# HCV TREATMENT WITH DIRECT-ACTING ANTIVIRALS IN INDIA IS COST-SAVING

**Authors:** Antoine Chaillon[1], Sanjay R. Mehta[1,2], Martin Hoenigl[1,3], Peter Vickerman[4], Matthew Hickman[4], Britt Skaathun[5], Natasha K Martin[5,4]

[1]Division of Infectious Diseases, Department of Medicine, University of San Diego, California, USA., [2]Department of Medicine, San Diego Veterans Affairs Medical Center, 3Department of Medicine, Medical university of Graz, Austria [4]School of Social and Community Medicine, University of Bristol, UK [5]Division of Global Public Health, University of California San Diego, USA.

**Background:**
HCV direct-acting antiviral therapies (DAAs) are being produced at low cost in India, and can cure >90% of individuals. However, concerns surrounding reinfection has limited the widespread scale-up of HCV treatment in India. We evaluate the cost-effectiveness of HCV treatment with DAAs in India, including risk of reinfection.

**Methods:**
A closed cohort Markov model of HCV disease progression, treatment, and reinfection was parameterized to India. We compared treatment at various fibrosis stages (F2-F4 or F0-F4) to no treatment. We utilize a health care provider perspective, and a 100 year time horizon. Costs (in 2015 USD$) were attached to each disease stage based on published literature for Indian public hospitals (Compensated cirrhosis $538/year, decompensated cirrhosis $4,353/year; hepatocellular carcinoma $5,698/year). We assumed no liver transplantation. Health utilities (in quality-adjusted life years, QALYs) were attached to each health state. Costs and QALYs were discounted 3%/year. We assume 65% genotype 3, and DAA therapy with 80%/90% SVR for Genotype 3/non-3, respectively, at $900/treatment. Reinfection rates are unknown; we assumed 3%/year reinfection for the base-case, consistent with a meta-analysis among high-risk individuals (e.g. prisoners and people who inject drugs). We determine the intervention highly cost-effective if the incremental cost-effectiveness ratio (ICER) is below India's per capita GDP ($1580).

**Results:**
HCV treatment for individuals with F2-F4 was cost-saving (net costs -$3528/person and net QALYs 2.9/person; negative ICER) compared to no treatment. HCV treatment remained cost-saving with reinfection rates up to 30%. Treating all individuals (F0-F4) was highly cost-effective compared to delay until F2 (ICER $70/QALY gained), and similarly remained highly cost-effective (ICER<$1580) with reinfection rates up to 30%.

**Conclusions:**
HCV treatment with DAAs is highly cost-effective and potentially cost-saving in India, despite uncertainty in reinfection. Scale-up of HCV treatment, even for those at risk of transmission, should be prioritized in India.

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