



VA research on **HEPATITIS C**

Hepatitis C, caused by the hepatitis C virus (HCV), is a condition marked by inflammation of the liver. HCV is spread through contact with infected blood or contaminated IV needles, razors, tattoo tools, or other items.

ABOUT HEPATITIS C

- The symptoms of hepatitis C infection are often very mild. Most people can carry the virus for years and will not notice any symptoms. The most common symptoms are vague abdominal discomfort, fatigue, and joint pains.
- Over time, HCV can cause other health problems, such as cirrhosis and liver cancer. Because the virus stays in the body, an infected person can give hepatitis C to someone else.
- People at risk for hepatitis C should consider getting tested. Blood tests are required to determine if HCV is present in the body.
- As of March 2016, VA had [treated](#) more than 76,000 Veterans infected with hepatitis C and approximately 60,000 had been cured. Since the beginning of 2014 and as of March 2016, more than 42,000 patients had been treated with new, highly effective antiviral medications.
- In fiscal year 2015, VA allocated \$696 million for new hepatitis C drugs, which is 17 percent of VA's total pharmacy budget.

VA RESEARCH ON HEPATITIS C: OVERVIEW

- VA research on hepatitis C includes clinical trials of treatments, epidemiologic studies, investigations of the biological mechanisms of infection, and studies on identifying and removing barriers to treatment.
- Some VA researchers are working on projects to improve screening and testing methods for HCV. Others are working to improve the assessment and treatment of patients traditionally excluded from hepatitis C treatment, including those with mental illness, substance abuse, or who also are infected with the human immunodeficiency virus (HIV), the virus that causes AIDS.
- In addition, VA researchers are developing and disseminating models of interdisciplinary care to optimize treatment and clinical standards for treating patients at all stages of HCV infection.

SELECTED MILESTONES AND MAJOR EVENTS

- **2011** – Established the VA National Hepatitis C program (now the [National](#)

[Viral Hepatitis Program](#)) within VA's Office of Public Health

2013 – [Determined](#) that patients with both anemia and the HCV virus can benefit from intensive treatment for the virus

2015 – [Learned](#) that cure rates from new HCV treatments were much better than previous treatments, but not as good as rates reported in clinical trials

2015 – [Developed](#) a new model to help identify which patients chronically identified with HCV have the greatest need for new antiviral drugs

2016 – [Found](#) that patients with HCV infections are at increased risk of developing osteoporosis and fractures

RECENT STUDIES: SELECTED HIGHLIGHTS

- **A new model uses routine laboratory tests and machine-learning methods** to help identify which patients clinically identified with HCV have the greatest need for new antiviral drugs. According to researchers from the VA Ann Arbor Healthcare System and the University of Michigan, hepatitis will remain stable

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without treatment, perhaps for many years, in most patients. One-third of patients, however, are at high risk of complications and need immediate care to prevent the virus from causing further liver damage. The test will identify these patients. (*Hepatology*, June 2015)

• **Statins improved outcomes among Veterans receiving antiviral treatment for hepatitis C.** Researchers from the VA Pittsburgh Healthcare System found that those who used statins were significantly more likely to have a sustained response to antiviral therapy, compared with those who did not (39 percent versus 33 percent.) Statin users were also less likely to progress to cirrhosis (17 percent versus 25 percent) or to develop liver cancer (1.2 percent versus 2.6 percent). (*Hepatology*, August 2015)

• **Cure rates range from 67 to 79 percent** for patients using sofosbuvir (sold as Sovaldi), a new drug for the treatment of hepatitis C, according to an observational study of more than 4,000 Veterans conducted by the VA Palo Alto Health Care System. These cure rates are far better than those of previous HCV treatments, but fall short of the rates

seen in clinical trials of sofosbuvir. A newer drug, Harvoni, was not included in the Palo Alto trial, as the drug was not FDA-approved when the trial was conducted. (*Alimentary Pharmacology and Therapeutics*, September 2015)

• **Veterans with substance use or psychiatric disorders and HCV infections** who received care that fully integrated support for their mental health issues and their hepatitis C infection under the supervision of a care manager were more likely to receive antiviral therapy than those whose care was not integrated. Researchers at the VA San Diego Healthcare System also found that Veterans with care managers were also more likely to successfully complete antiviral therapy and have undetectable virus loads at its completion, compared to those who received usual methods of care. (*Clinical Gastroenterology and Hepatology*, November 2015)

• **Veterans with HCV and liver cirrhosis are significantly less likely to die** or to progress to a stage in the disease called decompensated cirrhosis if they use statins to control blood cholesterol. According to a team from the VA Connecticut Healthcare System

and Yale University, until randomized controlled trials are conducted, statins cannot be widely recommended for all people with HCV and cirrhosis, but patients with HCV who would require statins for other health issues such as high cholesterol should be prescribed those drugs. (*Gastroenterology*, February 2016)

• **Patients with HCV infections are at increased risk of developing osteoporosis and bone fractures**, and the risk is greatest for patients who have both HIV (the virus that causes AIDS) and HCV infections. Researchers at the VA North Texas Health Care System and the University of Texas Southwestern found that patients with HIV and HCV have a threefold greater risk of developing fractures compared with people who have neither infection, and that those with both infections also have significant additional risk compared to patients who are only infected with HIV. (*Current Opinion in HIV and AIDS*, May 2016)

For more information on VA studies on hepatitis C and other key topics relating to Veterans' health, please visit www.research.va.gov/topics

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