Can Hepatitis C Be Eradicated in the United States?

An excerpt from commentary by researchers at Weill Cornell Medical College and National Development and Research Institutes.

September 9, 2014 By Brian Edlin and Emily Winkelstein

The advent of highly effective antiviral regimens will make the eradication of hepatitis C in high-income countries such as the United States technically feasible. But eradicating hepatitis C will require escalating our response to the epidemic in key domains, including surveillance and epidemiology, prevention, screening, care and treatment, policy, research, and advocacy.

Surveillance must be nimble enough to quickly assess the magnitude of new transmission patterns as they emerge. Basic prevention strategies - community-based outreach and education, testing and counseling, and access to sterile injection equipment and opioid substitution therapies - must be scaled up and adapted to target groups in which new epidemics are emerging. All adults should be screened for hepatitis C, but special efforts must focus on groups with increased prevalence through community outreach and rapid testing. Government, industry, and payers must work together to assure full access to health services and antiviral drugs for everyone who is infected.

Access to the new regimens must not be compromised by excessively high prices or arbitrary payer restrictions. Partnerships must be forged between hepatitis providers and programs that
serve people who inject illicit drugs. Healthcare providers and systems, especially primary care practitioners, need education and training in treating hepatitis C and caring for substance-using populations. Services must be provided to the disadvantaged and stigmatized members of society who bear a disproportionate burden of the epidemic. Environments must be created where people who use drugs can receive prevention and treatment services without shame or stigma.

Action is needed to end the policy of mass incarceration of people who use drugs, reduce the stigma associated with substance use, support the human rights of people who use drugs, expand social safety net services for the poor and the homeless, remove the legal barriers to hepatitis C prevention, and build public health infrastructure to reach, engage, and serve marginalized populations.

Governments must take action to bring about these changes. Public health agencies must work with penal institutions to provide prevention and treatment services, including antiviral therapy, to those in need in jails and prisons or on probation or parole. Research is needed to guide efforts in each of these domains. Strong and sustained political advocacy will be needed to build and sustain support for these measures. Leadership must be provided by physicians, scientists, and the public health community in partnership with community advocates and people living with or at risk for hepatitis C.

Eliminating hepatitis C from the United States is possible, but will require a sustained national commitment to reach, test, treat, cure, and prevent every case. With strong political leadership, societal commitment, and community support, hepatitis C can be eradicated in the United States. If this is to happen in our lifetimes, the time for action is now. This article forms part of a symposium in the journal Antiviral Research on “Hepatitis C: next steps toward global eradication.”

The appearance on the horizon of all-oral antiviral regimens that appear to be capable of eliminating infection with the hepatitis C virus (HCV) in as many as 90 percent or more of patients in as little as 8 to 12 weeks has raised the question of whether HCV can be eradicated in high-income countries. The pinnacle of public health achievements, disease eradication has a great appeal to donors, policymakers, and public health workers. It can also provide economic benefits, strengthen public health capacity to address other health conditions, and advance the humanitarian aims of social justice and health equity.

But while newer therapies could bring the eradication of hepatitis C within reach, efforts to accomplish this goal face a number of significant hurdles. Hepatitis C has a long asymptomatic period that may last decades, during which diagnosis will not occur without widespread screening and the virus may be unwittingly transmitted to other persons. Most infected people are unaware of their infection. Treatment is costly, insurance coverage uncertain, and few clinicians have experience with the newest regimens. There is no robust natural immunity, and extensive efforts to develop a vaccine have yet to bear fruit.

While effective prevention measures exist, they have not been widely applied, and where they have, they have not been sufficiently effective to stop all ongoing transmission. Disease
progression is slow, which can forestall a sense of urgency. And the populations most affected by the epidemic are burdened by severe stigma and social marginalization, which handicaps the implementation of preventive and therapeutic services for them. In an era of extreme privatization of wealth, funding is scant for public health initiatives, or any programs that benefit public well-being, and the need to provide services to marginalized populations in particular has difficulty gaining traction.

None of these obstacles, by itself, is insurmountable. Vaccines, for example, were critical for eliminating smallpox and polio from the United States and for ongoing efforts to eliminate measles, mumps, and rubella. But of the six adult infectious diseases targeted for eradication or elimination by the World Health Organization, vaccines are lacking for five. Cases of guinea worm, in fact, are down from an estimated 3.5 million in 1986 to 148 cases in 2013 despite the lack of either a vaccine or curative drug therapy.

Hepatitis C meets a number of the established criteria for eradication to be technically feasible: there is no non-human reservoir, and the organism cannot amplify in the environment; there are simple and accurate diagnostic tools; there are practical interventions to interrupt transmission; and the infection can, in most cases, be cleared from the host.

If the cost of treatment is not prohibitive, existing prevention measures are scaled up where needed, and screening can be widely implemented, eradication is technically feasible.

But meeting the prerequisites for eradication will demand escalation of our response to the hepatitis C epidemic in a number of critical dimensions, including public health initiatives, clinical interventions, public policy changes, and social and political action. The hepatitis C epidemic spans a diversity of groups: people with health insurance and those without coverage; those who are no longer at risk of transmitting or reacquiring HCV and those who continue to engage in risk behavior; those with the resources to address their infection and those facing more pressing priorities.

If eradication is to be achieved, it will require societal and political commitment to vigorously engaging the full range of affected groups and populations. A successful eradication initiative requires not only biologically effective interventions, but considered attention to what has been described as the “human element” – political leadership, cultural attitudes, societal commitment, and community support.

This article outlines key steps that can be taken to accomplish the elimination of hepatitis C in the United States. Defined broadly as the absence of disease in a particular population, eradication requires preventing both the transmission of infection and progression to clinical disease among those already infected. (Although eradication is sometimes defined, technically, as the reduction of disease incidence to zero worldwide, definitions vary, and here we use it interchangeably with elimination, to mean ending the epidemic in a single country).

The article highlights action needed to enhance epidemic control efforts in six domains:
surveillance and epidemiology; prevention; testing; care and treatment; social policy; and research.

Each of the measures discussed has demonstrated effectiveness in certain settings or contexts but needs to be scaled up to effect eradication of the epidemic. Some of the measures will be more difficult to implement than others, and some may not be feasible in the near term. But none is beyond the grasp of a nation that has, in times of need, marshaled prodigious resources in pursuit of its goals.

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