Access to Costly New Hepatitis C Drugs: Medicine, Money, and Advocacy

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Hepatitis C affects >3 million people in the United States, and often leads to end-stage liver disease or death. In 2014, several new drugs to treat hepatitis C virus received US Food and Drug Administration approval, with remarkable cure rates exceeding 90%. Medicaid, however, is rationing these drugs, and other insurers have restricted coverage due to their exorbitant costs and the large size of the population in need. These access barriers and disparities have resulted in national patient advocacy mobilization, US congressional inquiry, and legal challenges. The US Department of Health and Human Services has been urged to intervene. We propose the establishment of a federal program, analogous to AIDS Drug Assistance Programs, to reduce access barriers and facilitate focused price negotiations. The federal government may further undertake a nonvoluntary acquisition of the pharmaceutical patents pursuant to federal statutory authority and principles of eminent domain. Projections indicate this proposal could lower costs by 90% and eliminate rationing.

Keywords. HCV treatment; Medicaid restrictions; healthcare advocacy; pharmaceutical pricing; sofosbuvir.

In 2014, several remarkable new hepatitis C (HCV) drugs were launched, with cure rates exceeding 90% when used as components of antiviral treatment regimens. These breakthrough drugs are significant improvements over prior treatments, which were less effective and caused severe adverse effects [1–4]. However, the high prices of the 2014 HCV drugs create a treatment barrier, as many insurers reacted to the costs by rationing treatment [2, 5–10].

HCV is the most common blood-borne infection in the United States [1], impacting 3.2–5.2 million people nationwide [1, 11–13]. Approximately 80% of all HCV-infected individuals in the United States will progress to chronic infection; approximately 20% of such individuals will develop serious complications such as decompensated cirrhosis and/or hepatocellular carcinoma, requiring intensive treatment including medication, hospitalization, and liver transplant [1, 12]. For approximately 15,000 individuals annually, it will be fatal [1, 12].

Despite the great need for these effective new HCV drugs, their exorbitant pricing presents treatment barriers. The 2014 HCV drugs include sofosbuvir (Sovaldi, Gilead Sciences), ledipasvir/sofosbuvir (Harvoni, Gilead Sciences), simeprevir (Olysio, Janssen Pharmaceuticals), and ombitasvir/paritaprevir/ritonavir/dasabuvir tablets (Viekira Pak, AbbVie) (hereafter “2014 HCV drugs”). Although Sovaldi, introduced first, initially received considerable attention for its launch price of $1000 per pill, there are significant discounts that now make these drugs available for far less than the initial wholesale acquisition cost in most plans (a notable exception being state prison systems). The lack of transparency surrounding pricing is one of several issues to be addressed, as financial barriers impeding access to the 2014 HCV drug market as a whole remain significant.

Sovaldi’s launch was the most lucrative on record [14], with its manufacturer, Gilead Sciences, Inc, reporting $12.4 billion in sales for 2014 [15]. At Sovaldi’s initial wholesale acquisition cost, the expense to treat 3 million people would have totaled >$250 billion dollars.
By contrast, total US prescription drug spending was $263 billion for all conditions combined in 2011 [16].

Despite the ongoing controversy over Sovaldi’s cost, including congressional inquiries [8], patient advocacy [17], and insurance coverage restrictions, its price remains exorbitant [18]. The financial barriers to access are particularly troubling because the drug’s price is unrelated to any reasonable return on investment [2, 8] or cost of production, as the generic can be produced for <$3 per pill [19]. Moreover, the brand-name competitors, including Harvoni and Viekira Pak, demonstrate an oligopolistic similarity of pricing [8]. Initially, Sovaldi cost $84,000 for a 12-week regimen and must be taken with other drugs; Harvoni cost $94,500 for a 12-week regimen, with a potentially effective 8-week regimen costing $63,000; and Viekira Pak cost $83,319 for a 12-week regimen [4, 20]. Although discounting has occurred, there is a lack of transparency regarding negotiated prices, with confidentiality agreements between payers and manufacturers.

**IMPACT OF HEPATITIS C DRUG PRICING ON GOVERNMENT-FUNDED HEALTHCARE**

The 2011 national cost for HCV-related healthcare was approximately $6.5 billion [11]. Expenditures for the 2014 HCV drugs were roughly double this amount. The governmental response to the pricing of new HCV drugs is significant because a high proportion of patients with chronic hepatitis C (CHC) are, or will become, eligible for government-funded healthcare through Medicaid, Medicare, incarceration, or the Veterans Administration (VA). CHC has been called “a disease of the marginalized” [21] due to its disproportionately high prevalence among: the homeless (22%–53%) [13], the severely mentally ill (19%) [21], prisoners (23%–41%) [12], and intravenous drug users (58%) [12]. However, although the primary cause of new HCV infections in the United States is illicit injection drug use [12], HCV also impacts those without traditional risk factors, with transmission resulting from transfusions prior to 1992 [13], birth to an infected mother [13, 22], sexual contact [13, 22], or exposure in healthcare settings [13, 22]. Rationing the 2014 HCV drugs in a manner that disproportionately impacts a stigmatized demographic crystallizes discussions about the value of a cure, the worth of a human life, and whose life is most worth saving.

**MEDICAID’S RESPONSE TO HCV TREATMENT PRICING**

Nationwide, many state Medicaid programs have responded to the nexus between the price of the new HCV drugs and the vast size of the HCV-infected population by establishing coverage restrictions and by rationing treatment [2, 8–10, 23]. Such rationing is exceptional because these drugs are lifesaving, curative treatments for a communicable disease. The restrictions are particularly striking given that merely 25%–50% of those infected with HCV have been diagnosed, and of those diagnosed, only 40% pursue treatment due to barriers endemic to the marginalized demographic HCV often impacts [1, 2, 5, 11, 21]. With present treatment barriers, a high prevalence of HCV among baby boomers, and an aging population [1], the proportion of serious complications such as cirrhosis, liver failure, and hepatocellular carcinoma is expected to increase by at least double by 2030 if improved treatments with curative direct-acting antiviral agents are not implemented [5]. A “test and treat” approach to HCV would promote early diagnosis and treatment, prevent disease progression, and further the goal of HCV eradication by thwarting exponential transmission [11, 5, 21, 24]. It would therefore serve both individual and public health needs.

While individual state Medicaid programs may establish their guidelines independently from one another, many states have erected nearly identical restrictions, apparently guided by a report prepared by the Oregon Health and Science University (Oregon Report) [25] at its Center for Evidence-Based Policy (Oregon Center) [9, 10, 23, 26]. These restrictions, however, may be subject to legal challenges in court [9, 10], as Matt Salo, Executive Director of the National Association of Medicaid Directors (NAMID), acknowledged [23]. The Oregon Report, and Medicaid restrictions based upon it, are already challenged by many experienced HCV providers, and the American Association for the Study of Liver Diseases (AASLD) [26]. Indeed, the credibility of the Oregon Center itself has been challenged as “a thinly veiled cost containment exercise that restricts access to important therapies. Critics contend that [the Oregon Center] gives cash-strapped Medicaid programs . . . political cover to justify not paying for expensive new drugs” [27].

Experts from the AASLD and Infectious Diseases Society of America (IDSA) have developed treatment guidelines containing evidence-based recommendations to provide timely guidance on HCV treatment regimens. They note that “unfortunately, payers across America are denying HCV treatment when a doctor has prescribed it for their patient. We adamantly disagree with this decision . . . Patients who receive advice from their doctor to take the newest medications should not be denied” [28]. The committee also noted that “criticism [of the recommendations] . . . results not from the recommendations themselves but from the financial burden that treatment places on patients, insurers, and the government” [28]. They added that “critics of our guidance are biased by the influence of their sponsorship or by a focus on cost alone” [28].

**POTENTIAL LEGAL CHALLENGES TO MEDICAID’S COVERAGE RESTRICTIONS**

Two Medicaid restrictions, established in several states, are particularly controversial. One imposes a sobriety requirement,
while another denies treatment until after preventable liver deterioration occurs.

**Sobriety Requirement**
Most states impose a sobriety requirement, under which patients must demonstrate abstinence from alcohol and/or illicit substance use before coverage is approved [9, 10, 14, 26]. The sobriety waiting period varies in duration from 1 to 12 months depending upon state [7, 9, 10] — a range so broad it appears arbitrary. The Oregon Center and Medicaid representatives claim the sobriety requirement is justified because US Food and Drug Administration studies excluded patients with active alcohol or substance abuse [7, 26]. However, many experts, including those of the AASLD, believe the sobriety requirement is unwarranted, noting that clinical trials included patients self-reporting alcohol use, with no significant differences in success rates [26].

Medicaid representatives have suggested further pretexts for the sobriety requirement, implying that it may increase treatment adherence [7] or reduce the risk of reinfection after cure [26]. However, treatment rationing based on a history of addiction, or lifestyle, is not the norm. The opinion that ongoing substance use precludes adherence to medical regimens is unsubstantiated [9]. Indeed, if adherence were truly the concern, one might expect all drug coverage to be contingent upon sobriety, yet this is not the case [10]. In fact, AASLD/IDSA guidance recommends prioritizing people who inject drugs for HCV therapy, because untreated patients can transmit the virus, increasing the population burden exponentially [10, 29].

**Disease Severity Requirement**
Many state Medicaid guidelines exclude all HCV patients except those suffering from advanced stages of disease progression, defined as either advanced fibrosis (Metavir stage F3) or cirrhosis (Metavir stage F4). The AASLD and IDSA, however, recommend that all patients be treated to prevent disease progression [28]. Indeed, experts note that waiting to treat an HCV patient until after disease is advanced increases the risk of liver cancer. It also delays curing individuals who are capable of infecting others, thereby impeding progress toward disease eradication. Indeed, our experience with the human immunodeficiency virus (HIV) epidemic demonstrates that when we have effective antiviral therapies, treatment as prevention is an important part of disease control. This is particularly relevant with HCV infection, where treatment is more than suppression—it is cure.

**URGENT NEED FOR HCV TREATMENT ACCESS WARRANTS FEDERAL ACTION**
Several stakeholders have been seeking federal action to increase access to the 2014 HCV drugs, including NAMD [18], patient advocacy groups [8, 17], and the VA. The federal response is pivotal, as similar issues are anticipated for other costly drugs and technologies “expected to enter the market by 2020 . . . including new immunotherapy treatments for cancer, cholesterol management, Alzheimer’s disease, and multiple sclerosis,” as NAMD president Darin Gordon emphasizes [18]. In December 2014, a congressional hearing chaired by Senator Bernie Sanders was conducted to gather testimony regarding HCV treatment pricing and access challenges, discussed below (congressional hearing) [8]. Gilead executives declined their invitation to attend [8]. However, Robert Weissman, president of the consumer advocacy organization Public Citizen, presented powerful testimony on the impact of exorbitant HCV drug pricing, and offered potential solutions to expand access and eliminate rationing.

**Rationing HCV Drugs Due to Cost**
In the United States, where a healthcare system in crisis has become the status quo, the euphemism of “resource allocation” cannot be used to justify restricted access to HCV treatment. Senator Sanders frankly stated that Sovaldi is being rationed due to expense, and that current pricing is unsustainable for Medicare and Medicaid programs [8]. Sanders emphasized that “to the degree that we’re spending outrageous sums of money for one drug, it means that there is less money available to treat other illnesses” [8].

**Basis for HCV Drug Prices**
At the congressional hearing, testimony was adduced demonstrating that Gilead’s research and development costs for sofosbuvir are estimated at $100 million, and no greater than $11 billion; furthermore, its anticipated profits of $200 billion were characterized by Weissman as “untethered” to return on investment [2, 8]. In fact, Senator Sanders characterized Gilead’s profiteering as “very, very excessive” [8]. The basis for Sovaldi’s initial price was understood as the estimated “cost per cure,” and a Sovaldi-based regimen, at $84 000 per person, was roughly equivalent to the average lifetime cost of treating a CHC patient prior to Sovaldi’s introduction [3, 4, 30]. If such pricing is viewed as opportunistic, in our capitalism-based healthcare environment, it is surely unsurprising. Gilead’s profits are projected to reach $200 billion, for a return on its investment of 20-to-1, widely considered excessive [2, 8].

Advocates for the pharmaceutical industry may assert that such pricing is value-based or cost-effective; however, such claims are based upon questionable assumptions [31]. First, the effectiveness of the all-oral regimen may be overestimated, as the real-world sustained virologic response rate is likely 5%–10% lower than that seen in clinical trials [32]. In addition, restricted treatment access increases the risk of reinfection after cure [33]. Moreover, even if it is demonstrated that a drug is cost-effective, it may nevertheless be unaffordable. Lifetime HCV treatment costs, prior to the introduction of the 2014
HCV drugs, were incurred gradually over the course of several decades, and included varied treatments paid by multiple sources. By contrast, the 2014 HCV drugs offer a likely cure within weeks, with all candidates seeking treatment in a condensed time frame [34]. Finally, the high cure rates, excellent tolerability profile, and simplicity of the 2014 HCV drugs create a moral imperative to implement a “test-and-treat” model. With increased screening, millions more HCV-infected individuals would be candidates for treatment, thereby increasing the total cost [35]. Therefore, to characterize the current pricing scheme for HCV drugs as value-based or cost-effective seems unrealistic.

Disparities in Access, Globally, and Domestically
A global comparison demonstrates drastic price variations: a 12-week course of sofosbuvir costs $84 000 in the United States, but just $900 in Egypt [36] (Figure 1). The international pricing incongruities reflect global differences in HCV prevalence [30], per capita income, ability to pay, and governmental differences in regulatory policies [8, 30, 36]. In India, Gilead was denied a patent [37], allowing that country’s generic sofosbuvir manufacturers to sell a 12-week course for <$250 [19].

As the US healthcare crisis is largely attributed to inadequate cost-control mechanisms, these pricing and access disparities seem stark, with US taxpayers funding excessive corporate profiteering, and subsidizing international sales [8]. At the Senate hearing, the possibility of government-sponsored medical tourism, whereby US citizens would receive treatment abroad, was discussed as a potential large-scale cost-saving measure; however, it was not adopted [12]. Sovaldi’s price varies widely within the United States, with various entities and insurers receiving discounts based in part upon the regulatory framework in place. For example, Medicaid programs initially received a 23.1% discount and the VA received a 44% discount, with further discounts unknown due to a lack of transparency or obstacles to obtaining information [38]. Many state Medicaid programs are rationing the drug, while other payers are denying coverage due to cost [8].

Role of Competition in Pricing
As name-brand competitors demonstrate oligopolistic pricing patterns, only the introduction of competition by generics is expected to lead to meaningfully lowered prices [8]. Express Scripts has negotiated with AbbVie to place Viekira Pak on its formulary to the exclusion of Gilead’s products, providing Viekira Pak coverage to patients without restriction [39]. In addition, a consortium of Medicaid directors from 25 states has negotiated with AbbVie and anticipates making Viekira Pak its preferred drug, in exchange for undisclosed “discounts” [20, 40]. Unfortunately, even substantial discounts, such as the VA discount of >40%, do not render these drugs accessible because the initial price is so high. Although additional drugs are expected to enter the market by the end of 2015 (daclatasvir from Bristol-Myers Squibb and grazoprevir/elbasvir from Merck), the experience with price competition after the introduction of Viekira Pak does not suggest that price competition by itself will result in increased access.

Despite price discounts and market competition that have emerged since the 2014 HCV drugs began their launch, insurers have persisted in restricting coverage for HCV treatment. Therefore, discounts, competition, exclusivity arrangements, and other negotiations have not created adequate access, but rather, have sharpened access disparities, with a patient’s ability to receive HCV treatment hinging on factors such as state of residency or insurance plan. Because corporate profit motives are
satisfied when a small percentage of patients receive the drug at a high price, rationing will likely continue absent federal action.

A PROPOSED AIDS DRUG ASSISTANCE PROGRAM ANALOGUE FOR HCV TREATMENT

In 2014, the pharmaceutical industry paid >$30 million in federal campaign contributions and $250 million on lobbying, continuing its trend of political influence [41]. Although Congress and the courts have the authority to impose federal solutions, neither legislation nor adjudication is anticipated in the immediate future. It is therefore imperative that HCV treatment access be expanded by another mechanism.

NAMD President Gordon and Public Citizen President Weissman have both proposed drawing on the success of the AIDS Drug Assistance Programs (ADAPs) in addressing the HIV/AIDS epidemic [6, 24]. The ADAPs contributed to the improved health outcomes and drastically reduced treatment costs for those with HIV/AIDS [6, 24]. An ADAP analogue for HCV treatment would accomplish similar goals by facilitating focused price negotiations, achieving transparency, and increasing access. It would also contain costs, a necessary step to protecting the viability of Medicare and Medicaid programs in the event that coverage restrictions are invalidated.

Further, Weissman specified at the congressional hearing that an ADAP analogue could be coupled with a nonvoluntary acquisition of Gilead’s patent by the US government based on eminent domain principles [8]. This would facilitate the production of generics at $3 per pill, thereby eliminating rationing. For example, governmental use of Gilead’s sofosbuvir patent pursuant to federal statutory authority under 28 USC §1498 could reduce Sovaldi expenditures by 90%, even after paying Gilead compensation including royalties [8]. This statutory mechanism was successfully invoked following the 11 September 2001 disaster, when the federal government was interested in amassing a reserve of ciprofloxacin amid anthrax bioterrorism concerns [8, 42–43]. After the US government demonstrated an inclination to impose a nonvoluntary patent acquisition upon Bayer, ciprofloxacin’s manufacturer, corporate executives agreed to lower its price [8, 42–43]. In May 2015, Sanders requested that VA secretary Robert McDonald invalidate Gilead’s Sovaldi patent pursuant to this federal statute, and the fate of Gilead’s patent will be decided after a further congressional hearing anticipated later this year [44].

We emphasize the merit of these proposals and urge federal policymakers to establish an ADAP analogue for the HCV-impacted population, allowing patients in the United States to obtain treatment with the newer HCV medications while containing costs. Such a program would promote both individual and public health needs in a sustainable manner.

CONCLUSIONS

The controversy over the exorbitantly priced 2014 HCV drugs has persisted for more than a year. The rationing of HCV drugs does not embody the struggle inherent in other rationing decisions, such as organ donation, where supply is limited. Rather, rationing HCV drugs constitutes a decision to allocate finite healthcare dollars to corporate profiteering instead of curing patients. The modest increases in access have been reactive and inadequate. A proactive, comprehensive solution such as the implementation of the ADAP analogue for the HCV-impacted population is urgently needed. If federal policymakers remain inert despite the stark present need and a ready solution, pharmaceutical executives may mistake this leniency as an invitation to unbridled future profiteering for conditions such as Alzheimer’s disease, multiple sclerosis, and cancer.

Note

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