

The Contribution of U.S. Centers for Disease Control and Prevention (CDC) in Global Viral Hepatitis Elimination Programs

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Q. What is the global burden of viral hepatitis?

Viral hepatitis, which the World Health Organization (WHO) estimates was responsible for over 1.3 million deaths globally in 2015, is a leading cause of mortality, comparable to mortality from HIV, malaria, and tuberculosis ¹. Chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infections are responsible for the majority of hepatitis-related morbidity and mortality. There are an estimated 257 million HBV infections and 71 million HCV infections worldwide ¹. Low- and middle-income countries (LMICs) carry a disproportionate share of the global hepatitis burden and often lack the capacity to address the problem comprehensively. The heightened awareness engendered by the World Health Assembly Resolutions 63.18, 67.6, and 69.22 ²⁻⁴, combined with the recent development of highly curative anti-viral drugs for hepatitis C, has resulted in a dramatic increase in demand for supporting high burden countries in implementing programs to prevent, diagnose, treat, cure, and eliminate viral hepatitis.

Q. What role do the Centers for Disease and Control have in the elimination of viral hepatitis?

The Centers for Disease Control and Prevention (CDC) has been recognized globally as a premier public health agency for the prevention and control of viral hepatitis. CDC's Division of Viral Hepatitis (DVH) was the first WHO Collaborating Center for Reference and Research on Viral Hepatitis. CDC's DVH, with a staff of over 100 professionals, has expertise in epidemiology, surveillance, prevention, laboratory diagnostics and research. CDC's DVH plays a key role in supporting hepatitis elimination efforts, both domestically in the United States, as well as globally; the CDC Foundation has been a key partner since 2012. Key global activities include providing support to WHO, and providing technical assistance (TA) to high burden LMICs. When requested, CDC's DVH works with in-country counterparts, including local Ministries of Health and/or National Public Health Agencies, often in collaboration with other CDC programs, WHO, and non-governmental organizations to provide TA to investigate outbreaks, provide consultation, and to develop, implement, monitor, and evaluate strategies for viral hepatitis prevention, care, treatment and elimination.

During the 1990s and 2000s, CDC's DVH focused much of the global work on implementation of hepatitis B vaccination programs in LMICs, in collaboration with WHO and Global Alliance for Vaccines and Immunization (GAVI). For each annual birth cohort, over 700,000 premature deaths due to hepatitis B could be averted by achieving 70% hepatitis B vaccination coverage⁵.

As such, the hepatitis B vaccination was named one of the 10 most important public health achievements of the decade 2000 – 2010 ⁵. This work continues robustly, with CDC's Global Immunization Division taking on an increasing share of the responsibility supporting hepatitis B vaccination programs.

Beginning in 2011, CDC's DVH began engagement with two of the countries with the largest burdens of hepatitis C in the world, Egypt and Pakistan. In Egypt, with an estimated 10% of adults living with hepatitis C ⁶, CDC's DVH supported development of the 2014-2018 National Plan of Action for the Prevention Care and Treatment of Viral Hepatitis. In Pakistan, with an estimated 8 million living with HCV infection ⁷, CDC's DVH supported the development of a Sentinel Surveillance System, a National Strategy for Control and Elimination, Treatment Guidelines, assessment of the provincial programs in Sindh and Punjab, and a Technical Advisory Group to guide and oversee progress in hepatitis prevention and control.

Beginning in 2013, CDC's DVH began a partnership with Georgia, a small country in the South Caucasus, with a large burden of chronic HCV infection (5.4% among adults)⁸. CDC's DVH provided TA to the local government to conduct a population sero-survey to accurately assess the burden, and to identify the risk factors. With strong stakeholder support, including partnership and TA from CDC's DVH, and commitment from Gilead Sciences to donate direct acting antivirals (DAAs), Georgia embarked on the world's first HCV elimination program in April, 2015⁹. This program has been a leader in innovative efforts to identify, diagnose, and link to quality care; since the launch, over 50,000 persons, one-third of the infected population, has entered treatment. Additionally, this program has addressed prevention, including injection drug use, unsafe blood supply, and infection control in health care settings ¹⁰⁻¹¹. Further, to support the program, the country has developed an information system that allows for real-time monitoring and evaluation of the program.

Q. What are CDC's next steps in the field?

Global viral hepatitis goals were set in 2016 by the WHO, with a target date of 2030¹. The tools to achieve elimination are available. It is the responsibility of public health agencies, partnering with clinicians, national governments, civil society, and non-governmental organizations to ensure that the tools are utilized and viral hepatitis elimination is achieved. CDC's DVH is proud of the role it has played in viral hepatitis prevention, control and elimination over the decades. However, the road to elimination is long, and the challenges are immense. Partnerships will be key to reaching the elimination goals, and CDC's DVH has thus adopted partnership building as a core strategy for reaching the global viral hepatitis elimination goals. In 2018, the EASL International Liver Foundation is partnering with the country of Georgia and the CDC DVH to establish the country of Georgia into a Center of Excellence for HCV Elimination. This project will serve to highlight and disseminate the best practices and lessons learned from Georgia's ambitious efforts at HCV Elimination.

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