2016 Hepatitis C Virus (HCV) Update

By Mark Harrington

Due to recent transitions in the TAG HCV Project [1], we did not complete a comprehensive update on hepatitis C virus (HCV) pipeline. Here are a few highlights in HCV regulation, access, and policy over the past year.

Since the 2015 HCV pipeline, "New Drugs, New Strategies: Conquering Hepatitis C with Direct-Acting Antivirals" by Tracy Swan [2], the U.S. Food and Drug Administration (FDA) has approved several new products, including AbbVie's Technivie (ombitasvir, paritaprevir +ritonavir tablets) [3], BMS's Daklinza (daclatasvir) [4, 5], Merck's Zepatier (elbasvir + grazporevir) [6], and – most recently – Gilead's Epclusa (sofosbuvir + velpatasvir) [7], expanded the labeled indication for Harvoni (sofosbuvir/ledipasvir) to include genotypes 4, 5, and 6 [8], and published recommended guidance to industry on development of direct-acting antivirals (DAAs) for treatment of HCV infection. [9]

In February 2016, Médecins du Monde (MdM) and Treatment Action Group (TAG) launched mapCrowd (www.mapCrowd.org), an online resource which includes epidemiological data, HCV diagnostics (viral load and Fibroscan) pricing and availability information, maps showing the extent of Gilead's and BMS's voluntary licenses for sofosbuvir and daclatasvir, maps showing annual HCV treatment uptake and the existence of national HCV plans, and links to community-based organizations and some government agencies. The data are available in English, French, Spanish, Russian, Mandarin, and Arabic. [10]

In April 2016 the American Association for the Study of Liver Disease (AASLD) and the Infectious Diseases Society of America (IDSA) updated their Recommendations for Testing, Managing, and Treating Hepatitis C [11], and the World Health Organization updated its Guidelines for the Screening, Care and Treatment of Persons with Chronic Hepatitis C Infection: Update Version: April 2016. [12]

At the European Association for the Study of the Liver (EASL) meeting in Barcelona, that same month a global coalition of activists called for "no more treatment rationing: universal access to generic medicines everywhere!" [13]:

Barcelona, Spain – People with hepatitis C virus (HCV) and their allies from Spain and around the world have gathered at the International Liver Congress to protest the outrageous price of lifesaving HCV medicines. They are pushing for generic competition to bring down the price of HCV treatment and ensure universal access.

"New direct-acting antivirals (DAAs) cure nearly everyone from hepatitis C—but Gilead's greed prevents universal access to their lifesaving medicines. People continue to die needlessly, while Gilead reaps billions in annual profits," said Damián Caballero of Plataforma de Afectados por Hepatitis C. "They have already earned more than US\$ 32 billion on their HCV DAAs, far more than has been invested in developing them."

Worldwide, over 150 million people have chronic HCV and need treatment. Some already have cirrhosis and are at risk for liver failure and liver cancer. Each year, approximately 750,000 people die from HCV, although it can be quickly and safely cured with oral DAAs. But DAAs are unaffordable – or unavailable – in most countries.

Patents & exorbitant prices

With sofosbuvir (Sovaldi), Gilead Sciences set the benchmark for scandalous pricing. Sofosbuvir was launched at US \$1,000 per pill, or at least \$84,000 per treatment course. Harvoni, Gilead's fixed-dose combination, is even more expensive. As a result, few countries are able to provide HCV treatment. In places where HCV treatment is available, Gilead's exorbitant prices have led payers to ration. Only the sickest patients are treated, to avoid bankrupting national healthcare systems. "What all these problems, including the lack of access to treatment, show is that the system of research, development and innovation is broken and needs to be transformed," says Vanessa Lopez of Salud por Derecho.

Even in high-income countries, HCV treatment is being rationed. In Spain, more than 500,000 people have HCV, but only 40,000 have been treated. "Due to 20-year patent protection, Gilead was able to set the price for their DAAs and justify it by saying it cost less than a liver transplant. We have to break these illegitimate monopolies," said Chloé Forette of Médecins du Monde. "Gilead's high prices have nothing to do with the actual cost of their research and development."

Most low- and middle-income countries – home to more than 120 million people with hepatitis C – do not have access to Gilead's HCV treatment. Gilead claims that its voluntary licensing program provides access to 103 people million with HCV, but this is not the reality. Sofosbuvir must be registered in each country before it can be sold. Gilead has only registered sofosbuvir in 9 of the 101 so-called access countries where they have offered voluntary licenses. It cannot be sold in the other access countries until Gilead registers it.

The primary purpose of Gilead's voluntary licensing is to control the market by preventing access to generics in countries where it can reap high profits. Gilead did not offer voluntary licenses to many countries with a high burden of HCV. "Without access to generic sofosbuvir, countries are left at Gilead's mercy for drug pricing," said Tracy Swan of Treatment Action Group. "In Brazil, Gilead charges more than US\$ 7,000 for sofosbuvir, though the country's GNI [gross national income] per capital is US\$ 961 per month."

Actions for Universal Access

Unrestricted generic competition is the most effective strategy for reducing the price of medicines. For example, a 12-week course of generic sofosbuvir is currently being sold in India for US \$325. This price will continue to drop as economies of scale are achieved. Generic sofosbuvir could be mass-produced for only US \$1 per pill.

Countries can oppose outrageous pricing policies by invoking legal safeguards to protect public health. They can issue compulsory licenses so that they can provide affordable generic medicines. With HIV, generic competition lowered the price of antiretroviral therapy from US\$ 10,000 per year to less than US\$ 100 per year.

Patients and activists joined forces at the International Liver Congress to protest the lack of access to DAAs and speak out against their outrageous prices. They encourage civil society to oppose illegitimate patents that block access to HCV drugs and demand that:

- Gilead register sofosbuvir NOW, everywhere it is needed.
- Gilead expand their voluntary licenses to include all countries with a high burden of HCV.
- Gilead drop the price of its HCV medications so that universal access can become a reality.

• Our governments overcome patent barriers by using their legal right to issue compulsory licenses so that they can provide access to affordable generic DAAs.

Sofosbuvir is just the tip of the iceberg. New treatments for Alzheimer's disease or cancer are likely to be rationed, due to exorbitant prices. We demand a public debate on price-setting methods for medicines, alternative financing mechanisms for research and development, transparency about the actual cost of drug development, and accountability for the public money that supports research."[13]

Researchers estimate that the cost of dual-therapy with sofosbuvir and daclatasvir could be brought down to under \$200 per person per treatment course, with the potential to save millions of lives [14, 15]. Domestic and international efforts to reduce the price of DAAs to make them truly accessible and affordable are intensifying. [16, 17, 18]

REFERENCES

- Treatment Action Group (TAG). Treatment Action Group welcomes Hepatitis C Virus (HCV) Project Co-Directors Annette Gaudino and Bryn Gay; Salutes Outgoing HCV Project Directors for their Superb Activism. (Press release) 16 June 2016. http://www.treatmentactiongroup.org/HCV/hcv-project-co-directors.
- 2. Swan T. New drugs, new strategies: conquering hepatitis C with direct-acting antivirals. HIV i-Base/ Treatment Action Group 2015 Pipeline Report. http://www.pipelinereport.org/2015/hcv.
- 3. U.S. Food and Drug Administration (FDA). FDA Hepatitis update Approval of Technivie to treat genotype 4 chronic hepatitis C virus. 24 July 2015. http://content.govdelivery.com/accounts/USFDA/bulletins/11115b5.
- 4. U.S. FDA. FDA Hepatitis Update Approval of Daklinza in combination with sofosbuvir for HCV genotype 3 infection. (Bulletin) 24 July 2015. http://content.govdelivery.com/accounts/USFDA/bulletins/1111641
- 5. U.S. FDA. FDA Hepatitis Update Changes to the Daklinza (daclatasvir) label expand indication. 5 February 2016. http:// content.govdelivery.com/accounts/USFDA/bulletins/134cc5e.
- 6. U.S. FDA. FDA Hepatitis Update Approval of Zepatier for treatment of chronic hepatitis C genotypes 1 and 4. 29 January 2016. http://content.govdelivery.com/accounts/USFDA/bulletins/125209b.
- 7. U.S. FDA. FDA Hepatitis Update FDA approves Epclusa for treatment of chronic Hepatitis C virus infection. 28 June 2016. https://content.govdelivery.com/accounts/USFDA/bulletins/15232f7.
- 8. U.S. FDA. FDA Hepatitis Bulletin. Harvoni (ledipasvir/sofosbuvir) label updated. 13 November 2015. http://content.govdelivery.com/accounts/USFDA/bulletins/125209b.
- 9. U.S. FDA. FDA Hepatitis Bulletin. FDA publishes revised draft guidance for developing direct-acting antiviral drugs for treatment of chronic hep C. 3 May 2016. https://content.govdelivery.com/accounts/USFDA/bulletins/14713db.
- Médecins du Monde (MDM), Treatment Action Group (TAG), hepCoalition. mapCrowd: Online global data on hepatitis C. www.mapCrowd.org. Accessed 29 June 2016.
- 11. American Association for the Study of Liver Disease (AASLD)/Infectious Diseases Society of America (IDSA). Recommendations for testing, managing, and treating hepatitis C. Updated 24 February 2016; changes made 25 April 2016. http://www.hcvguidelines.org.
- 12. World Health Organization. Guidelines for the screening, care and treatment of persons with chronic hepatitis C infection. Updated version, April 2016. http://apps.who.int/iris/bitstream/10665/205035/1/9789241549615_eng.pdf.
- 13. Treatment Action Group et al. Hepatitis C: no more treatment rationing; universal access to generic medicines everywhere! (Press release) 16 April 2016. http://www.treatmentactiongroup.org/hcv/no-more-treatment-rationing.
- Hill A, Simmons B, Gotham D, Fortunak J. Rapid reductions in prices for generic sofosbuvir and daclatasvir to treat hepatitis C. Journal of Virus Eradication 2016; 2: 28–31.
- 15. United Nation's Secretary-General's High-Level Panel on Access to Medicines. Andrew Hill, Anton Pozniak, and James Freeman, Chelsea and Westminster Hospital, United Kingdom. http://www.unsgaccessmeds.org/inbox/2016/2/25/andrew-hill-dr-antonpozniak-and-dr-james-freeman.

2016 PIPELINE REPORT

- 16. U.S. Centers for Center for Medicaid and CHIP Services. Medicaid Drug Rebate Program Notes Release No. 172. For State Technical Contacts. Assuring Medicaid beneficiaries access to hepatitis C (HCV) drugs. 5 November 2015. https://www.medicaid. gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Prescription-Drugs/Downloads/Rx-Releases/State-Releases/staterel-172.pdf
- Ollove M. Are states required to provide expensive hepatitis c drugs? The Pew Charitable Trusts Stateline: http://www.pewtrusts. org/en/research-and-analysis/blogs/stateline/2016/02/09/are-states-obligated-to-provide-expensive-hepatitis-c-drugs. 5 February 2016.
- 18. ADAP Crisis Task Force. Final update on negotiation with industry partners. (Statement) 30 June 2016.