Access and Uptake of Direct Acting Antiviral Medicines in the UK and selected European countries

ABPI Viral Hepatitis Initiative

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The ABPI Viral Hepatitis Initiative commissioned IMS Health to provide information related to the uptake of Direct Acting Antiviral treatments (DAAs) over the last five years, to June 2016 [1]. The intention is to benchmark the UK – in relation to patient access to these medicines – compared with other European countries. These include the remaining ‘EU5’ (Germany, Italy, France and Spain) and other selected European countries to provide balance, where reliable and comparable data allows. This analysis does not include other medicines such as interferon-based treatment – please see the appendix for further information related to the methodology adopted.

The data in this report demonstrates there have been significant variances in the ability of patients to access these medicines. For example, Portugal, Belgium and Germany have now treated over a quarter of their estimated prevalent patients. By contrast, the trend in the UK has been one of slower and lower levels of access.

There has been progress. England has seen a steep rise from 2015 to 2016 (around a four fold increase) which may go someway to explaining the preliminary Public Health England data that suggests a 11% fall in 2015 of HCV-related end-stage liver disease and hepatocellular carcinoma [2]. This is welcome.

However, while around 10,000 DAA treatment courses are estimated to have been carried out in the UK in the last year, this is a number close to that of Portugal whose prevalent population is a quarter of the UK. While it has been suggested treatment numbers may increase in England [3], increases are required to support the UK to meet the World Health Organisation’s goal of eliminating hepatitis C as a public health concern by 2030 [4]. Scotland is the exception with a treatment ratio reaching 20% over the last five years perhaps demonstrating the benefits of a robust, ambitious and funded national strategy such as the Sexual Health and Blood Borne Virus Framework [5].
Number of treatment courses and cumulative treatment ratio with DAA medicines by selected country

Key notes: The cumulative treatment ratio percentage represents a total of all DAA treatments over the last five years, set against that country’s estimated prevalence.

For benchmarking purposes, a traffic light approach (red, amber, green) has been applied based on the countries cumulative treatment ratio vs the selected country cohort.

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
The cumulative percentage of patients treated of the prevalent population in the last 5 years

Key notes: Access to DAA treatment in the UK is increasing, particularly from 2015; however despite this it is behind a number of other selected European countries.

In Belgium, Portugal and Germany, the five years cumulative treatment ratio now exceeds a quarter of the estimated prevalent patients.

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Number of DAA treatment courses in the last 5 years

Key notes: There have been consistent increases in access to DAA treatments since 2013 in a number of countries, most notably Spain and Italy.

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Key notes: The size of the bubble reflects the cumulative number of treatment courses.

Therefore, as can be seen by looking at the bottom right of the graph, Belgium, Germany and Portugal in particular are making significant inroads into treating their prevalent population.

On this metric, and when measured against these selected countries, the UK is performing at an average level.
### The DAA treatment ratio versus prevalence (slide 2 of 2)

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Prevalence</th>
<th>Treatment Courses</th>
<th>Cumulative Ratio Treatments/Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>1,555,580</td>
<td>91,144</td>
<td>6%</td>
</tr>
<tr>
<td>Spain</td>
<td>795,090</td>
<td>74,386</td>
<td>10%</td>
</tr>
<tr>
<td>Romania</td>
<td>644,708</td>
<td>3,722</td>
<td>1%</td>
</tr>
<tr>
<td>France</td>
<td>429,195</td>
<td>52,510</td>
<td>13%</td>
</tr>
<tr>
<td>Germany</td>
<td>241,860</td>
<td>57,471</td>
<td>26%</td>
</tr>
<tr>
<td>UK</td>
<td>214,000</td>
<td>17,695</td>
<td>9%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>108,900</td>
<td>115</td>
<td>0%</td>
</tr>
<tr>
<td>Portugal</td>
<td>56,484</td>
<td>13,425</td>
<td>28%</td>
</tr>
<tr>
<td>Ireland</td>
<td>55,080</td>
<td>1,238</td>
<td>2%</td>
</tr>
<tr>
<td>Belgium</td>
<td>13,440</td>
<td>4,090</td>
<td>32%</td>
</tr>
</tbody>
</table>

**Key notes:** This table provides the background information reflected on the previous slide, in ascending order based on estimated prevalence.

Germany and the UK have been highlighted as two countries with similar prevalence figures. However, there are significant differences in the number of DAA treatment courses and resulting cumulative ratio of treatments vs prevalence providing an explanation as to why the UK is rated ‘amber’ rather than ‘green’.

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Cumulative percentage treated of prevalent population in the last five years – split by UK country [1]

Key notes: This graph demonstrates that Scotland has the highest five years cumulative treatment ratio within the UK by a significant margin and this is perhaps in some way linked to the ongoing existence of a dedicated national approach to hepatitis C included within the Sexual Health and Blood Borne Virus Framework [5].

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Number of treatment courses in the last five years – split by UK country [1]

Key notes: From a low base, England has significantly increased access to treatment in 2016. It has also been reported that emerging preliminary data relating to deaths as a result of HCV-related end-stage liver disease and hepatocellular carcinoma in the UK has fallen 11% in 2015, perhaps as a result of these treatment increases, particularly in those with more advanced disease [2].

It has been indicated that treatment in England may increase further, but overall numbers will still be managed through 'run rates' distributed to the Operational Delivery Networks [3].

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
The methodology adopted by IMS for this report includes source material and certain assumptions that are company confidential held only by IMS Health and is therefore not publicly available, as agreed by the Terms and Conditions of the commissioned report. For example, such assumptions would relate to the conversion of medicine 'pack sales' to patient numbers made by each company. The sources for the treatment information included IMS Midas, IMS Health HPA and IMS Health PBS datasets.

The project consisted of 2 main analyses conducted by IMS Health to provide the information contained within this report. However, for illustrative purposes IMS Health have provided the following information.

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Steps</th>
</tr>
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</table>
| **Treatment Courses** | • Convert counting units to treatment courses using daily doses and duration of therapy  
                         • Correct double counting by applying ratio of usage of combination therapies  
                         • Information obtained from IMS MIDAS and IMS Health refer to estimates from ABPI Viral Hepatitis Initiative members. |
| **Treatment Ratios**   | • Correct the prevalent population based on response rates as seen in clinical trials of the medicines, i.e. those achieving virological cure are deducted from the prevalent population.  
                         • Percentage and cumulative percentage of treated cases are calculated as a ratio of the corrected prevalent population |
References and Methodology

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070


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About the ABPI Viral Hepatitis Initiative

The ABPI Viral Hepatitis Initiative brings together interested and relevant ABPI member companies to work collectively and with one voice on structural and policy issues affecting the screening, diagnosis and treatment of viral hepatitis in the UK.

The members of the group are: AbbVie Ltd, Bristol-Myers Squibb Pharmaceuticals Ltd, Janssen-Cilag Ltd and Merck Sharp & Dohme Ltd.
Appendix: Country profiles – Germany

Prevalence - 0.3%
Estimated number of individuals with chronic hepatitis C - 241,860

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – France

Prevalence - 0.65%
Estimated number of individuals with chronic hepatitis C - 429,195

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Italy

Prevalence - 2.6%
Estimated number of individuals with chronic hepatitis C - 1,555,580

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Spain

Prevalence - 1.7%
Estimated number of individuals with chronic hepatitis C - 795,090

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – United Kingdom

Prevalence - 0.33%
Estimated number of individuals with chronic hepatitis C - 214,000

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Portugal

Prevalence - 0.54%
Estimated number of individuals with chronic hepatitis C - 56,484

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Belgium

Prevalence - 0.12%
Estimated number of individuals with chronic hepatitis C - 13,440

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Ireland

Prevalence - 1.2%
Estimated number of individuals with chronic hepatitis C - 55,080

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Romania

Prevalence - 3.23%
Estimated number of individuals with chronic hepatitis C - 644,708

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Country profiles – Bulgaria

Prevalence - 1.5%
Estimated number of individuals with chronic hepatitis C - 108,900

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: DAA treatment numbers by English region in the last 12 months (to June 16)

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070
Appendix: Number of DAA treatment courses by English region in 2015 and 2016

- 2015: 1,856 courses
  - 6% East Midlands
  - 7% East of England
  - 2% London
  - 7% North East
  - 14% North West
  - 4% South Central
  - 8% South East Coast
  - 36% South East
  - 8% South West
  - 7% South West
  - 8% Yorkshire & the Humber

- 2016: 8,133 courses
  - 8% East Midlands
  - 5% East of England
  - 4% London
  - 30% North East
  - 16% North West
  - 9% South Central
  - 3% South East Coast
  - 12% South East
  - 4% South West
  - 9% South West
  - 7% Yorkshire & the Humber

+338%

[1] AbbVie Data on File, IMS Health report for ABPI VHI: Hepatitis C Treatment in Europe, AXDoF162070