Best Practices for Specialty Pharmacy Usage Management

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Overview

- Provide a background to specialty pharmacy
- Identify key industry challenges
- Introduce comparative effectiveness research and methods for determining the value of specialty therapies
- Review cost effectiveness studies in the context of hepatitis C, PCSK9 inhibitors, and oral oncology
- Identify tools to manage specialty pharmacy utilization
## Defining Specialty Pharmacy

Broad, loosely defined, and complex to understand

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Common Disease States</th>
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<tbody>
<tr>
<td>High-dollar</td>
<td>Oncology</td>
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<tr>
<td>High-risk</td>
<td>MS</td>
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<tr>
<td>Administration training</td>
<td>HIV/AIDS</td>
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<td>Special handling</td>
<td>Hep C</td>
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<tr>
<td>Special clinical monitoring/supervision</td>
<td>RA</td>
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<td>Special distribution</td>
<td>IBD</td>
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<td></td>
<td>RSV</td>
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<td>CF</td>
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<td>GH def</td>
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<td></td>
<td>Hemophilia</td>
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<td>PAH</td>
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</table>
Specialty Pharmacy Drug Spend in the U.S.

- 1% of all prescriptions
- Over 30% of overall drug spend
- Fastest growing segment of drug spend
- $124,000,000,000 spend in 2014

Spending amounts in US$ billions

Source: Medical Cost Trend: 2015 Behind the Numbers. Health Research Institute 2014
Industry Challenges

Specialty Drug Management Challenges

- Managing oncology: 79%
- Determining value of therapy: 66%
- Managing appropriate use of therapy: 60%
- Coordinating management across the Rx/medical benefits: 60%
- Pipeline and new product approvals: 56%
- Shift in site of service from MD office to HOP dept: 53%

N=70 Percentage of plans

HOP=Hospital Outpatient; MD=Medical Doctor (Physician).

The Value of Therapy

- Comparative effectiveness research (CER)
- Using cost effectiveness to help with value determination

What do we need to consider?

<table>
<thead>
<tr>
<th>Patient</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>Quality</td>
<td>Cost</td>
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<tr>
<td>Quantity</td>
<td>Safety</td>
</tr>
<tr>
<td>Appraisal</td>
<td>Efficacy</td>
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<tr>
<td>Generalization</td>
<td>Comparator</td>
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</table>
Cost Effectiveness

- **The QALY**
  - Quality-Adjusted Life-Years = Life expectancy x Quality of life
  - Quality of life = Quality of Health and adjusted for treatment safety/efficacy (Range 0-1)

- **The ICER**
  - Incremental cost-effectiveness ratio = \( \frac{C_2 - C_1}{QALY_2 - QALY_1} \)
  - Difference in cost between two treatments per QALY gained

The Threshold

- A socially acceptable standard to which treatments can be compared against
- Thresholds are generally vetted through regulatory bodies and used for comparisons
  - Some regulatory bodies will use these thresholds for new therapy or drug approvals
- Most widely used threshold: $50,000/QALY
- Many other thresholds ranging out to $250,000/QALY

Hepatitis C

- Over 3 million Americans have Hep C
- Death rates starting to exceed HIV/AIDS
- Slow progressing liver disease ultimately leads to liver failure

<table>
<thead>
<tr>
<th>Old Antiviral Therapy</th>
<th>New Antiviral Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-65% cure rates</td>
<td>90% or higher cure rates</td>
</tr>
<tr>
<td>High toxicity</td>
<td>Minimal side effects</td>
</tr>
<tr>
<td>Lengthy duration</td>
<td>Short duration</td>
</tr>
</tbody>
</table>

Source: Centers for Disease Control and Prevention - [http://www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)
Hep C Spend

- Over $12 billion in 2014
  - $12-14 billion in 2015 (estimated)
- Accounts for 35% of the growth in 2014 drug spend

- Old regimen
  - $15,000-30,000
- New regimen
  - $84,000-200,000

- Utilization expected to taper over the coming years

Source: Recommendations for Testing, Managing, and Treating Hepatitis C. AASLD 2015
Cost Estimates Per Modality

**Pharmacy Cost**

- Average $84,000

**Medical Cost**

- No fibrosis – $17,000 annually
- Cirrhosis – $270,000 over a decade
- Transplant – $580,000

Source: Medical Cost Trend: 2015 Behind the Numbers. Health Research Institute 2014
Chhatwal et al.

- Simulated modeling of sofosbuvir/ledipasvir based therapy with old standard of care

**With a $50,000/QALY threshold**
- Cost effective for 82% of treatment naïve patients
- Cost effective for 60% of treatment experienced patients

**With a $100,000/QALY threshold**
- Cost effective 83% of treatment naïve patients
- Cost effective for 81% of treatment experienced patients

Najafzadeh et al.

- Simulated modeling
- Found sofosbuvir/ledispasvir to be the most cost effective strategy

Cost per QALY over standard of care

- GT 1: $12,825/QALY
- GT 2: $110,000 – 691,000/QALY
- GT 3: $396,000/QALY

### Treatment Strategy, by Genotype

<table>
<thead>
<tr>
<th>Genotype 1</th>
<th>Cost, $</th>
<th>Effectiveness, QALYs</th>
<th>Incremental Cost-Effectiveness, change in $/change in QALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOC-RBV-PEG (usual care)</td>
<td>100 926 (94 766 to 108 470)</td>
<td>11.28 (10.66 to 11.98)</td>
<td>Reference</td>
</tr>
<tr>
<td>SOF-RBV-PEG</td>
<td>120 648 (115 949 to 125 548)</td>
<td>12.19 (11.55 to 12.85)</td>
<td>21 528 (12 834 to 39 629)</td>
</tr>
<tr>
<td>SOF-SMV (PEG-free regimen)</td>
<td>171 023 (166 580 to 176 401)</td>
<td>12.26 (11.62 to 12.95)</td>
<td>71 445 (39 615 to 79 956)</td>
</tr>
<tr>
<td>SOF-DCV (PEG-free regimen)</td>
<td>169 747 (165 406 to 174 669)</td>
<td>12.36 (11.71 to 13.11)</td>
<td>63 355 (43 454 to 108 171)</td>
</tr>
<tr>
<td>SOF-LDV (PEG-free regimen)</td>
<td>115 358 (111 095 to 120 379)</td>
<td>12.40 (11.77 to 13.08)</td>
<td>12 825 (6 420 to 22 755)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genotype 2</th>
<th>Cost, $</th>
<th>Effectiveness, QALYs</th>
<th>Incremental Cost-Effectiveness, change in $/change in QALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBV-PEG (usual care)</td>
<td>54 005 (48 633 to 60 897)</td>
<td>11.86 (11.20 to 12.61)</td>
<td>Reference</td>
</tr>
<tr>
<td>SOF-RBV (PEG-free regimen)</td>
<td>109 958 (105 544 to 114 729)</td>
<td>12.37 (11.70 to 13.09)</td>
<td>110 168 (56 414 to 573 491)</td>
</tr>
<tr>
<td>SOF-DCV (PEG-free regimen)</td>
<td>316 845 (311 645 to 322 857)</td>
<td>12.24 (11.53 to 12.99)</td>
<td>691 574 (−5 085 270 to 6 658 138)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genotype 3</th>
<th>Cost, $</th>
<th>Effectiveness, QALYs</th>
<th>Incremental Cost-Effectiveness, change in $/change in QALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBV-PEG (usual care)</td>
<td>58 323 (52 027 to 65 999)</td>
<td>11.50 (10.90 to 12.23)</td>
<td>Reference</td>
</tr>
<tr>
<td>SOF-RBV (PEG-free regimen)</td>
<td>207 872 (201 623 to 215 794)</td>
<td>11.37 (10.74 to 12.09)</td>
<td>Dominated</td>
</tr>
<tr>
<td>SOF-DCV (PEG-free regimen)</td>
<td>317 830 (312 217 to 325 029)</td>
<td>12.16 (11.43 to 12.94)</td>
<td>396 229 (202 096 to 1 606 541)</td>
</tr>
<tr>
<td>SOF-LDV-PEG (PEG-free regimen)</td>
<td>120 464 (115 543 to 125 573)</td>
<td>12.35 (11.68 to 13.07)</td>
<td>73 236 (−296 686 to 394 766)</td>
</tr>
</tbody>
</table>

BOC = boceprevir; DCV = daclatasvir; LDV = ledipasvir; PEG = pegylated interferon; QALY = quality-adjusted life-year; RBV = ribavirin; SMV = simeprevir; SOF = sofosbuvir.

* Numbers in parentheses are 95% credible intervals, which reflect the results of probabilistic sensitivity analysis.

Limitations

- Cost effectiveness favoring certain groups
  - Genotype 1
  - Treatment naïve

- Limited cost-effectiveness in other groups
  - Genotype 2
  - Genotype 3
  - Treatment experienced with or without cirrhosis

- A greater “willingness to pay” (i.e. $100,000+) may include most patient groups
PCSK9 Inhibitors

- First wave of designer MAb’s to appear in the chronic disease space
- Self-injectable therapy
- Indicated for LDL-c lowering in those with familial hypercholesterolemia and clinical atherosclerotic disease
- 45-60% LDL-c reduction
- Potential for high impact, high utilization
  - 625,000 patients with FH
  - 3.5 million patients with statin intolerance
- $14,000+ annually
- $100 billion in anticipated spend over 5 years

Source: In The Debate About Cost And Efficacy, PCSK9 Inhibitors May Be The Biggest Challenge Yet. Health Affairs Blog 2015
Estimate that approximately 2.6 million could receive a PCSK9 inhibitor over 5 years

- FH
  - $19 billion spend
  - $334,000/QALY

- Secondary Prevention – Statin Intolerance
  - $15 billion spend
  - $274,000/QALY

- Secondary Prevention – Statin (LDL not at goal)
  - $74 billion spend
  - $302,000/QALY

Source: PCSK9 Inhibitors for Treatment of High Cholesterol: Effectiveness, Value, and Value-Based Price Benchmarks. ICER 2015
At what price could PCSK9’s be cost effective?

With a $50,000/QALY threshold

- FH
  - $3400/year
- Secondary Prevention – Statin Intolerance
  - $3400/year
- Secondary Prevention – Statin (LDL not at goal)
  - $3100/year

Source: PCSK9 Inhibitors for Treatment of High Cholesterol: Effectiveness, Value, and ValueBased Price Benchmarks. ICER 2015
Threshold analysis

<table>
<thead>
<tr>
<th>Patient Subpopulation</th>
<th>WTP threshold</th>
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<tr>
<td></td>
<td>$50,000/QALY</td>
</tr>
<tr>
<td>FH on statin (as treated) + statin-intolerant †</td>
<td>$3,400</td>
</tr>
<tr>
<td>Pre-existing CVD, LDL-C ≥ 70 mg/dL, and statin-intolerant</td>
<td></td>
</tr>
<tr>
<td>Pre-existing CVD, LDL-C ≥ 70 mg/dL on maximally tolerated</td>
<td>$3,100</td>
</tr>
<tr>
<td>statin dose ¶</td>
<td></td>
</tr>
</tbody>
</table>

*Source: PCSK9 Inhibitors for Treatment of High Cholesterol: Effectiveness, Value, and Value-Based Price Benchmarks. ICER 2015*
ICER and Budget Impact

Source: PCSK9 Inhibitors for Treatment of High Cholesterol: Effectiveness, Value, and Value-Based Price Benchmarks. ICER 2015
Limitations

- PCSK9 inhibitors lack the long-term data to suggest cardiovascular benefit in morbidity and mortality
- ICER can range based on expected effectiveness
- Lack of long-term safety data

Source: PCSK9 Inhibitors for Treatment of High Cholesterol: Effectiveness, Value, and ValueBased Price Benchmarks . ICER 2015
Oral Oncology

- Chronic Lymphoid Leukemia – CML
  - Chronic Phase
  - Accelerated Phase
  - Blast Phase

- Chronic Phase Treatment – *Tyrosine Kinase Inhibitors (TKI)*
  - Most commonly used agents – *imatinib, dasatinib, and nilotinib*
  - *Currently used as first-line therapy*
  - If one is ineffective, try another
  - $70,000-100,000 annual cost
- **Imatinib**
  - Many heme/onc indications (on- and off-label)
  - Generically available beginning 2/2016
  - Therapy cost expected to reduce dramatically
    - Remain at branded price for first 6 months
    - 20-40% price reduction (vs. brand) for following 6 months
    - 70-90% price reduction (vs. brand) expected after 1 year

Larson et al.

- Simulated the idea of step therapy
  - Initial therapy with imatinib
    - Upon treatment failure – switch to dasatinib or nilotinib
  - Standard of care as “Physicians choice”
    - Patients are started on any of the three TKI’s

- Stepwise therapy could cost less over physicians choice without compromising care (over 5 years)
  - 3.25 QALYS vs. 3.36 QALYS
  - $149,091 vs. $172,076
  - 73% (of 10,000) simulations were cost effective at a threshold of $100,000 per QALY.

ICER Limitations

- As generalizable as the “inputs” of your analysis
  - Simulation models: interpretation is only as meaningful as the input variables
  - Randomized trials: interpretation can suffer the same limitations as the trials

- Cost-effectiveness research relies on a proper control/comparator

- Time constraints
  - Predicting outcomes vs. direct measurement of outcomes

- Societal Value
  - Willing to pay thresholds
  - Trade-offs between cost and efficacy
Management

- Leveraging cost-effectiveness data
  - Value-based reimbursement
  - Value-based coverage
  - Pricing negotiations

- Ripening utilization management opportunities
  - More specialty drugs with PA’s
  - Greater comfort with adding UM to specialty
  - Growing list of therapy options
  - Robust pipeline

- Formulary opportunities
  - Tier changes – old and new
  - Preferred product strategies
Benefit design approach

- Integration: pharmacy and medical
- Catch-all design for all specialty drugs
- Channel management: pharmacy vs. medical
- Site of Care: the right “place” for the right “drug”

Adopting new technologies

- ePA – electronic prior authorization
- Oncology pathways management
- Care management systems
Site of Care
Conclusion

- Specialty pharmacy is the fastest growing segment of the pharmaceutical industry

- Rising cost of specialty therapies continues to be one of the biggest challenges

- Value-added to society by new therapies can, in part, be addressed through well-designed cost-effectiveness studies

- Value determination should be an integral component to the management of specialty therapies
Questions?

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