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TwoLabs Pharma Services

Paying for Value
Trajectory of value based arrangements

Past

**SIMPLE**

- Adherence models
- Disease level initiatives
- ER avoidance and cost savings

Where are we now?

**COMPLEX**

- Risk and outcomes based contracts
- Supporting infrastructure (legal & data)
- Unique and tailored to each product
- Payment over time models
- Inclusion of PROs

Future
## The growing need for VBAs

<table>
<thead>
<tr>
<th>Product</th>
<th>Type of therapy</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kymriah</td>
<td>Cell therapy</td>
<td>$475,000 / treatment</td>
</tr>
<tr>
<td>Yescarta</td>
<td>Cell therapy</td>
<td>$373,000 / treatment</td>
</tr>
<tr>
<td>Luxturna</td>
<td>Gene therapy</td>
<td>$425,000 / eye</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$850,000 / treatment</td>
</tr>
<tr>
<td>Spinraza</td>
<td>Gene therapy</td>
<td>$750,000 year 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$375,000 subsequent years</td>
</tr>
<tr>
<td>Zolgensma</td>
<td>Gene therapy</td>
<td>$2.1 million</td>
</tr>
</tbody>
</table>

Sources: PriceRx, BioMedTracker
Value-based options and perspectives

Innovative Payment Models

- Reinsurance
- Orphan Reinsurance and Benefit Manager
- One-year milestone based contract
- Five-year annuity payment
- Patient Passport
- Netflix model

Key Stakeholders in VBAs

- Pharma
- Providers
- Payers
- Patients
Trends in VBA: what is working

One-year milestone based contract

- Initial Upfront Payment
- Assess Outcome Metric
- Treatment
- Performance contract parties
- 1 year
- Manufacturer rebate if under-performance

Netflix Model

- Subscription Fee
- More people have access to HCV Therapies
- Predictable state budgets
- Manufacturer revenue streams that maintain innovation

Sources: MIT New Digs. MSK Drug Pricing Lab.
Trends in VBA: what is *not* working

Five-year annuity payment

- Initial Upfront Payment
- Treatment
- Performance contract
- Assess Outcome Metric
- Payer milestone payment if outcome met

In Europe:

- bluebird bio
- zynteglo
- NOVARTIS
- zolgensma

Source: MIT New Digs.
International examples of VBAs

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Product</th>
<th>Agreement</th>
<th>Market</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>bluebirdbio</td>
<td>Zynteglo for ß-thalassemia</td>
<td><strong>Outcomes-based annuity plan</strong>: 5-year annuity model based on patients achieving transfusion independence</td>
<td>European markets</td>
<td>Ongoing</td>
</tr>
<tr>
<td>MERCK</td>
<td>Mavenclad for MS</td>
<td><strong>Outcomes-based</strong>: patients must remain free of disease activity which requires an active intervention for the 4-year treatment period</td>
<td>Germany, UK</td>
<td>Ongoing</td>
</tr>
<tr>
<td>gsk</td>
<td>Strimvelis for ADA-SCID</td>
<td><strong>Outcomes-based</strong>: patients are monitored for any declines in their health due to ADA-SCID</td>
<td>Italy</td>
<td>Limited</td>
</tr>
<tr>
<td>VERTEX</td>
<td>CF portfolio</td>
<td><strong>Portfolio contract</strong> with a budget cap in Denmark</td>
<td>Denmark</td>
<td>Ongoing</td>
</tr>
<tr>
<td>GILEAD</td>
<td>Yescarta for adult DLBCL</td>
<td><strong>Outcomes-based</strong>: lower price and additional rebates based on patient performance</td>
<td>France</td>
<td>Ongoing</td>
</tr>
<tr>
<td>NOVARTIS</td>
<td>Kymriah for ALL and DLBCL</td>
<td><strong>Outcomes-based</strong>: first year of free-pricing and then outcomes-based</td>
<td>Germany</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
Looking ahead

Challenges in Innovative Payments

1. Payment timing
2. Risk responsibility
3. Therapeutic performance risk
4. Actuarial risk
5. Data requirements

Common Goals: getting the most appropriate, cost-effective treatments to patients in a timely manner
## Concerns of payers and manufacturers

<table>
<thead>
<tr>
<th></th>
<th>Payer Concerns</th>
<th>Manufacturer Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data</strong></td>
<td>Privacy, adherence, feasibility and capacity</td>
<td>Accuracy, privacy, bandwidth, adherence and compliance</td>
</tr>
<tr>
<td><strong>Metrics</strong></td>
<td>Accuracy of long-term or durable outcomes checkpoints</td>
<td>Capture of long term treatment value</td>
</tr>
<tr>
<td><strong>Timing</strong></td>
<td>Long term benefit w/ plan switching</td>
<td>Long term tracking w/ plan switching</td>
</tr>
</tbody>
</table>

**Possible Solution:** 3rd party data aggregator and assessor