

# Hepatitis C and HIV: *Addressing the Dual Epidemic*

## INTRODUCTION

An estimated 150–180 million people are infected with the hepatitis C virus (HCV) globally.<sup>1</sup> If left untreated, HCV can cause chronic and debilitating liver diseases—including fibrosis, cirrhosis, and cancer—that can result in death.

HCV has been described as a “dual epidemic” with HIV because it is highly prevalent in HIV-endemic areas and it disproportionately affects vulnerable populations that also have a high risk of developing HIV infection—especially in Asia and Eastern Europe.<sup>2</sup> HIV/HCV co-infection has emerged as an urgent public health issue that is jeopardizing the progress made in addressing the HIV epidemic.

However, HCV treatment can reduce the chances of transmitting the infection to another person and reverse the course of liver disease. Most people with HCV in Asia can be cured after receiving between 24 and 48 weeks of treatment with currently available medicines.<sup>3,4</sup> Unfortunately, creating access to HCV medicines in resource-limited settings is an uphill battle. A standard course of treatment in the Asia-Pacific region ranges between US\$18,000 and US\$33,000<sup>5</sup>—an unimaginable cost for most of those who are co-infected with HIV that is rarely covered by national health programs or private insurance.

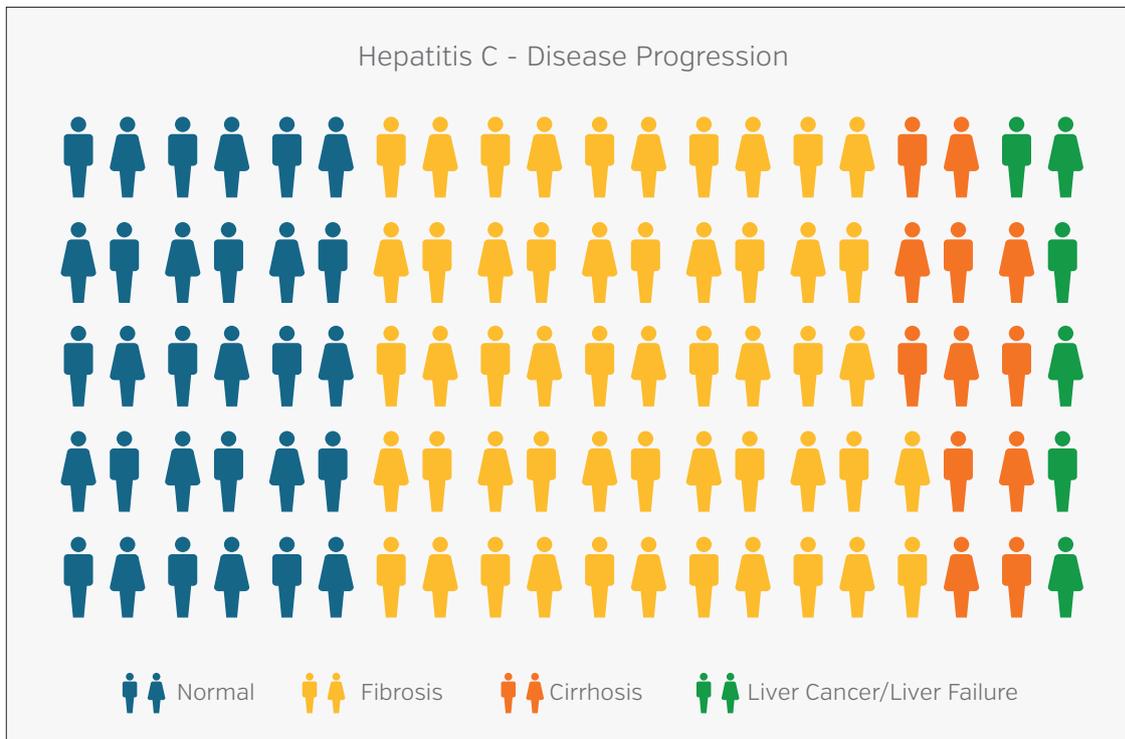
If the HCV epidemic remains unchecked, the number of patients with end-stage liver disease who will eventually require complex and even more expensive medical care will only grow.<sup>6</sup> Although people living with HIV (PLHIV) are living longer lives due to greater access to antiretroviral therapy, liver disease caused by HCV is becoming a leading cause of death among them.<sup>7,8</sup>

Equitable access to both HIV and HCV treatment is essential in order to secure the long-term health of PLHIV and millions of others.

## WHAT IS HEPATITIS C?

### Becoming infected with hepatitis C

HCV is transmitted by exposure to infected blood through injection drug use, sex, contaminated blood products or medical equipment, or from a pregnant woman to her infant.<sup>9</sup> In Thailand, which is estimated to have an HCV prevalence rate of 2.8%, injection drug use is the leading risk factor, followed by unsafe tattooing and blood transfusions. Vietnam’s HCV prevalence falls between 2 and 2.9%, with unsafe blood transfusions as the leading risk factor.<sup>10</sup>



## Living with hepatitis C

The human immune system can clear the virus by itself in one out of every four people with HCV infection, also known as spontaneous clearance. Those who do not get rid of the virus within six months have what is called chronic HCV infection. Out of 100 people who have chronic infection, about 30 may never develop liver problems, but they can still transmit their infection to others. The other 70 people may develop some liver damage, but they may have no symptoms or only mild ones. After about 20 years, 10 to 15 of these people will develop cirrhosis (scarring of the liver), and five to seven people will develop liver failure or liver cancer. Because most people with HCV have no noticeable symptoms, it is a “silent” infection that can be unknowingly transmitted to others and that may not be detected until it has already caused significant damage to the liver.

There is no vaccine against HCV, making prevention, testing, and treatment initiatives critically important.

## Curing hepatitis C

HCV can be cured through treatment. The treatment currently available in resource-limited settings is a combination of a weekly injection of pegylated interferon alfa and twice-daily oral ribavirin. The treatment duration required and the rate infections are cured vary by the genetic type (or genotype) of HCV with which the individual is infected. Those with genotype 2 or 3 may only need 24 weeks of treatment and are more likely to achieve a cure.<sup>11</sup> Those with other genotypes may require up to 48 weeks, and have lower rates of being cured. Some newer medicines have recently been approved that may be able to cure HCV in as little as 12 weeks.

## THE GLOBAL IMPACT OF THE DUAL EPIDEMIC

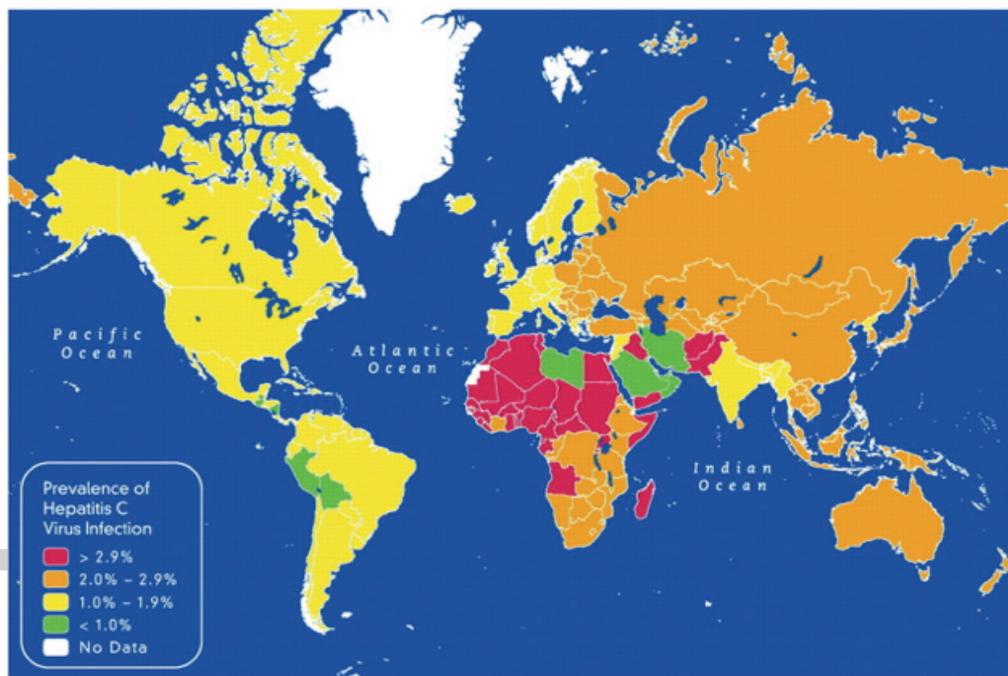
The global prevalence of HCV is continuing to increase, rising from 2.3% in 1990 to 2.8% in 2005. Central and East Asia have high HCV prevalence ( $\geq 3.5\%$ ), while South and Southeast Asia have moderate prevalence (1.5–3.5%).<sup>12</sup> These figures likely underestimate the true burden of HCV due to limited population-based testing and surveillance.

Epidemiologic data suggest that 4–5 million (5–15%) of PLHIV are also infected with HCV, with Southeast Asia and Africa bearing a greater burden of co-infection than other regions.<sup>13</sup> Co-infection rates are higher among people who inject drugs (PWID), and data indicate that 75–99% of PWID who are HIV-positive are also co-infected with HCV.<sup>14,15</sup>

HIV co-infection negatively affects HCV at every stage of disease, and co-infected individuals have significantly lower survival rates than those infected with HIV alone, regardless of whether they are on HIV treatment.<sup>16,17</sup> It is clear that antiretroviral therapy alone is not sufficient to prevent HCV-related medical complications and liver disease in PLHIV.

PLHIV are less likely to spontaneously clear HCV following infection. They also have higher HCV viral loads and experience more rapid progression of HCV-related liver disease than those without HIV infection.<sup>18</sup> Co-infected individuals are twice as likely to develop cirrhosis and six times as likely to develop end-stage liver disease as those with HCV alone.<sup>19</sup>

## Global Prevalence of Chronic Hepatitis C Virus Infection



Averhoff FM, et al.  
Clinical Infectious Diseases,  
2012; 55: S10-S15.

## THE CASE FOR INVESTING IN HEPATITIS C TREATMENT IN ASIA

Studies have shown that Asians with HCV have higher cure rates than people in other regions of the world. This is both because the genotypes of HCV that are circulating in Asia (genotypes 2 and 3) are easier to treat,<sup>20</sup> and because many Asian populations frequently carry a variant of a gene (IL-28B) that makes them three times more likely to respond to treatment and be cured than those without this gene variant.<sup>21</sup>

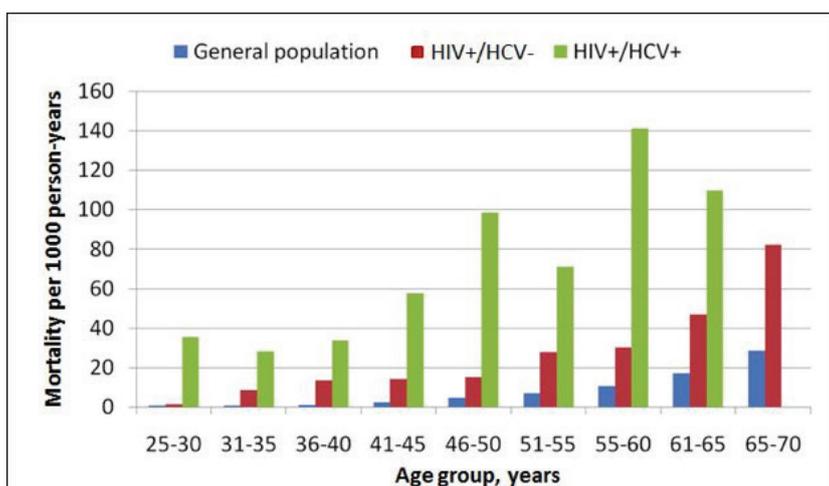
A meta-analysis of HCV treatment research showed that 86% of Asian patients studied had the favorable IL-28B genotype.<sup>22</sup> Of this group, 86% were cured of their infection

after treatment as opposed to a cure rate of 75% for their counterparts without the IL-28B gene. National health programs in Asia can consequently achieve long-term benefits by treating and curing people with HCV to prevent the development of serious liver disease that would require costly medical care, and simultaneously eliminate their risk of transmitting the infection to others.

### The socio-economic impact of hepatitis C

The HCV epidemic stresses healthcare systems and is a significant economic burden to society. Data from a 2009 United States National Health and Wellness Survey reported that in a six-month period, those infected with HCV visited an emergency room or physician significantly more often than their uninfected counterparts, and HCV was associated with higher levels of absenteeism and poor work performance.<sup>23</sup>

### Reduced Survival of HIV/Hepatitis C Co-Infected Individuals



Treating and curing individuals not only avoids this burden on healthcare systems, but also has long-term economic benefits. A cost-effectiveness analysis in Thailand found a projected lifetime savings of 556,862 Baht (US\$16,784) associated with treating a Thai patient infected with HCV genotypes 2 and 3<sup>24</sup>—a significant savings when compared to Thailand's annual per capita health spending of 6,320 Baht (US\$202).<sup>25</sup> HCV treatment has the potential to help governments save on long-term health spending.

Thomas D, et al.  
Journal of the  
International AIDS  
Society, 2011; 14:22.

## Treatment is a powerful tool for prevention

As with HIV, HCV treatment is a potent tool for preventing new infections because it reduces the amount of HCV circulating in the community. A modeling study in Vietnam showed that treating HCV-infected PWID could decrease HCV transmission and prevalence in the broader community by 25–85%.<sup>26</sup> Providing treatment to even 25% of people who need it could result in a 21% reduction in HCV prevalence, and 50% treatment coverage could lead to a 37% reduction.

## Hepatitis C treatment strengthens HIV control

Tremendous strides have been made in the HIV epidemic. HIV treatment scale-up has changed the trajectory of the epidemic, and a diagnosis that was formerly considered a death sentence has evolved into a manageable chronic disease. Creating that access to affordable HIV treatment required aggressive advocacy, and adopting a similar approach for HCV treatment could have a similar impact.

Despite compelling evidence that HCV treatment is a sound investment with valuable social and economic returns, the vast majority of those with HCV cannot access treatment. It is imperative that we work to change this reality. The remarkable achievements of the global HIV treatment access campaign have shown us that this is possible.

## LOOKING FORWARD

The cost of continuing to ignore this public health issue is substantially greater than the cost of addressing it now. Advocacy priorities should include:

- **Providing** and scaling up routine HCV testing and screening to assess treatment need and eligibility among PLHIV.
- **Establishing** national surveillance systems to better understand the burden of HCV among PLHIV.
- **Including** pegylated interferon alfa and ribavirin in national essential medicines lists, as recommended in the World Health Organization's Model List of Essential Medicines.<sup>27</sup>
- **Facilitating** price reductions for pegylated interferon alfa through collaborative negotiations between national governments, civil society, and pharmaceutical companies.
- **Providing** HCV treatment as part of national health and HIV programs, to both reduce the long-term costs of HCV and prevent new infections.

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