

Going Viral: Why Eliminating the Burden of Hepatitis C Requires Enhanced Cooperation Between Specialists and Primary Care Providers

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It has long been recognized that when a sustained virological response (SVR) occurs after antiviral treatment for chronic hepatitis C virus (HCV), there is a reduced risk of cirrhosis, hepatocellular carcinoma (HCC), and liver-related death [1]. During the era of peginterferon and ribavirin, achieving large-scale successful treatment of the HCV population was not an option. Yet, the introduction of the direct-acting antivirals (DAAs), that has delivered a remarkable ease-of-use and astounding success rates in actual practice as well as in clinical trials [2, 3], has impressively shifted the expectations and goals for treatment of the HCV population. Whereas in the past, few patients were ever eligible for treatment or were successfully treated [4], almost overnight the vast majority became treatment candidates with an extremely high likelihood of cure of the virus [5]. The DAAs come at a time when the previously predicted soaring rates of cirrhosis and HCC are now upon us. Death rates due to liver cancer are now increasing at the highest rate of all cancer sites [6], with the incidence of liver cancer rising second fastest of all cancer sites. The number of deaths associated with HCV is now higher than the number of deaths due to 60 other nationally notifiable infectious diseases combined [7]. At present, roughly 350,000 patients in the USA (10 % of the US HCV population) have been treated with DAAs since their introduction in late 2013 [8]; therefore, ~3 million patients in the USA remain in need of treatment. Facing the burden of long-term disease due to HCV and the

effectiveness of DAA therapy, it is now widely considered as imperative to treat as many HCV patients as possible [9, 10].

In order to accomplish such a goal, it cannot be expected that specialists alone can deliver the treatment to this number of patients. The ~1800 hepatologists and 7000 infectious disease specialists in the USA [11] are not only currently insufficient in number to manage the HCV population, there is a projected increased shortfall of specialists in addition to enormous disparities for patient access to specialists [12–14]. In addition to the specialists, primary care providers (PCPs) have also been managing HCV since its discovery, with particular emphasis on HCV risk factor assessment, screening and diagnosis, alcohol counseling, and management of untreated patients. The treatment of HCV with peginterferon and ribavirin, though, had largely been placed in the hands of hepatologists, given the complexities of patient selection, frequent reliance on liver biopsy for determining need for treatment, and the toxicities of the therapy. Although providing the 24- to 48-week course of treatment was time intensive, given that only a small fraction of the HCV population was referred for treatment, the demand on the specialists was manageable.

Decentralizing the management of HCV such that patients are able to receive the complete spectrum of care from their primary care physician would have multiple benefits to the patient, the physician, and the healthcare system as a whole [12]. If PCPs can perform thorough and appropriate screening and diagnosis, as well as initiate and oversee DAA treatment, then the capacity of the HCV provider workforce would be more appropriate to the task. By avoiding the delays of getting to a specialist, the speed at which patients would be treated would be much faster. With treatment regimens currently as short as 8 weeks, it is quite conceivable that a patient could complete their course

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of treatment with their primary care provider before even first meeting with a specialist. Furthermore, for the most part, PCPs would already be familiar with their patients prior to HCV treatment planning and have knowledge of their other medical conditions, social situation, and the kind of support they may require for treatment [15], familiarity that could additionally speed patient selection as well. For PCPs, increasingly at risk of career “burnout,” there can be enormous satisfaction and refreshing positive experiences derived from treating their own patients and achieving cure. PCPs have also reported that patients who achieve SVR are more likely to become motivated to pursue other behavioral changes such as weight loss or smoking cessation, with consequent improvement in other areas of their health such as diabetes management. Another advantage is that fewer patients will be lost to follow-up when their same PCP who performed the HCV screening can also be providing education and HCV treatment. Finally, if PCPs were to increase their expertise in HCV diagnosis and treatment, they would also have a heightened awareness and knowledge of liver disease in general, which will become ever more important for identification and treatment of nonalcoholic fatty liver disease (NAFLD), predicted to be the dominant cause of liver disease in the future as HCV comes under control.

Regardless of these multiple benefits, taking on the responsibility of providing DAA treatment will be challenging for most PCPs, due to the need to manage all aspects of a patient’s care, in addition to cultural inertia, given that viral hepatitis was essentially in the specialist’s domain for the past 20 years. Though a few journals have published pieces that aim at improving HCV treatment knowledge for PCPs [16], most of the treatment resources are not written for a PCP readership. The American Association for the Study of Liver Diseases-Infectious Diseases Society of America (AASLD-IDSA) online guidelines [10], the major resource used by HCV treaters, are not designed for a PCP audience and have not been promoted to PCPs. Since PCPs are expected to be up-to-date in multiple fields, not just hepatology, sustaining the most current knowledge of HCV treatments may be unrealistic for PCPs. In the face of intense time constraints, PCPs cannot usually address all of the issues for each patient at each visit and are forced to prioritize the most urgent needs and postpone some issues. Additionally, payers often restrict authorization to prescriptions written by specialists, as is the case with Medicaid programs in two-thirds of states in the USA [17]. Payers also typically restrict HCV treatment to patients with advanced fibrosis stages [17, 18], thereby also forcing PCPs to perform fibrosis testing, adding another layer of complexity. Finally, HCV screening and HCV treatment are not included in the quality measures for PCPs, sending an

inherent message as to which chronic disease may be seen under PCP purview and which others are not.

In this issue of *Digestive Diseases and Sciences*, Thomson et al. [19] surveyed PCPs at two institutions—one university hospital and one VA hospital in the same urban location—about their perspectives on HCV screening and treatment, exposing many of the challenges facing PCPs. Time constraints were reported as the major barrier for HCV screening: Only 9 % reported they always have time to screen, and up to 1/3 reported that they elect not to screen even when they recognized that HCV risk factors were present. Asked to self-evaluate their knowledge of HCV, 70 % of the PCPs reported being not up-to-date regarding HCV treatment. Furthermore, PCPs held some assumptions about treatment eligibility criteria that were out-of-date and reflected the criteria for interferon-based therapy rather than for DAA-based therapy. PCPs reported not treating HCV in their setting; most PCPs were either referring 100 % of their diagnosed HCV patients or were withholding referral due to medical comorbidities that they believed would make them ineligible for treatment. Their knowledge gaps not only affected choices on when to initiate referral for treatment, it also affected the decisions to perform HCV screening in the first place. Some PCPs reported that if they believed a patient would not be a treatment candidate, then they may opt not to screen for HCV.

This study provides us with insights about the types of barriers that PCPs may face as HCV providers. Time constraints affected 91 % of respondents in terms of affecting their ability to perform HCV screening, potentially severely limiting the number of eligible patients that would be treated for HCV. Although some knowledge gaps were present with regard to recommendations for HCV screening such as awareness of chronic hemodialysis as a risk factor, these factors had a much lesser impact on thorough screening than the issue of time constraints. Nevertheless, a lack of knowledge about new HCV treatments contributed to the approach of the majority of PCPs, referring all their patients to specialists rather than managing them within the primary care setting. The PCPs in this sample all had relatively easy access to specialists and subspecialists, a possible factor influencing their decisions to refer to specialists. Nonetheless, regardless of the treatment setting, specialists and generalists alike view the primary care setting as where patients will be screened, and yet the PCPs reported not enough time or outdated knowledge to perform this task correctly.

These data, while revealing that some knowledge gaps exist for PCPs and that PCPs lack the time to integrate HCV treatment into their practice, only illuminate a small part of a much more complex story. From the present study, all of the factors that have driven PCPs to primarily refer their HCV patients are unknown, such as the expectations and preferences of the local specialists and the PCP

level of knowledge of HCV relative to knowledge for other chronic referable conditions such as multiple sclerosis, or non-referable chronic conditions such as diabetes mellitus. This PCPs sample is also representative of only one geographic areas. In areas that are less urban, have fewer specialists, do not have academic medical centers with tertiary care and transplant programs, or in states where payers use different criteria for HCV treatment authorization, the way HCV is managed by PCPs may be very different.

Although the elimination of HCV is a public health goal that all physicians agree upon, at what point do PCPs participate in the process of choosing how they contribute to this effort? If specialists wish for PCPs to improve the performance of HCV screening rates, HCV treatment, or referral, then the resources for specialists may also need to be available for PCPs. Current guidelines are written by subspecialists and are not promoted to PCPs or written for the PCP audience, and although they strongly recommend treatment of all HCV patients, nowhere do they contain recommendations on when PCPs should refer patients to specialists or when PCPs should treat patients themselves [10].

Eradicating HCV will require comprehensive HCV care to take place both inside the offices of PCPs as well as specialists, as well as in settings such as methadone clinics and prisons. But in order to have PCPs rapidly attain the necessary knowledge and attain the necessary time to provide high-quality HCV care within their practice, health systems will need to produce the tools to help make this possible, and not simply place the additional burden on PCPs [20]. Systematized reminders, electronic order sets, quality control efforts, education for PCPs, and access to specialist consultation and back up are all ways that the health systems can share in the task. This is an extremely exciting time and opportunity, and without a doubt, all physicians—be they specialists or primary care—will be experiencing new perspectives on HCV, and working together will be the best way to see the elimination effort be most effective.

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