

March 2017

## A National Strategy for the Elimination of Hepatitis B and C

### Phase Two Report

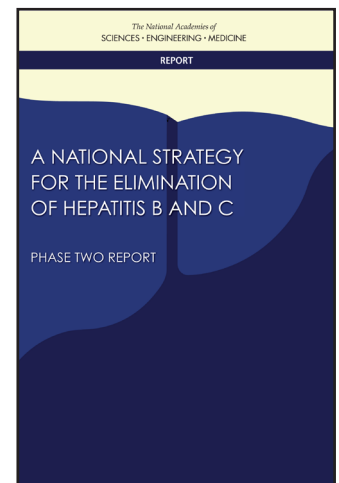
Each year, hepatitis B virus (HBV) and hepatitis C virus (HCV) cause nearly 1.5 million deaths worldwide—more than HIV, tuberculosis, and malaria—and more than 20,000 deaths in the United States alone. Such loss of life comes at a cost to society through the direct expense of treatment as well as through the loss of adults in their prime. Despite relatively little public or scientific attention to viral hepatitis, recent advances have led to hepatitis C now being curable with short and easily tolerable courses of treatment. There is an effective vaccine against hepatitis B. Treatment can prevent most deaths from chronic HBV infection.

With support from the Centers for Disease Control and Prevention (CDC) and the U.S. Department of Health and Human Services, the American Association for the Study of Liver Diseases (AASLD), the Infectious Diseases Society of America (IDSA), and the National Viral Hepatitis Roundtable, the National Academies of Sciences, Engineering, and Medicine convened an expert committee to describe a strategy for eliminating viral hepatitis as a U.S. public health problem by 2030.

The committee produced two reports. The first report concluded that both hepatitis B and C could be eliminated as public health problems in the United States, but that there are substantial obstacles to meeting this goal. This second report, *A National Strategy for the Elimination of Hepatitis B and C: Phase Two Report*, recommends specific actions to hasten the end of these diseases and lays out five areas—information, interventions, service delivery, financing, and research—to consider in the national plan.

### COLLECTING INFORMATION

Because serious symptoms of hepatitis B and C may not emerge for decades after infection, cases are hard to count. Furthermore, the diseases are often left off death certificates. In places where the CDC supports the health department to pay special attention to hepatitis, this problem is corrected, and the real disease burden is clearly higher than national data would suggest.



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Health department data can identify spikes in new infections, give insight into patterns of access to care, help estimate disease prevalence, and tailor prevention and response programs. Highly automated systems can help make this task more efficient, and the committee states that investing in such systems, as well as the human expertise to manage them, would advance the goal of hepatitis elimination in the United States.

### **ESSENTIAL INTERVENTIONS**

Prevention is the first step to eliminating the public health problem of hepatitis B and C: Immunization against HBV can prevent 95 percent of infections. Yet there is not good awareness of the importance of adult vaccination, and clinics often fail to stock the vaccine. If states supported hepatitis B vaccination at the same level as seasonal influenza vaccine, great gains could be made against hepatitis B.

There is no vaccine against HCV, and until there is, prevention will be mostly a matter of limiting exposure to the virus. This depends in part on reducing risk of HCV infection among people who inject drugs, who account for 75 percent of new cases of hepatitis C each year. State and federal agencies should expand access to needle and syringe exchange programs to help reduce exposure to HCV.

The direct-acting antiviral drugs that cure hepatitis C make elimination feasible in the United States. (There is no comparable cure for hepatitis B, but the drugs entecavir and tenofovir are effective at viral suppression and are cost-effective.) Delaying such treatments only increases a patient's risk of cirrhosis, liver cancer, and death; it also preserves a disease reservoir that hurts society. Although hepatitis C drugs are cost-effective, they are expensive—especially for public payers—so Medicaid patients are frequently denied treatment. Public and private health plans should remove restrictions that are not medically indicated and offer direct-acting antivirals to all chronic hepatitis C patients. Unrestricted

hepatitis C treatment could reduce new cases of hepatitis C by 90 percent by 2030.

### **SERVICE DELIVERY**

Many people suffering from viral hepatitis are not in contact with the health system, so the elimination strategy must give as much attention to the delivery of services as to the services themselves. If more providers could treat hepatitis C, especially in rural and underserved areas, then more patients would be reached. The committee encouraged AASLD and IDSA to train and support primary care providers to manage viral hepatitis, expanding on existing collaborative training models.

Some of the people with the most serious need for viral hepatitis care may not be in regular contact with primary care providers, including the uninsured, those who have substance use problems, and those who are or have been imprisoned. A variety of federal and state agencies should give more explicit attention to bringing hepatitis services to these populations. A system of the same breadth and flexibility as the Ryan White Act, which was passed in response to similar issues in those with HIV, would go far to reaching marginalized viral hepatitis patients.

The prison population bears a particularly high burden of viral hepatitis, and the criminal justice system should screen, vaccinate, and treat hepatitis B and C in correctional facilities according to national clinical practice guidelines.

### **FINANCING ELIMINATION**

The cost of the direct-acting antivirals that cure HCV infection is a major obstacle to elimination, straining the budgets of public and private payers alike. While unrestricted, mass treatment of hepatitis C will be necessary to eliminate the disease as a public health problem by 2030, no direct-acting drug will come off patent before 2029. Furthermore,

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delaying mass treatment would result in billions of dollars in wasted medical costs—and tens of thousands of needless deaths.

The committee recommends a voluntary transaction between the government and the companies producing direct-acting antivirals, in which the companies compete to license a patented drug to the federal government for use in neglected populations. The drug company would be guaranteed reasonable compensation (because of the voluntary nature) and the licensed drug would be used only in those for whom the government buys and access is now limited (such as prisoners and Medicaid beneficiaries), markets the companies are not reaching otherwise.

Calculations show that the licensing rights should cost about \$2 billion, after which states would pay about \$140 million to treat 700,000 Medicaid beneficiaries and prisoners. By comparison, the status quo would cost about \$10 billion over the next 12 years to treat only 240,000 similar patients.

## **RESEARCH NEEDS**

The United States has exceptional talent in science and technology, which compels special attention to research. The committee identifies key topics that would benefit from scientific attention, including the immune response and curative therapies for HBV and vaccine for HCV, as well as rapid diagnostic tests and new treatments for fibrosis, cirrhosis, and liver cancer. A better understanding of how to reduce stigma and prevent injection drug use would also benefit the elimination effort.

## **CONCLUSION**

Elimination of hepatitis B and C as U.S. public health problems is possible if the strategy outlined in the committee's report were implemented. Improvements in testing, diagnosis, and care, as well as increased preventive measures and focused research, are possible, but they will require the cooperation of various federal and state government agencies, professional societies, legislators, and private sector organizations. The committee provides a path toward mitigating these problems, avoiding about 90,000 deaths by 2030.

**To download and read a free copy of this report, visit [nationalacademies.org/HepatitisElimination](https://nationalacademies.org/HepatitisElimination).**

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