Acute Hepatitis C

Although the associated illness was recognized clinically by 1975, the virus causing hepatitis C infections was not identified until 1989. In Washington, hepatitis C has become the most common of the major types of viral hepatitis. Complications of chronic infections make hepatitis C an ongoing public health concern.

Acute Infections

Humans are the only reservoir for the hepatitis C virus. During an acute or chronic infection, the virus is present in the blood and other body fluids. Currently the major risk factor for acute hepatitis C infection is injection drug use. Transmission can also occur sexually or perinatally. Historically, contaminated blood products and infection control failures during medical or dental procedures were significant risks for transmission. There is no vaccine available to protect against hepatitis C, unlike hepatitis A and hepatitis B.

Acute hepatitis C often goes unrecognized because most newly infected persons have no symptoms. When there is symptomatic illness with acute hepatitis C, loss of appetite, abdominal cramps, nausea, and vomiting typically occur. Not all infections result in jaundice, so even when there are symptoms the infection is often mild enough that no healthcare provider is consulted or the diagnosis is not considered if the person is seen by a healthcare provider. Specific testing is necessary to confirm that the illness is due to hepatitis C.
Of all acute cases, about 75-85% will develop chronic hepatitis C unless treated. Over decades, chronic infection can progress to cirrhosis, liver failure, and liver cancer, resulting in disability and premature death. Hepatitis C infection is a major reason for liver transplantation in the United States. In addition to the health care impacts, persons with chronic infection represent a potential ongoing source of exposure to others.

In 2001, pegylated interferon protocols were developed for treatment of hepatitis C. The medication required an extended course and had severe side effects. Beginning in 2011, antiviral therapeutic options for hepatitis C were introduced which are tolerated much better by patients. However, cost of treatment has become a challenge.

**Disease Surveillance**

When tests became available for hepatitis A and hepatitis B viruses, it was recognized that another type of hepatitis existed when a small number of patients had three documented jaundice illnesses. The agent was unknown so the disease was called non-A, non-B hepatitis. Epidemiologic studies indicated the virus was transmitted by body fluids and was mainly bloodborne. After the causative virus was identified, screening methods were improved. By 1992 the previous danger of infections from blood transfusion, blood products, organs, and tissues had almost been eliminated.

Acute hepatitis C has been reportable in Washington since 1981, first as non-A, non-B hepatitis. The national case definition has gone through a series of changes as diagnostic tests improved. Initially based on anti-HCV testing in 2000, the case definition added RIBA as a defining test in 2004 and nucleic acid testing in 2007, followed by defining cases by documented seroconversion within 6 months of a positive test (2011) and documented seroconversion within a year (2016). According to the current (2016) case definition, cases are reportable when they meet the following criteria:

- **Probable case** – Discrete onset of symptomatic acute hepatitis and either jaundice or serum alanine aminotransferase (ALT) > 200 and anti-HCV positive
- **Confirmed case** – Discrete onset of symptomatic acute hepatitis and either jaundice or serum alanine aminotransferase (ALT) > 200 and either nucleic acid test for HCV RNA positive (qualitative, quantitative, or genotype) or positive test for HCV antigen
- **Confirmed case** – Documented conversion from any negative to positive hepatitis C result within 12 months
Since 1994, when acute hepatitis C rates in Washington State peaked and far surpassed those of the rest of the country, reported cases have declined in number and Washington’s rates are now similar to those of the United States. After reaching a national low of under 0.3 acute hepatitis C cases/100,000 population, a recent increase in rates has been seen both nationally and in Washington, reaching 0.7/100,000 nationally in 2014 and 1.2/100,000 in Washington in 2014. In the past few years, higher numbers of cases have been seen for many counties in western Washington. Expansion of the case definition to include detection by seroconversion does not account for the entire increase in cases (Figure).

![Figure: Acute hepatitis C cases by reporting year](image)

Although changes in the case definition may partly explain the recent increase, the increase has paralleled greater availability of heroin outside large urban areas. For 2010-2014 the average age at diagnosis for acute hepatitis C was 32.4 years, ranging from 15 to 91 years. Roughly equal number of males and females were reported. Of those cases with risk factors reported, 84% had injection drug use. A small number of cases had likely medical exposures as their source of infection.

It is well understood that surveillance for acute hepatitis C through notifiable conditions reporting misses a large majority of the cases. Unless involved with periodic screening due to an ongoing risk factor, persons with no or mild symptoms and person with limited access to health care will not be tested for the disease and their initial infections will not be recognized. As a result, the reported hepatitis C cases are likely a quarter or less of the actual number of acute infections.
Public Health Intervention

Until there is a vaccine available to control hepatitis C, person-to-person transmission must be interrupted to reduce or eliminate new cases. Identifying acute infections gives the opportunity to educate newly infected persons about preventing further spread. Potential approaches for prevention include syringe services programs, decriminalizing possession of drug works, safe consumption sites, and expanded drug treatment options. Linkage to care with completion of antiviral treatment can reduce the number of infected persons who contribute to an ongoing reservoir. Education can also be given about means of reducing further liver disease, such as getting vaccines to protect against hepatitis A and hepatitis B.

If there are groups at risk that have been identified in a local area, targeted counseling and availability of prevention services can reduce transmission. Periodic screening can identify newly infected persons who can then be referred for education and services. Preventing acute infections will reduce the number of persons with chronic hepatitis C and its eventual complications.

This year the Washington State Department of Health developed an epidemiologic profile to describe the impact of hepatitis C in the state. The epidemiology of acute and chronic hepatitis C are covered, as well as regional disease patterns within Washington and discussions of specific groups at risk for acquiring or having hepatitis C infections.

The epidemiologic profile, *Viral Hepatitis C in Washington State*, can be accessed on the Department of Health website at: [http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/ChronicHepatitisSurveillance](http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/ChronicHepatitisSurveillance). Feedback about the document would be appreciated and can be given through a short survey that can also be accessed from that page.