Leveraging biosimilars for better access and lower cost

Per Troein, VP Strategic Partners

March, 2018
No conflict of interest to declare
Global pharma has grown 6.4% over the last 5 years to $964BN

Global sales (2012-17)

Source: IQVIA MIDAS, Rx, MAT Q3 2017, audited sales
Biologics account for almost ¼ of Global sales. Biosimilars only account for ~1% of biologics.

Source: IQVIA MIDAS MAT Q3 2017
Important Biologics have already lost or are about to lose exclusivity

Global Top 10 Biologics Sales
US$ MAT Q3 2017

<table>
<thead>
<tr>
<th>Biologic sales (Bn)</th>
<th>EU Protection expiry date</th>
<th>US Protection expiry date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab (Humira)</td>
<td>2018</td>
<td>(2023)</td>
</tr>
<tr>
<td>Insulin glargine (Lantus)</td>
<td>Expired</td>
<td>Expired</td>
</tr>
<tr>
<td>Etanercept (Enbrel)</td>
<td>Expired</td>
<td>2022</td>
</tr>
<tr>
<td>Infliximab (Remicade)</td>
<td>Expired</td>
<td>2018</td>
</tr>
<tr>
<td>Rituximab (Mabthera)</td>
<td>Expired</td>
<td>2018</td>
</tr>
<tr>
<td>Insulin aspart (Novorapid)</td>
<td>Expired</td>
<td>Expired</td>
</tr>
<tr>
<td>Trastuzumab (Herceptin)</td>
<td>Expired</td>
<td>2019</td>
</tr>
<tr>
<td>Bevacizumab (Avastin)</td>
<td>2019</td>
<td>2019</td>
</tr>
<tr>
<td>Immunoglobulin base (Privigen)</td>
<td>2024</td>
<td>2027</td>
</tr>
<tr>
<td>Insulin Lispro (Humalog)</td>
<td>Expired</td>
<td>Expired</td>
</tr>
</tbody>
</table>

Source: IQVIA MIDAS MAT Q3 2017; IQVIA Institute Jan 2018; *Approved by EMA / FDA and on market
Biosimilar development is being actively pursued by a large number of companies for the leading molecules.

Source: IQVIA MIDAS MAT Q3 2017; IQVIA Institute Jan 2018
The promise – savings and increased access

- Price reduction through competition
- Increased access driven by a lower price
- Savings can finance new innovation
The limitations of use

The EMA’s approval of biosimilars states that they are equally safe and effective as the biologic, however the EU does not have a formal position on the interchangeability of biosimilars.

Each member state decides the policy framework guiding the use of biosimilars.

**Substitution**
- What is it? A pharmacist dispensing either the biologic or biosimilar, without consulting the prescriber.
- What’s the policy? In the EU, in general there is no policy supporting pharmacy substitution for biologics.

**Switching**
- What is it? A prescriber can exchange one product to another, taking into account patient information, baseline testing, monitoring, etc.
- What’s the policy? Most EU country authorities support physician-led biosimilar switching. The prescribers decision can be influenced by other stakeholders.
There is not necessarily a correlation between biosimilar uptake and list price

- Moderate saving but high biosimilar share
- High saving but low biosimilar share
Increased competition drives down prices

Case study GCSF in European markets

- The originator has focused the defence on switching users to second generation and it is also where the rebates has been given
- The competition has been fierce and Biosimilar discounts can be 80-90%
- The net prices are actually fairly similar
- Markets illustrate that even if very low net prices are available in a market, this doesn’t always determine the highest sales market share

Source: IQVIA Consulting: Q1 2017
Infliximab – the new wave of biosimilars

Europe:
Infliximab biosimilar market share in treatment days

Notes: Latvia and Bulgaria excluded because only biosimilar manufacturers present in market; Source: IQVIA MIDAS Restricted MTH Oct 2017

- Denmark and Norway are examples of 1 national tender which get high penetration of the biosimilar very quickly
- UK; a market tendering in 4 waves, 6 months apart
- Finland; the result of originators offering a very attractive deal up-front
- Markets with more fragmented buying

Uptake of hospital products is often influenced by:
- **Reimbursement.** Hospitals receive discounts so there is a financial incentive to switch.
- **Stakeholder influence.** Culture of “Incentives” to the prescriber, having local champions on safety etc.
Etanercept shows a similar picture

Uptake of Etanercept was influenced by how the drug payment was covered in a country - general reimbursement vs hospital tender

Notes: * Arranged in order of launch, FPB (VIAL DRY) and FMB (DRY AMPS.INJ) NFC coded molecules have been excluded; Source: IQVIA MIDAS Restricted MTH Oct 2017
Rituximab has only been launched in a limited number of markets

Europe: Rituximab biosimilar market share in treatment days (IV market only)

- Our assumption is that launching has been supply restricted.
- Some countries have a higher share of the Subcutaneous version, making them less accessible.
- The most attractive markets get the first launch.

Notes: NFC code inclusions for IV market: FQC (INFUS.VIA/BOT.), FQD (INF DRY BOTTLE); Source: IQVIA MIDAS Restricted MTH Oct 2017
There is mixed uptake by molecule and country

No country has high penetration in all biosimilars

### Europe, Japan, US & Canada - Biosimilar share of molecule treatment days

<table>
<thead>
<tr>
<th>Country</th>
<th>infliximab</th>
<th>insulin glargine</th>
<th>etanercept</th>
<th>rituximab</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>84.1%</td>
<td>5.0%</td>
<td>69.5%</td>
<td>36.5%</td>
</tr>
<tr>
<td>France</td>
<td>39.8%</td>
<td>5.4%</td>
<td>6.8%</td>
<td>-</td>
</tr>
<tr>
<td>Germany</td>
<td>48.7%</td>
<td>7.3%</td>
<td>41.8%</td>
<td>-</td>
</tr>
<tr>
<td>Italy</td>
<td>58.3%</td>
<td>15.6%</td>
<td>17.7%</td>
<td>2.9%*</td>
</tr>
<tr>
<td>Spain</td>
<td>44.9%</td>
<td>8.2%</td>
<td>5.3%</td>
<td>4.0%*</td>
</tr>
<tr>
<td>Finland</td>
<td>92.0%</td>
<td>4.3%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Norway</td>
<td>97.7%</td>
<td>3.4%</td>
<td>84.9%</td>
<td>-</td>
</tr>
<tr>
<td>Poland</td>
<td>100.0%</td>
<td>24.6%</td>
<td>23.8%</td>
<td>-</td>
</tr>
<tr>
<td>Denmark</td>
<td>98.1%</td>
<td>5.6%</td>
<td>86.0%</td>
<td>-</td>
</tr>
<tr>
<td>Japan</td>
<td>5.8%</td>
<td>35.6%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Canada</td>
<td>3.6%</td>
<td>0.5%</td>
<td>1.6%</td>
<td>-</td>
</tr>
<tr>
<td>US</td>
<td>2.6%</td>
<td>14.6%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** *Uptake represented within 6 months of launch; Source: IQVIA MIDAS Restricted MTH Oct 2017*
In traditional areas, price reductions has resulted in volume increases in most markets

Evolution of therapy volume, price of treatment and overall treatment cost in 7 therapy areas, Rx retail market from Q1 2006-Q4 2016
Normalized to population growth

Selected therapy areas: Angiotensin II antagonists, anti-depressants, anti-epileptics, anti-psychotics, anti-ulcerants, cholesterol regulators and oral anti-diabetics.

Source: IQVIA MIDAS QTR Dec 2016; Rx, retail, oral molecules ONLY, combinations excluded
Volume growth impact in Europe

• The first wave:
  - HGH - Limited impact of lower price exempt Eastern Europe
  - Epo – Mixed development – some countries has reduced based on EMA guidelines
  - GCSF – strong development in most markets

• The later wave
  - Fertility, insulin, LMWH – no impact (low uptake)
  - Anti TNF – accelerating growth for molecule and slowly for class

*Each product has a unique set of circumstances, but overall we will see similar pattern as for small molecules*
Savings can finance new innovation

Source: IQVIA MIDAS Restricted MAT Q3 2017, Rx only
## The risks

### The society aspects

<table>
<thead>
<tr>
<th>Too few companies ready to compete in tenders</th>
<th>Shortages due to rapid switching or production problems</th>
<th>Long term sustainability</th>
</tr>
</thead>
</table>
| • Tenders, to give good price reductions, require minimum of 3-4 competitors.  
  • If there are only few opportunities, with a long time lag in-between, the likelihood of having several bidders is lower. | • Individual companies can have technical supply problems – if one winner takes all, the market is more exposed.  
  • The rapid switch from one producer to another can cause supply risks.  
  • The lowest cost producer may have had to make compromises, which increase risk | • Longer term, if the experience is that developing biosimilars doesn't give a return on investment, new development might slow down, or stop. |
What are some tendering model alternatives?

Denmark
- Tendering entire market as soon as the competitive situation changes
- Fast switching of all patient

England
- Dividing tendering in 4 groups
- Tender each group for 2 years, the start date is staggered with 6 month between the groups

- Models supporting use of more than one product preferable
- Balance to be struck between sustainability and competition
- Price is important, but there are other factors to consider:
  - Must also demonstrate low risk for shortages
  - Must also account for value-add products / services
The hospital pharmacist role can vary

• Be the local scientific support for the use of biosimilars
• Be the champion for leveraging biosimilars in the institution/ support the champion
• Support purchasing collaboration/ tender best ratio price/other factors
• Monitor implementation/ pro-actively address issues as the arise
Take away

The experience base of use of biosimilars and switching are now very broad – it has proven to be safe.

Versus generics – achieving the benefits is a team work between several functions; hospital pharmacy, purchasing, prescriber, payer.

Price will not be all – who will be reliable suppliers?

Biosimilars are just now one of the largest “opportunities”
Leveraging biosimilars for better access and lower cost

Per Troein, VP Strategic Partners

March, 2018
How large part of the biological market in Europe is so far biosimilars?

A. 1%
B. <5% ✔
C. >5

A. 56%
B. 23%
C. 21%
How large part of the biological market in Europe is so far biosimilars?

- Before: 13%
- After: 56%
- Before: <5%
- After: 53%
- Before: >5
- After: 34%
- Before: 21%
- After: 23%
In 2018 we expect one significant new product with biosimilar competition

A. Enbrel
B. Mabthera
C. Humira

C. Humira
In 2018 we expect one significant new product with biosimilar competition.

- Enbrel: Before 11%, After 3%
- Mabthera: Before 37%, After 18%
- Humira: Before 52%, After 78%
What is the practical implication of “switching”

A. The final decision is made by the prescriber
B. A drug committee can only do a recommendation
C. Important to track which product is used

A. 43%
B. 13%
C. 43%
What is the practical implication of “switching”

- The final decision is made by the prescriber: 43% before, 43% after.
- A drug committee can only do a recommendation: 12% before, 13% after.
- Important to track which product is used: 45% before, 43% after.