Outline

Anthem P&T process overview

Common study limitations

Case example of QoL measurement
  • SF-36 (general instrument)
  • IBDQ (disease-specific instrument)

Drug pipeline - future opportunity for PROs

Summary

Anthem
The Anthem Pharmacy and Therapeutics Process

Clinical Review Committee (CRC)

Pharmacy and Therapeutics (P&T) Process

Value Assessment Committee (VAC)

Integrated Pharmacy and Medical Analysis

- Critical review of the literature, Assigns a clinical designation based on the evidence. Recommendations sent to the VAC
- OUTCOMES ADVISORY COMMITTEE
  Outcomes / Pharmacoeconomic Review
  ACTUARIAL SUBCOMMITTEE TO VAC (ASVAC)
  Analyzes Financial and Pharmacoeconomic Results
- Reviews the clinical, outcome, and financial data and makes final tier placement decisions

First

Second
The Anthem Pharmacy and Therapeutics Process: Goal

**Improve Health Outcomes**

<table>
<thead>
<tr>
<th>Consider the complete burden of disease</th>
<th>Leverage the formulary process to improve patient outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Burden</td>
<td>Improve Quality of Care (clinical status, quality of life)</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>Reduce Total Cost (pharmacy, medical, ancillary, home health, nursing home, etc.)</td>
</tr>
<tr>
<td>Natural History of Disease</td>
<td>Optimize Care (cost effectiveness)</td>
</tr>
<tr>
<td>Total Cost of Care</td>
<td></td>
</tr>
<tr>
<td>Productivity Impact</td>
<td></td>
</tr>
<tr>
<td>Quality of Life Impact</td>
<td>Improve Productivity</td>
</tr>
</tbody>
</table>
Evidence-Based Medicine: Common Study Limitations

High-drop out rates or missing data, with no sensitivity analysis
Use of post-hoc analysis to draw cause and effect conclusions
  • Subgroup analysis where subgroups were not determined in advance.
Non-significant findings / power calculation is not clear
Non-ITT analysis (>5% of patients excluded from the primary outcome analysis)
Inadequate dosages, either study drug or comparator
Use of non-validated scoring methods
Disease oriented outcomes only (BP lowering vs. CV mortality)
Meta-analysis with unclear quality assessment methods.
Study duration too short for endpoint (e.g., 6 weeks for DM meds)
Confounding effect (e.g. other medications might impact the outcome)
Lack of transparency
Evaluation of Quality of Life Data: SF-36 Results in Crohn’s Disease

* - Significantly different from placebo; not significantly different from general population mean
† - Significantly different from placebo, and significantly different from general population mean

Physical Functioning = PF, Role-Physical = RP, Bodily Pain = BP, General Health = GH, Vitality = V, Social Functioning = SF, Role-Emotional = RE, Mental Health = MH

IBDQ Results for Crohn’s Disease Treatment

**Percent of Patients Achieving ≥170 Threshold by Study Arm by Time Point**

<table>
<thead>
<tr>
<th>Study Arm</th>
<th>0</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>48</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>65.9</td>
<td>46.9</td>
<td>43.9</td>
<td>40.9</td>
<td>40.0</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>79.5</td>
<td>73.0</td>
<td>72.6</td>
<td>68.1</td>
<td>71.3</td>
<td></td>
</tr>
</tbody>
</table>

- **Start (re-randomization)**
- **Baseline**
- **Time (weeks)**
- **Remission**
QoL Summary

Some diseases are associated with significant QoL burden

Some treatments can result in significant improvement in QoL

- QoL consistent with disease in remission
- QoL approaches that of the US population norm

QoL is an important endpoint from a patient perspective
## Future PRO Opportunity: Key Pipeline Drugs (1)

<table>
<thead>
<tr>
<th>Early 2015</th>
<th>Mid 2015</th>
<th>Mid 2015</th>
<th>Late 2015</th>
<th>Late 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zarxio (filgrastim biosimilar) for Neutropenia</td>
<td>PCSK9 Inhibitors for High Cholesterol: Alirocumab and Evolocumab</td>
<td>Agents for Duchenne Muscular Dystrophy: Drisapersen, Eteplirsen, and Ataluren</td>
<td>PD-1 Inhibitors for NSCLC: Opdivo and Keytruda (possibly earlier)</td>
<td>LCZ696 for Heart Failure</td>
</tr>
<tr>
<td>Palbociclib for Hormone receptor (+), HER2 (-) breast cancer in combo with letrozole APPROVED EARLY</td>
<td>Sebelipase alfa for Lysosomal acid lipase deficiency</td>
<td>Kalydeco plus Lumacaftor combo for Cystic Fibrosis</td>
<td>Asfotase alfa for Hypophosphatasia</td>
<td>3 New Regimens for Hepatitis C: Daclatasvir/Sovaldi, Asunaprevir/daclatasvir/BMS 791325, and Grazoprevir/elbasvir</td>
</tr>
</tbody>
</table>

Note: Costs for drugs not approved are estimated.
### Future PRO Opportunity: Key Pipeline Drugs (2)

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ocrelizumab for Multiple Sclerosis</strong></td>
<td><strong>LEE 01: Competitor to Palbociclib for breast cancer</strong></td>
</tr>
<tr>
<td>PCSK9 Inhibitor: Bococizumab</td>
<td></td>
</tr>
<tr>
<td>Buparlisib: Breast cancer population similar to palbociclib</td>
<td>Rindopepimut: Therapeutic Vaccine for Glioblastoma</td>
</tr>
<tr>
<td></td>
<td>VX-661/Lumacaftor for Cystic Fibrosis</td>
</tr>
<tr>
<td></td>
<td>VX-661/Kalydeco for Cystic Fibrosis</td>
</tr>
<tr>
<td></td>
<td>Laquinimod and RPC 1063: Oral Agents for MS</td>
</tr>
</tbody>
</table>

Note: All costs for drugs not approved are estimated.
Summary

High quality evidence is important for health care decision-making

Some diseases are associated with significant QoL burden.

Treatment might result in significant improvement in QoL.

• QoL consistent with disease in remission
• QoL approaches that of the US population norm

QoL is an important endpoint from a patient perspective.

There are future opportunities for PROs to assist in health care decision-making.