BACKGROUND

• Obtaining accurate medication use estimates is a vital component of post-marketing surveillance.

• Nationally projected sales data and patient-level data from population-based administrative claims databases are widely used to estimate medication use.

• It is unclear which of the different units of measurement available in nationally projected sales data are comparable to patient-level data.

OBJECTIVE

• To compare U.S. drug utilization estimates of relative percent market share for two drug classes between nationally projected sales data from IQVIA National Sales Perspectives™ (NSP) database and patient-level data from the Sentinel Distributed Database (SDD). (https://www.sentinelinitiative.org)

METHODS

Data Source:

• IQVIA NSP database – Provides national estimates of the volume of all products sold directly from manufacturers and indirectly through wholesalers into retail and non-retail channels of distribution in the U.S.

• SDD – Consists of claims data from a distributed network of 15 Data Partners, mostly U.S. commercial health insurers

Study Design and Analysis:

• Cross-sectional study

• Time period: 2011-2015

• Selected medications from two drug classes

  – Fixed daily dosing
  – Weight-based dosing

  • Iron products (IV)

  • From NSP, we extracted the amount sold of each medication using three different metrics, i.e., Eaches, Extended Units (EU), Kilograms (Kg) (Figure 1)

RESULTS

Figure 2. Market Share of Selected Statin Products in IQVIA National Sales Perspectives™ and Sentinel Distributed Database

- atorvastatin
- pravastatin
- rosuvastatin
- simvastatin

Year

<table>
<thead>
<tr>
<th>Year</th>
<th>IQVIA NSP</th>
<th>Sentinel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>2012</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>2013</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>2014</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>2015</td>
<td>19%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Figure 3. Market Share of IV Iron Products in IQVIA National Sales Perspectives™ and Sentinel Distributed Database

- ferrumoxyl
- iron sucrose
- iron dextran
- ferric gluconate
- ferric carboxymaltose

Year

<table>
<thead>
<tr>
<th>Year</th>
<th>IQVIA NSP</th>
<th>Sentinel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>2012</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>2013</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>2014</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>2015</td>
<td>19%</td>
<td>20%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

• Estimates of drug utilization using nationally projected sales-based metrics largely depend on the measurement unit selection, as well as the characteristics of the product in consideration (e.g., vial/bottle size, oral vs. IV, concentration/strength, recommended dose/potency)

• For statins, a product with fixed daily dosing, the EU sales-based metric may be an adequate proxy measure for estimates of percent market share based on patient-level data

• For IV iron, a product with weight-based dosing, the Kg sales-based metric may be an adequate proxy measure for estimates of percent market share based on patient-level data

• Nationally projected sales data and their agreement with patient-level data can vary considerably between selected metrics, in part driven by product characteristics

• When comparing nationally projected sales to patient-level data, it may be useful to evaluate multiple sales data metrics to better understand medication use

LIMITATIONS

• The cross-sectional nature of the study limits our conclusions to the time period examined.

• IQVIA NSP provides national estimates of units sold to all U.S. channels of distribution, while SDD is limited to reimbursed drugs

The authors have no conflicts of interest to disclose. The opinions expressed in this poster are those of the authors and not necessarily of the U.S. FDA. Many thanks are due to the Data Partners who provided data used in the analysis.