Why We Need to Treat Everyone Who Has Hepatitis C

—By Lucinda K. Porter, RN

Giving Hepatitis C Treatment Priority to People Who Inject Drugs

Recently, I read a report forecasting the global prevalence of hepatitis C virus (HCV) to the year 2025. Before discussing it, I’ll start with a disclosure. I read a sample of the report, not the full report. The full report cost $3995. Yes, you read that correctly; I got a magnifying glass out to be sure I hadn’t missed a decimal point. That rate was low. The corporate rate was $11,985. Needless to say, I didn’t buy it.

Quite frankly, it crossed my mind that I was reading a swindle rather than a report, but then decided that it would be a lousy scam. Anyway, I requested a sample, making it clear that I was curious but not shopping. A polite salesperson tried to sell me the report and asked if I knew anyone who might purchase it. Do people really spend that kind of money for a single report? Yes, stock analysts do. Enough digressing, back to the report…

I read the sample, found it well written, but since the source data wasn’t included in the sample, I can’t verify the veracity of the report. Let’s assume it is factual. According to the EpiCast Report: Hepatitis C Virus - Epidemiology Forecast to 2025,1 there will be more than a million new hepatitis C infections by 2025 in 9 major countries: US, France, Germany, Italy, Spain, UK, Japan, Brazil, and China.
And here is why I am using this report despite the fact that I can’t say with 100 percent certainty that it is true: this shouldn’t be true. Hepatitis C is curable. All the major world organizations, shareholders, some countries, and the state of New York are committed to the elimination of hepatitis C. But even if these projections are too high, what we do know is this:

- The World Health Organization (WHO) estimates that as many as 130 to 150 million people worldwide are living with chronic hepatitis C viral infection.
- More than one million people die of cirrhosis, mostly caused by viral hepatitis.\(^2\)
- More than 500,000 people die every year from hepatocellular carcinoma (the most common form of liver cancer). It is the third leading cause of cancer deaths.

You may ask, “What about the high cost of hep C treatment? Surely we can’t treat everyone?” In my January 2017 column,\(^3\) I cite data presented at the 2016 Liver Meeting by Andrew Hill and colleagues. They showed that HCV treatment could cost under $100 per person. They analyzed production costs for generic HCV treatments from India. The cost of 12 weeks of treatment using sofosbuvir and daclatasvir can be manufactured for around $76; sofosbuvir/ledipasvir priced at $96. Velpatasvir was more expensive at $119 to $154. These prices included a 50 percent profit margin for generic suppliers.

**Hepatitis C can be eliminated without forcing countries to go broke.** Where do we start? We need to start with people who inject drugs. They shouldn’t be the last to be treated; they should be the first. **Treatment is prevention.**

A French study by Anthony Cousien and colleagues published data\(^4\) to support this in Hepatitis C Treatment as Prevention of Viral Transmission and Liver-Related Morbidity in Persons Who Inject Drugs (PWID). They looked at standard treatment in France, which treats at stage 2 fibrosis or higher for PWID, and found that would decrease HCV prevalence from nearly 43 percent to roughly 25 percent in 10 years. If the threshold for treatment was lowered to stage zero fibrosis, the projected prevalence dropped to nearly 12 percent in the same time frame. Fortify this with better testing, linkage to care, and support for treatment adherence, the prevalence could drop to 7 percent.

Imagine the impact this would have on projected rates of cirrhosis, liver cancer and liver-related death. Talk about a good investment! That $3995 report now seems like a good deal.

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**References**

\(^1\)EpiCast Report: Hepatitis C Virus - Epidemiology Forecast to 2025  

In the United States, non-alcoholic fatty liver disease (NAFLD) is moving into the number one slot for the most common liver disease. NAFLD and alcoholic liver disease are on the rise in terms of cirrhosis and cause for liver transplantation.

\(^3\)Eradicating Hepatitis C by Lucinda Porter, HCV Advocate January 2017  
hcvadvocate.org/news/NewsUpdates_pdf/Advocate_2017/advocate0117.pdf#Healthwise

The internet can be a wonderful thing in a lot of different ways. We have access to more information than ever before, which can lead to us being more informed and more empowered. Gone are the days of having to simply take someone’s word as truth. Now we can check answers, compare opinions and make decisions to the degree we want and not because we have to always rely on someone else.

I was thinking the other day what arguments and discussions must have been like when we weren’t able to simply find the answer with our phones in seconds. So really, I was thinking what it must have been like 20 years ago when the internet was in its infancy and still clunky. I’m often in awe that in such a relatively short time we’ve come so far in how we communicate, create, share and use information.

For all the internet’s wondrous capabilities to connect us and inform us there are pitfalls. The sheer amount of information can be overwhelming. How do we know what’s true or a fact? How do we know who’s an expert or that the person we may be communicating with is even who they say they are? These are important questions to find answers to in general, especially when we talk about information related to hepatitis C transmission, screening, diagnosis and treatment.

Let’s take a more detailed look at some pros and cons of the internet’s role in accessing hepatitis C information.

Pros:
Private – Unfortunately, being diagnosed with hepatitis C can come with stigma and although a health provider may give you some basic information, finding more beyond what you were given could mean having to tell someone your status and risk being judged. Disclosure is a sensitive issue for each individual and I’m not going to go into that here. What I want to stress is the benefit of anonymity the internet provides. You can search from the comfort of your own home without fear of being judged and at your own pace.

Comprehensive – Anything you want to know about hepatitis C can be found online. From transmission and screening to treatment and healthy living. If you want to know more about medication or trials, the HCV Advocate has resources for that. This large amount of information means that you never have to take someone else’s word about a particular issue.

Ease/Speed – Although not everyone has access to the internet, those who do will find that it can be easier and faster than asking someone or going to a place that’s some distance away. Often, it’s also faster because you can get any information you want on hepatitis C in a matter of minutes with a few searches.
Cons:
Lack of physical connection – The downside to the privacy the internet gives us comes in a lack of physical contact. Connecting with other people who have experiences similar to ours can be invaluable in moving forward. You can find communication online in the form of chat rooms and forums. These can provide a great deal of comfort and connection, but they can’t provide the same type of connection you get by sitting in a room and talking face to face with another person who deeply understands what you’re going through.

Quantity – Such a large amount of information can be overwhelming. As an example, if you type “hep C” into Google it will find 3.98 million results. Whoa! Knowing how to sift through that information can be difficult. If you’re like me, you’ll often go to the top links on the first page, but they may not have what you’re looking for so you may continue looking. This sheer size of information can be scary but it doesn’t have to be. This is why the HCV Advocate is a great resource. Not only does it have comprehensive information on all parts of hepatitis C, but there are links to external resources where you can continue to grow and expand your knowledge.

Complexity – A big drawback to online information can be its complexity. If we are searching in the privacy of our own home, alone, and we come upon something we don’t understand partially or fully then we don’t have anyone to ask. This is a big reason why the HCV Advocate strives to have comprehensive and easy to understand information and resources. You don’t have to sacrifice breadth and depth to make information simple. It just takes a little more work. So, if you find yourself reading something (on any website) that you don’t quite understand then take down some notes and write out questions. To whatever degree you are comfortable seek out someone you trust to discuss any of the questions you have.

Verification – This is the big one. How do we know what we are reading is accurate? What if two websites have slightly different information on the same topic? These are some of the biggest questions to answer and challenges to overcome when using online information. It’s not only the amount of information but the speed at which it changes. There are lots of things about hepatitis C that we know are likely not to change, such as how its transmitted. Yet, there are other aspects like treatment that change very quickly and make verification even more difficult.

The above pros and cons are of course my opinion and aren’t exhaustive. These are some of the frequent ones that I myself run into. Many of you may have different experiences or different thoughts on these and others. I wholeheartedly believe in the power of the internet to facilitate change and help us bring an end to the hepatitis C epidemic. As with all tools, it’s how we use it that will be the ultimate decider.

“Gone are the days of having to simply take someone’s word as truth.”

Matthew Zielske currently works as a HIV/HCV special populations prevention specialist at an HIV services organization. He utilizes a harm reduction model in his work with the substance use population focusing pointedly on persons who inject drugs. He is currently conducting research on Health Literacy and hepatitis C for his Master’s Thesis in Communications. www.umbrellaway.org
Study Aims and Results
The American College of Gastroenterology (ACG) evaluated the guidelines on liver chemistry tests including the ranges for alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase, and bilirubin levels. The guidelines help clinicians monitor patients who have elevated chemistry levels for possible liver diseases or other disorders.

Conclusion
The major change that was announced is to lower the normal range of alanine aminotransferases (ALT) levels for females and males:

- Females: 19 to 25 IU/L
- Males: 29 to 33 IU/L

If an ALT range is out of normal range it should prompt a clinician to assess a patient for various forms of liver disease. These include viral hepatitis (hepatitis A, B, C etc.), alcoholic liver disease, non-alcoholic fatty liver disease (NASH), hereditary hemochromatosis, autoimmune hepatitis, Wilson’s disease or any other form of liver disease.

Editorial Comments
Another outcome of these guidelines is that the term ‘liver function tests’ is no longer being used and it is being replaced with “liver chemistry tests.” Liver function test is a misnomer because one chemical test doesn’t give a true picture of how the liver is functioning. In regards to the prior normal levels of ALT—the upper normal level were set too high. The previous normal levels were challenged for years because of the high prevalence of the many liver diseases listed above. Hopefully, the new ALT guidelines will lead to earlier diagnoses and treatment of more patients with liver disease.

“Liver function test is a misnomer because one chemical test doesn’t give a true picture of how the liver is functioning.”
Liver Injury From Herbal and Dietary Supplements--VJ Navarro et al
Source: *HEPATOTOLOGY, VOL. 65, NO. 1, 2017*

**Study Aims and Results**
The American Association for the Study of Liver Disease and the National Institutes of Health held a 2-day research symposium to discuss the increased cases of liver injuries due to herbal and dietary supplements (HDS).

**Conclusion**
The data released at the symposium found that HDS-induced liver injury accounts for 20% of cases of liver toxicities in the United States. The major causes of the HDS-induced liver injuries were anabolic steroids (synthetic versions of testosterone), green tea extract, and multi-ingredient nutritional supplements.

The authors noted that liver-related effects from anabolic steroids were usually (but not always) short term. Green tea extracts and other products, however, could produce acute rapid and severe onset of liver injury.

The authors also noted “In addition to dramatic increases in liver-related injuries due to herbal and dietary supplements (5% in 2004-2005 to 14% in 2013-2014) there has been an increase in liver-related injuries due to body building products (2% in 2004-2005 to 6% in 2013-2014). The exact cause of the liver-related injuries in body building products is challenging because multiple ingredients in the products, contaminated ingredients or ingredients are not listed on the label.”

**Editorial Comments**
Clearly, more oversight is needed on herbal and dietary supplements. Many people don’t realize that the Food and Drug Administration does not regulate herbal or dietary supplements. The old saying applies here: ‘BUYER BEWARE.’

We have many resources for patients and providers to make better decisions regarding herbal and dietary supplements.

Check out our Herbal Glossary for more information about Herbs and the liver [http://hcvadvocate.org/resources/glossaries/herbal-glossary/](http://hcvadvocate.org/resources/glossaries/herbal-glossary/)

“...National Institutes of Health held a 2-day research symposium to discuss the increased cases of liver injuries due to herbal and dietary supplements (HDS)”
Study Aims and Results
This was a retrospective study—looking back at prior studies—to analyze the results of Merck’s two drug combination of elbasvir plus grazoprevir (Zepatier) with or without ribavirin to treat patients infected with chronic hepatitis C who had compensated cirrhosis. The study combined data from 6 clinical studies.

Conclusion
The analysis of the studies included 402 patients with HCV genotype 1, 4, or 6. The patients were treated for 12 to 18 weeks. The goal of the study was to find the number of people who were cured of hepatitis C.

In those who received Zepatier (without ribavirin) 97.8% (135 of 138 patients) of treatment-naïve and 88.9% (48 of 54 pts) of treatment-experienced were cured of hepatitis C.

In those who received Zepatier for 12 weeks the addition of ribavirin did not increase the cure rates—treatment naïve-90.3% (28 of 31 pts) or treatment experienced -91.4% (74 of 81 pts).

All of the patients who received Zepatier and ribavirin for 16 or 18 weeks were cured, and 93.9% (46 of 49 pts) of patients were cured who received Zepatier without ribavirin treated for 16 or 18 weeks.

People with HCV genotype 1a infection and those who had not responded to a previous course of interferon therapy were less likely to be cured compared to those with HCV genotype 1b. Baseline testing for resistant associated variants was recommended to ascertain the best course of treatment duration and if the addition of ribavirin is needed for treatment of HCV genotype 1a. Patients with the baseline RAVs had a 73% (8 of 11 pts) cure rate compared to a 98% (96 of 98 pts) cure rate in those who did not have baseline RAVs. The patients who had HCV genotype 1a infection with baseline RAVs who received 16 or 18 weeks of Zepatier plus ribavirin were cured reinforcing the need for ribavirin to overcome baseline RAVs.

There were 3% of serious adverse events but they did not lead to a decompensated event.

Editorial Comments
The pooled analysis of Zepatier clinical studies of people with compensated cirrhosis showed very high cure rates, low side effect profile and in the vast majority of cases no ribavirin is needed. From this analysis the only cases that ribavirin may be of benefit is in patients with HCV genotype 1a baseline RAVs.

“In those who received Zepatier for 12 weeks the addition of ribavirin did not increase the cure rates”
A brief overview of how this pipeline is laid out:

**Date:** The Pipeline will be updated on a monthly basis and will be included with the HCV Advocate Newsletter.

**Genotype(s):** This lists the drugs or combination of drugs and the particular genotype or genotypes that the drug is active against.

**Comments:** This section will list the study results. Within this section, I will list the genotype(s) being studied and the phase of the study with a brief recap of the study.

You will note that many of the drugs or combinations of drugs are pan-genotypic—that is they work on many or most of the HCV genotypes. **Note:** There is more detailed information about the drugs in development in our newsletter (http://hcvadvocate.org/publications/newsletter/2016-2/) and our blog (http://hepatitisc.hcvadvocate.org/) and in the HJC Advocate Hepatitis C Drug Pipeline & Conference Coverage Site hcvdrugs.com

If you are interested in finding out about clinical trials visit HCV Advocate Clinical Trial Reference Guide (http://hcvclinical.hcvadvocate.org/) for a list of trials that are currently recruiting patients.

### AbbVie

<table>
<thead>
<tr>
<th>Study Name</th>
<th>Patient Population</th>
<th>Treatment Duration</th>
<th>Treatment Regimen</th>
<th>SVR$_{12}$ Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDURANCE-1</td>
<td>GT1 without cirrhosis, new to treatment or not cured with previous IFN-based treatments (pegIFN +/- RBV or SOF/RBV +/- pegIFN), and patients co-infected with HIV-1</td>
<td>8 week</td>
<td>G/P</td>
<td>99% (348 of 351 pts)</td>
</tr>
<tr>
<td>ENDURANCE-3</td>
<td>GT3 without cirrhosis, new to treatment</td>
<td>8 week</td>
<td>G/P</td>
<td>95% (149 of 157 pts)</td>
</tr>
<tr>
<td>SURVEYOR-2 (Part 4)</td>
<td>GT2, 4, 5, or 6 without cirrhosis, new to treatment or not cured with previous IFN-based treatments (pegIFN, SOF/RBV or pegIFN/SOF)</td>
<td>8 week</td>
<td>G/P</td>
<td>97% (196 of 203 pts)</td>
</tr>
</tbody>
</table>

*pegINF = pegylated interferon; RBV = ribavirin; SOF = sofosbuvir; This combination was granted Breakthrough Therapy designation by the Food and Drug Administration (FDA) for those with HCV genotype 1 who had failed a previous course of therapy that contained a NS5A inhibitor.

In December 2016 AbbVie applied to the FDA to market and treat all HCV genotypes with the combination listed above. On February 02, 2017 the FDA granted AbbVie Priority review for this combination.
Gilead – Sofosbuvir, Valpatasvir& Voxelaprevir (GS-9857) Genotype(s) 1,2,3,4,6, (Pan-genotypic)

**COMMENTS:**
Gilead released the results of four phase 3 studies (POLARIS) of the triple combination of sofosbuvir (polymerase inhibitor), velpatasvir (NS5A inhibitor), and voxelaprevir (protease inhibitor). The study included 1,056 patients who received the triple combination (sofosbuvir (SOF), velpatasvir(VEL), plus voxelaprevir (VOX)—611 were treatment naïve and 455 were treatment experienced.

*Note: I am only listing the results from the triple therapy below – you will note that the percentage and numbers include all the patients treated. For a complete breakdown of all treatment regimens see November 2016 newsletter: http://hcvadvocate.org/news/NewsUpdates_pdf/Advocate_2016/advocate1116.pdf*

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Genotype</th>
<th>Treatment</th>
<th>Duration</th>
<th>SVR12 Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLARIS-1</td>
<td>NS5A inhibitor-experienced 41 percent (172/415) had cirrhosis</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>SOF/VEL/VOX</td>
<td>12 Weeks</td>
<td>96% (253/263)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Placebo</td>
<td>12 Weeks</td>
<td>0% (0/152)</td>
</tr>
<tr>
<td>POLARIS-4</td>
<td>DAA-experienced (No NS5A inhibitor) 46 percent (153/333) had cirrhosis</td>
<td>1, 2, 3, 4</td>
<td>SOF/VEL/VOX</td>
<td>12 Weeks</td>
<td>97% (177/182)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SOF/VEL</td>
<td>12 Weeks</td>
<td>90% (136/151)</td>
</tr>
<tr>
<td>POLARIS-2</td>
<td>DAA-naïve 18 percent (174/941) had cirrhosis</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>SOF/VEL/VOX</td>
<td>8 Weeks</td>
<td>95% (476/501)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SOF/VEL</td>
<td>12 Weeks</td>
<td>98% (432/440)</td>
</tr>
<tr>
<td>POLARIS-3</td>
<td>DAA-naïve All had cirrhosis</td>
<td>3</td>
<td>SOF/VEL/VOX</td>
<td>8 Weeks</td>
<td>96% (106/110)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SOF/VEL</td>
<td>12 Weeks</td>
<td>96% (105/109)</td>
</tr>
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</table>

The side effects were similar between the placebo (sugar pills) group, sofosbuvir plus velpatasvir, and the sofosbuvir, velpatasvir plus voxelaprevir groups. The most common side effects were headache, fatigue, diarrhea and nausea. Only one patient in the entire study discontinued therapy due to side effects.

This combination was granted Breakthrough Therapy designation by the Food and Drug Administration (FDA) for those with HCV genotype 1 who had failed a previous course of therapy that contained a NS5A inhibitor.

In December 2016 Gilead applied to the FDA to market and treat all HCV genotypes with the combination listed above—combined into one pill taken once-a-day.
### Janssen (Achillion/Alios) | Genotype(s) 1,2,3,4,5,6 (Pan-genotypic)

**COMMENTS:**

- **Genotype 1 – Phase 1:** In a small study of samatasvir, it was found to be safe and have antiviral properties against genotype 1, 2, 3 and 4. There is now a phase 2 study of samatasvir plus Olysio (simeprevir) in treatment-naïve patients with genotype 1b or 4.

- **Genotype 1 – Phase 2a Study** Janssen (Alios Pharma) has initiated a of AL-335, odalasvir, and simeprevir to treat HCV genotype 1 treatment-naive patients. There will be 60 patients divided into three treatment arms who are treated for 4, 6 or 8 weeks. The results were listed in the October 2016 HCV Advocate newsletter. ([http://hcvadvocate.org/news/NewsUpdates_pdf/Advocate_2016/advocate1016.pdf](http://hcvadvocate.org/news/NewsUpdates_pdf/Advocate_2016/advocate1016.pdf))

- **Genotype 1 – Phase 2 Study:** ACH-3422 and Odalasvir (ACH-3102) and Sovaprevir are in studies with various combinations. Recently, Johnson & Johnson Innovation – JJDC, INC (Janssen) made an investment in Achillion for co-development and distribution.

- **Genotype 1 – Phase 2 Study:** Odalasvir plus sofosbuvir (used as a proxy drug) to treat genotype 1 patients for 6 weeks achieved 100% (12 of 12 patients) cure rates. A proxy drug is a drug used to stand in for another drug. Sofosbuvir is a polymerase inhibitor so it is assumed that odalasvir plus a polymerase inhibitor that is being developed by Achillion will produce similar cure rates.

- **Genotypes 1 through 6–Phase 2b Study:** Odalasvir, AL-335, and simeprevir in treatment-naïve and treatment-experienced patients with and without cirrhosis. The trial will enroll 400 patients for six or eight weeks. The study will include four arms with different combinations of drugs. The trial began in June 2016 and will end in July 2017.
### Merck

<table>
<thead>
<tr>
<th>Genotype(s)</th>
<th>1, 2, 3, 4, 5, 6 (Pan-genotypic)</th>
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**COMMENTS:**

- **Phase 2- AASLD 2016:**
  
  **C-Crest:** The trial was a phase 2 study of a 3-drug co-formulation of MK-3682 (polymerase inhibitor), grazoprevir (protease inhibitor) plus ruzasvir (NS5A inhibitor) with and without ribavirin to treat HCV genotypes 1, 2 and 3. The treatment period was 8, 12 or 16 weeks. In the people who were previously treated with pegylated interferon plus ribavirin the SVR12/cure rates were 95% to 100% in genotype 1a, 1b and 3. In people with genotype 2 the cure rate was 87% in the 8-week group and a 100% rate in the 12 week group and 96% to 98% in the 16 week groups. There was very little difference in cure rates between the groups who had cirrhosis, and who did/did not receive ribavirin.

  **C-Surge:** An on-going phase 2 study to treat people with genotype 1 who had failed a previous course of a direct-acting antiviral therapy (Harvoni or Zepatier) using MK-3682, grazoprevir and ruzasvir with and without ribavirin. In the group that received ribavirin the treatment duration was 16 weeks; in the group that did not receive ribavirin the treatment duration was 24 weeks. The SVR 8 results were 98% in the 16 week group that received ribavirin and 100% in the 24 week group that did not receive ribavirin.

### Regulus

<table>
<thead>
<tr>
<th>Genotype(s)</th>
<th>1, 2, 3, 4, 6</th>
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**COMMENTS:**

**Regulus Therapeutic Inc.**

The study included 79 treatment-naive genotype 1 and 4 patients. RG-101 is a GalNAc-conjugated anti-miR targeting miR-122, a host factor for HCV infection. It is an injectable medication given at Day 1 and Day 29 plus 4 weeks of a once-a-day direct-acting antiviral medication –Harvoni (27 patients), Olysio (27 patients), Daklinza (25 patients). Regulus issued a press release on June 7, 2016 that reported through 24 weeks of follow-up an additional 4 patients relapsed.

<table>
<thead>
<tr>
<th>Time Since Treatment Completion</th>
<th>RG-101 + Harvoni</th>
<th>RG-101 + Olysio</th>
<th>RG-101 + Daklinza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 12</td>
<td>27/27 pts (100%)</td>
<td>26/27 pts (96.3%)</td>
<td>22/24 pts (91.7%)*</td>
</tr>
<tr>
<td>Week 16</td>
<td>21/21 pts (100%)</td>
<td>19/20 pts (95.0%)</td>
<td>20/22 pts (90.9%)</td>
</tr>
<tr>
<td>Week 20</td>
<td>14/14 pts (100%)</td>
<td>13/15 pts (86.7%)</td>
<td>13/13 pts (100%)</td>
</tr>
<tr>
<td>Week 24</td>
<td>10/10 pts (100%)</td>
<td>8/10 pts (80.0%)</td>
<td>8/9 pts (88.9%)</td>
</tr>
</tbody>
</table>

*One patient missed the Week 12 visit. Viral load results for this patient at week 8 and 16 were collected and indicate that the patient was a responder at both time points. This trial is on clinical hold due to safety concerns.*
WHAT’S UP!

We have updated the following fact sheets:

- **HBV FACT SHEET: WHAT ARE ANTIVIRALS?**¹
  - [CLICK TO DOWNLOAD](http://hcvadvocate.org/hepatitis/easyBfacts/WhatAreAntivirals.pdf)

- **HCSP FACTS: A BRIEF HISTORY OF HEPATITIS C**²
  - [CLICK TO DOWNLOAD](http://hcvadvocate.org/hepatitis/factsheets_pdf/Brief_History_HCV.pdf)

- **AN OVERVIEW OF DIAGNOSTIC TESTS**³
  - [CLICK TO DOWNLOAD](http://hcvadvocate.org/hepatitis/factsheets_pdf/diagnostic.pdf)

- **NEUVO: DESCRIPCIÓN GENERAL DE: LA TRANSMISIÓN Y PREVENCIÓN DE LA HEPATITIS C**⁴
  - [CLICK TO DOWNLOAD](http://hcvadvocate.org/hepatitis/sp_factsheets/HCV-TRANSMISSION-AND-PREVENTION-SPANISH.pdf)

Check out our newest resource for information about conference coverage and the latest information about drugs in development to treat hepatitis C:

- **HCV Advocate**
- **Hepatitis C Drug Pipeline & Conference Coverage**

¹http://hcvadvocate.org/hepatitis/easyBfacts/WhatAreAntivirals.pdf
²http://hcvadvocate.org/hepatitis/factsheets_pdf/Brief_History_HCV.pdf

The HCV Advocate offers information about various forms of intervention in order to serve our community. By providing information about any form of medication, treatment, therapy or diet we are neither promoting nor recommending use, but simply offering information in the belief that the best decision is an educated one.

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