

New Hepatitis C treatments cost-effective, but only for selected patients, study shows

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Electron micrographs of hepatitis C virus purified from cell culture. Scale bar is 50 nanometers. Credit: Center for the Study of Hepatitis C, The Rockefeller University.

A study led by Boston Medical Center (BMC) researchers demonstrates that while new therapies to treat Hepatitis C Virus (HCV) are highly effective, they are cost-effective and provide the greatest value in specific groups of HCV-infected patients. The findings of the study, led

by Benjamin P. Linas, MD, MPH, from BMC's section of infectious diseases and the Boston University School of Medicine (BUSM), are published in the *Annals of Internal Medicine*.

The study focused on the combination of sofosbuvir and ribavirin for treatment of HCV genotypes 2 and 3, which account for approximately one quarter of all HCV cases in the United States. These medications were the first all oral combination therapy approved for the treatment of HCV. While this medication regimen is effective in curing more than 90 percent of [patients](#), the wholesale cost of sofosbuvir is approximately \$85,000 per treatment course, which has strained insurance budgets and led to treatment restrictions.

Using a simulation model, Linas and colleagues projected outcomes, costs, and cost-effectiveness of sofosbuvir-based treatments for HCV genotype 2 or 3 infection in the US. They found that at these costs, sofosbuvir-based HCV therapy provides excellent economic value in genotype 2 or 3 infected patients who already have advanced liver disease. It also is cost-effective for patients who have already previously failed treatment with other drugs.

For patients without liver disease and who have never before been treated for HCV, however, these therapies cost well over \$100,000 for each quality-adjusted life year gained, suggesting that for this healthier group of patients, the medication cost is too high to be considered cost-effective.

"These new oral treatments provide better clinical results with fewer side effects for all patients, but at the current price, are only good value for those who need [treatment](#) the most - patients with advanced [liver disease](#) or those who failed prior therapy," Linas said. "With lower costs, it would be reasonable to provide these better regimens to all patients."

Provided by Boston University Medical Center

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