Over 85% of Patients Diagnosed with Chronic Hepatitis C in the U.S. Are Currently NOT Receiving Treatment

Summary & Background

- The CDC estimates there are currently about 3.5 million people in the U.S. infected with chronic hepatitis C\(^1\). These are the patients that require treatment.

- Of that total, multiple studies have shown that only about 50% or 1.75 million people with hepatitis C in the U.S. have been diagnosed and are aware of their status\(^2,3\).

- In the past four years since the introduction of direct-acting antivirals, each year anywhere from 154,000 to 256,000 patients have been put on treatment and cured of their disease: 2014 (154k), 2015 (254k), 2016 (231k), 2017 (209k).

- Treating an estimated 205k new patients in 2018 represents just 12% of the total already diagnosed chronic hepatitis C population – meaning, conversely, that 88% of all people who have been diagnosed with hepatitis C and require treatment will not receive it this year.

- This year is not an anomaly. We project, based on historical trends and conservative assumptions, that each year for the next six years (until 2024) 80% or more of patients who have been diagnosed and need treatment will not receive it.

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\(^1\) U.S. CDC Division of Viral Hepatitis. “Hepatitis C: Overview and Statistics.” Available online at https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#section1
Analysis and Assumptions

The ratio of patients that initiate treatment in a given year versus the total number of known (already diagnosed) people with chronic hepatitis C is estimated by:

\[
\frac{\% \text{ of people NOT treated per year}}{1} = \frac{\# \text{ treated per year}}{\# \text{ diagnosed chronic hepatitis C}}
\]

**Number of people being treated per year**

- The projected number of new patients initiating treatment in 2018 is slightly less than in 2017, but significantly higher than the estimated figures from Gilead of 185-200k new starts in 2018.\(^4\) Thus, the model is again more conservative by being generous in the assumption of the number of new patients treated each year.
- In 2019 and beyond the analysis assumes that the number of HCV patients treated will continue to decline year-on-year. This is consistent with the general expectations of Gilead and AbbVie expressed in their most recent quarterly earnings calls.

**Number of people diagnosed with chronic hepatitis C**

- The total number of people with chronic hepatitis C in the U.S. is estimated at 3,500,000\(^1\). Each year going forward, the total number of people living with hepatitis C takes into account the number of people treated the previous year and new cases of chronic hepatitis C, using figures consistent with those projected by the CDC.\(^5\)
- Applying the 50% diagnosis rate, the estimated number of people diagnosed with hepatitis C is 1,750,000 in 2018. Each year going forward, the number of patients treated in the previous year is deducted and the number of new cases of chronic hepatitis C are added.

<table>
<thead>
<tr>
<th>Projected (numbers in thousands)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total estimated chronic hepatitis C</td>
<td>3,500</td>
<td>3,336</td>
<td>3,179</td>
<td>3,027</td>
<td>2,878</td>
<td>2,732</td>
<td>2,589</td>
<td>2,449</td>
<td>2,307</td>
</tr>
<tr>
<td>Diagnosed chronic hepatitis C</td>
<td>1,750</td>
<td>1,586</td>
<td>1,429</td>
<td>1,277</td>
<td>1,128</td>
<td>982</td>
<td>839</td>
<td>699</td>
<td>557</td>
</tr>
<tr>
<td>Total treated</td>
<td>205</td>
<td>200</td>
<td>195</td>
<td>190</td>
<td>185</td>
<td>180</td>
<td>175</td>
<td>175</td>
<td>175</td>
</tr>
<tr>
<td>Estimated new cases</td>
<td>41</td>
<td>43</td>
<td>43</td>
<td>41</td>
<td>39</td>
<td>37</td>
<td>35</td>
<td>33</td>
<td>31</td>
</tr>
<tr>
<td>% Diagnosed not being treated</td>
<td>88%</td>
<td>87%</td>
<td>86%</td>
<td>85%</td>
<td>84%</td>
<td>82%</td>
<td>79%</td>
<td>75%</td>
<td>69%</td>
</tr>
</tbody>
</table>

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\(^5\) U.S. CDC Division of Viral Hepatitis. “Hepatitis C: Overview and Statistics.” Available online at [https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#section1](https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#section1)