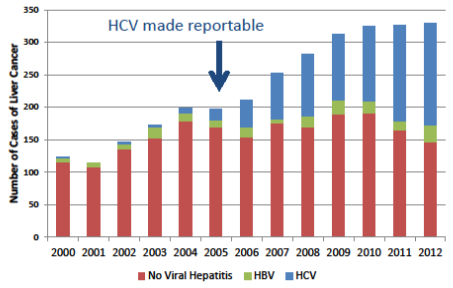
In the five-year period from 2009-2013, 169 liver transplants were performed at Oregon Health & Science University (an average of 34 cases annually); of those, 54% were in people with chronic HCV infection.

Liver Cancer

From 1996 through 2012, 3,395 cases of liver cancer (hepatocellular carcinoma, or HCC) were reported to the Oregon State Cancer Registry. Of those, 959 (28%) were attributable to chronic viral hepatitis (based on reported laboratory results); 196 (6%) were in persons with chronic HBV infection; and 763 (22%) were in persons with chronic HCV infection. The proportion of cases known to be due to chronic HCV each year has risen dramatically since 2005, when chronic HCV first became reportable in Oregon (Figure 7).

Liver cancer in persons with HCV undoubtedly occurred before 2005, but would not have been detected by our surveillance systems. However, given that liver cancer rates were rising in Oregon before 2005, the increase is likely due to an increase in the prevalence of persons with long-standing HCV infection. By 2012, 47% of liver cancer cases had chronic HCV. Over three-quarters (78%) of cases of HCV-related liver cancer occurred in men; 53% were age 50-59, and 33% were 60-69.

Figure 7. Chronic Viral Hepatitis Cases by Year of Liver Cancer Diagnosis, Oregon, 2000-2012

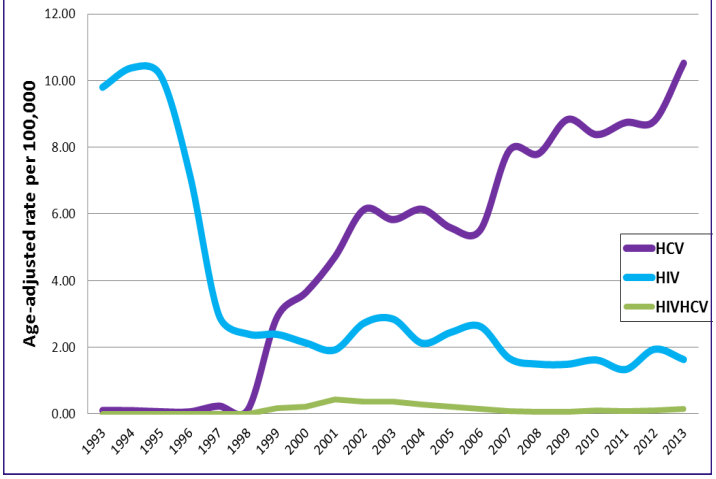


•By 2012, 47% of liver cancer cases had chronic HCV
•In 2009-13, 78% of HCV-related liver cancer cases were male, 53% were 50-59 years, and 33% were 60-69 years

Mortality

Mirroring national trends, deaths from HCV have risen steadily over the last decade, averaging over 400 deaths annually in Oregon during the last five years (Figure 8). The mortality rate from HCV is more than six times higher than that from HIV in Oregon. HCV mortality is also higher in Oregon than in the US as a whole; in 2011, the most recent year for which national data are available, the age-adjusted Oregon mortality rate was 8.7 deaths per 100,000 persons, compared to the national mortality rate of 4.8 deaths per 100,000. In the past five years, 80% of deaths have occurred in persons ages 45-64. HCV-related deaths are expected to continue to increase through 2030.

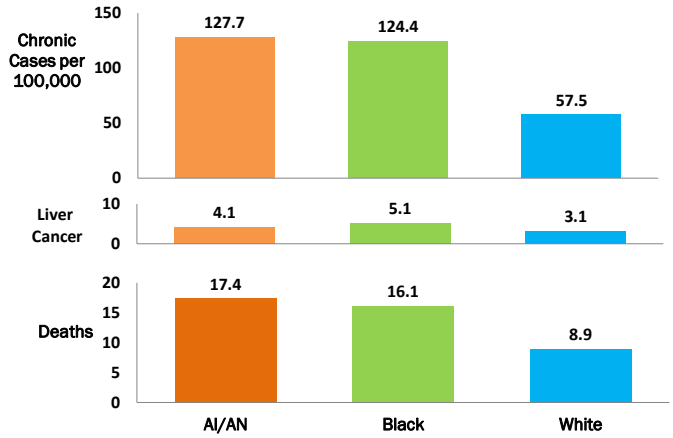
Figure 8. Age-adjusted death rates for HCV and HIV Oregon, 1993-2013



Racial and Ethnic Disparities

In Oregon, the burden of HCV disproportionately affects African Americans and American Indians compared to whites. Rates of reported cases of chronic HCV infection are more than twice as high; cases of liver cancer are 50% higher, and HCV-related deaths are twice as high in African Americans and American Indians compared to whites (Figure 9).

Racial Differences in Incidence of Chronic HCV, HCV-related Liver Cancer, and HCV Mortality, Oregon, 2009-13



Addressing HCV in Oregon

Assessment

- Monitor trends in cases of HCV, cirrhosis, liver cancer, and deaths.
- Investigate risk factors, respond to outbreaks, and study health disparities.
- Use monitoring data to assess accessibility of care, quality of care and outcomes of hepatitis prevention services

Screening

Encourage one-time screening among persons born 1945—1965.

Targeted HCV screening in settings that include:

- Syringe service programs.
- Jails.
- Drug and alcohol treatment programs.
- Homeless and mental health community services.

Policy Development

- Develop evidence-based policies to prevent viral hepatitis, identify persons early in their infection and link them to care and treatment.
- Target populations with increased prevalence, immediate risks of advanced liver disease, and ongoing transmission risks.
- Support efforts to address opiate dependency and prevent it from progressing to injection drug use.
- Conduct culturally-appropriate education to raise awareness about viral hepatitis, its risks and the benefits of testing, care and treatment
- Develop culturally appropriate health promotion interventions to reduce barriers to testing, care and treatment.

Assurance

- Enforce regulations that mandate hepatitis surveillance and promote health care safety
- Support equitable syringe access and education about safe injection practices and safe syringe disposal
- Ensure access to drug and alcohol treatment programs for people with viral hepatitis.
- Promote linkage to care by integrating viral hepatitis services with other public health services; collaborate with substance treatment and health care providers to promote hepatitis testing and ensure appropriate care; provide surveillance data to support registries linking infected individuals to care.