TRANSFERABILITY OF ECONOMIC EVALUATION STUDIES: IS THERE A GENERALLY ACCEPTED ALTERNATIVE PRICE BENCHMARK TO THE WAC PRICE?

Outline

• Background (Joey Mattingly)
  – Drug Supply Chain
  – ISPOR Panel Taskforce Recommendations
• Alternatives to WAC (Joe Levy)
  – Current practice
  – Different measures
  – Way forward?
• Case-study/Model (Julia Slejko)
• Policy/Regulatory Implications (Nneka Onwudiwe)
• Moderated Discussion (Joey Mattingly)
Background

Joey Mattingly PharmD, MBA

A simple model…
ISPOR Drug Cost Task Force

- Fully transparent
- Reflect the net payment most relevant to the CEA perspective
  - **Payer Perspective**: cost net rebates/discounts, copays
    - Noted difficulties in estimating this with existing benchmarks
  - **Third Party Payer**: Rebates ~7.5% of catalog price (WAC) for brand drugs but with wide variation. (FTC 2003)
    - Suggest 15% Base-case rebates with uncertainty 5-25% depending on tier and in class competition, greater for generics.
  - **Societal Perspective**: a fraction of average sales price as a proxy for opportunity costs?

2nd Panel

• Recommends Healthcare Sector and Societal Perspective
• Briefly discusses drug cost estimates, advocates Federal Supply Schedule
• Does not discuss uncertainty driven by payer differences

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<table>
<thead>
<tr>
<th>Drug Price Roulette: Round 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient</strong></td>
</tr>
<tr>
<td><strong>Usual &amp; Customary (U&amp;C)</strong> + Dispensing Fee</td>
</tr>
<tr>
<td><strong>Average Wholesale Price (AWP)</strong></td>
</tr>
<tr>
<td><strong>Wholesale Acquisition Cost (WAC)</strong></td>
</tr>
</tbody>
</table>
**Drug Price Roulette: Round 2**

- **Patient**
  - Usual & Customary (U&C) + Dispensing Fee
- **CVS/pharmacy**
  - Average Wholesale Price (AWP)
- **MCKESSON**
  - Wholesale Acquisition Cost (WAC)
- **Gilead**

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**Drug Price Roulette: Round 3**

- **Patient**
  - Usual & Customary (U&C) + Dispensing Fee
- **Humana**
- **Walgreens**
  - Average Wholesale Price (AWP)
- **CardinalHealth**
  - Wholesale Acquisition Cost (WAC)
- **Lilly**
Possible Alternatives to WAC?

Joseph Levy

Outline

• See what practitioners are doing
• What is WAC?
• What are alternatives?
  – NADAC: National Average Drug Acquisition Cost
  – FSS: Federal Supply Schedule
  – ASP: Average Sales Price
• New approach?
Wholesale Acquisition Cost (WAC)

Manufacturer supplied list price of the wholesalers purchase from the manufacturer

- …as published by First Databank (FDB), WAC represents the manufacturer’s published catalog or list price for a drug product to wholesalers as reported by the manufacturer.
- WAC does not represent actual transaction prices and does not include prompt pay or other discounts, rebates or reductions in price.
- FDB does not perform […] analysis of actual transaction prices for purposes of reporting WAC.
- FDB relies on manufacturers report for the WAC data field.

Wholesale Acquisition Cost (WAC)

Manufacturer supplied list price of the wholesaler's purchase from the manufacturer

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a starting point for drug cost negotiations. Some state Medicaid agencies use 100% WAC.</td>
<td>Is the list price of a purchase that is not of interest</td>
</tr>
<tr>
<td>Is lower than AWP?</td>
<td>Commercial databases</td>
</tr>
<tr>
<td>Is used frequently?</td>
<td>Hard to select a single, or representative NDC (especially true of generics)</td>
</tr>
</tbody>
</table>
National Average Drug Acquisition Cost (NADAC)

The surveyed price pharmacies pay to acquire a given drug ‘weighted’ by utilization

- Meant to inform state Medicaid agencies what to reimburse pharmacies
- Weighted average pharmacies pay to acquire a unit of a given drug group (i.e. different NDCs that contain the same things)
- Based on monthly national survey, collects pharmacy invoices
- The NADAC does not reflect the payers dispensing fee or rebates provided by drug manufacturers

<table>
<thead>
<tr>
<th>NDC</th>
<th>Product Name</th>
<th>Observed in Survey</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>xxxxx-xxxx-01</td>
<td>Drug A 360MG CAP</td>
<td>50</td>
<td>0.285</td>
</tr>
<tr>
<td>xxxxx-xxxx-02</td>
<td>Drug A 360MG CAP</td>
<td>40</td>
<td>0.190</td>
</tr>
<tr>
<td>yyyy-yyyy-01</td>
<td>Drug A 360MG CAP</td>
<td>30</td>
<td>0.297</td>
</tr>
<tr>
<td>yyyy-yyyy-02</td>
<td>Drug A 360MG CAP</td>
<td>20</td>
<td>0.250</td>
</tr>
<tr>
<td>yyyy-yyyy-02</td>
<td>Drug A 360MG CAP</td>
<td>10</td>
<td>0.568</td>
</tr>
</tbody>
</table>
National Average Drug Acquisition Cost (NADAC)

The surveyed price pharmacies pay to acquire a given drug ‘weighted’ by utilization

\[
NADAC_G = \frac{\sum_{i=1}^{5} observed_i \times unitcost_i}{\sum_{i=1}^{5} observed_i}
\]

Advantages

- NADAC is a weighted estimate of what pharmacies are actually paying to acquire drugs (after discounts)
- Payers will pay at least this much to the pharmacy to acquire the drug

Disadvantages

- An estimate of a transaction not necessarily of interest
- Does not at all account for rebates payers will likely get from manufacturers
- Sampling strategy, response rate and raw data not reported. Non-response could lead to bias
- Not all discounts captured
VA Federal Supply Schedule

The price the VA has negotiated to acquire drugs from manufacturers

- The Federal Supply Schedule (FSS) is negotiated by the Dept. of Veterans Affairs on behalf of all federal direct payers.
- For certain drugs the VA receives even lower prices for the big 4 public payers: “Big 4 Price”
- Through preferred formulary placement, can achieve even lower cost in some drugs “National Contract Price”
  - VAFSS=Minimum(FSS, Big4, NCP)
- Excluded from the “Best Price”; a metric that is the basis of manufacturer rebates paid to Medicaid (CBO 2005)
# VA Federal Supply Schedule

The price the VA has negotiated to acquire drugs from manufacturers

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>The actual cost to a real payer (i.e. the transaction we want)</td>
<td>By statute, and exclusion from the computation of the ‘best price’ is one of the lowest prices available to any payer. Possibly too low?</td>
</tr>
<tr>
<td>Freely available, online, query system</td>
<td>Prices can vary on package size, manufacturer</td>
</tr>
<tr>
<td></td>
<td>Unclear how timely the price is</td>
</tr>
</tbody>
</table>

![Diagram of drug supply chain](image)
Average Sales Price (ASP)

The price paid by Medicare for Part B (physician administered) drugs

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>The actual price Medicare Part B pays to acquire certain drugs</td>
<td>Only for Medicare Part B drugs</td>
</tr>
<tr>
<td>Based on quarterly sales data provided by manufacturers:</td>
<td>Cost to Medicare only, different payers will be higher and lower</td>
</tr>
<tr>
<td>[\text{Gross Sales} - (\text{Discounts} + \text{Chargebacks} + \text{Rebates})]</td>
<td></td>
</tr>
<tr>
<td>[\text{Total Units Sold} \times \text{Medicare Reimburses 106% of ASP}]</td>
<td></td>
</tr>
<tr>
<td>Freely available quarterly</td>
<td>Unclear if it is fair to compare Part B drugs with non-part B drugs in CEA.</td>
</tr>
<tr>
<td>(WAC vs ASP?)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicare Part B</th>
<th>Average Sales Price (ASP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient</td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
</tr>
<tr>
<td>Wholesaler</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
</tbody>
</table>
A solution?

Levy et al. 2017 Working Paper

A Transparent and Consistent Approach to Assess US Outpatient Drug Costs for Use in Cost-Effectiveness Analyses

- Use the spread between NADAC and VAFSS
  - Upper Bound=NADAC
  - Lower Bound=VAFSS
- Use Midpoint between NADAC and VAFSS as Base-Case
- Base-Case is approximately 26% less than WAC for brands
  - But with substantial variation between products
- Base-Case is approximately 32% less than WAC for generics
  - With even more variation between products
Case Study

Julia F. Slejko PhD

Obtaining Drug Costs

• Example: 40mg Atorvastatin (generic)
  – WAC from Redbook
  – NADAC
  – VAFSS
Red Book®

Export to Excel. Find lowest unit price. Lowest WAC unit price: $0.18/40mg

NADAC


Choose desired survey time period. - Most recent is often useful.
Average unit price across all NDCs: $0.12/40mg

List of NDCs for product/strength

VAFSS

https://www.va.gov/nac/pharma/list
VAFSS

Four Prices:
- FSS
- NC
- Big 4

Export to Excel to calculate unit price and minimums.

VAFSS: $0.04/40mg

Comparison of Three Sources

<table>
<thead>
<tr>
<th></th>
<th>Cost per Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WAC</td>
</tr>
<tr>
<td>Atorvastatin</td>
<td></td>
</tr>
<tr>
<td>40mg</td>
<td>$0.30</td>
</tr>
</tbody>
</table>
Modeling Example

- Simple model for illustrative purposes:
  - Branded “Drug A” for chronic condition, vs. usual care
  - Reduces acute events, which cost $10,000/ea
  - Initial age 55 years, lifetime horizon

Drug Price Inputs

<table>
<thead>
<tr>
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<th>Cost per Dose</th>
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<tbody>
<tr>
<td></td>
<td>WAC</td>
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<tr>
<td>Drug A</td>
<td>$12.27</td>
</tr>
</tbody>
</table>
Model Inputs

<table>
<thead>
<tr>
<th>Drug A Cost Source</th>
<th>Base Case</th>
<th>S.A. Range +/- 10%</th>
<th>Uncertainty Range VAFSS-NADAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAC</td>
<td>$12.27</td>
<td>$11.04-$13.50</td>
<td></td>
</tr>
<tr>
<td>NADAC</td>
<td>$11.80</td>
<td>$10.62-$12.98</td>
<td></td>
</tr>
<tr>
<td>VAFSS</td>
<td>$5.68</td>
<td>$5.11-$6.25</td>
<td>$5.68-$11.80</td>
</tr>
<tr>
<td>Midpoint of VAFSS-NADAC</td>
<td>$8.74</td>
<td>$7.87-$9.61</td>
<td></td>
</tr>
</tbody>
</table>

Example Model Results

Base Case Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Usual Care</td>
<td>$23,880</td>
<td></td>
<td>7.149</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug A</td>
<td>$36,146</td>
<td>$12,265</td>
<td>7.463</td>
<td>0.314</td>
<td>$39,089/QALY</td>
</tr>
</tbody>
</table>

One-Way Sensitivity Analysis & Uncertainty Analysis

- Use midpoint of VAFSS/NADAC for base case: $8.74

$8.74 +/- 10% for Sensitivity Analysis

VAFSS-NADAC Range for Uncertainty Analysis
Base Case Results

<table>
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<tr>
<td>Drug A</td>
<td>$41,847</td>
<td>$17,967</td>
<td>7.463</td>
<td>0.314</td>
<td>$57,261/QALY</td>
</tr>
</tbody>
</table>

Use midpoint of VAFSS/NADAC: $8.74

WAC: $12.27

One-Way Sensitivity Analysis & Uncertainty Analysis

Midpoint vs. WAC +/- 10% for Sensitivity Analysis

Policy/Regulatory Implications

Nneka C. Onwudiwe PharmD PhD MBA
Disclaimer

This presentation reflects the views of the speaker and should not be construed to represent FDA’s views or policies.

Pricing Strategies Worldwide
Pricing Strategies in the US Drug Supply Chain

List or Transaction Price?

Source: Reimbursement benchmarks and bases for prescription drugs. http://www.amcp.org/MapR/
# Benchmark Criteria

## Table 3

<table>
<thead>
<tr>
<th>Accessible</th>
<th>Timely</th>
<th>Simple</th>
<th>Comprehensive</th>
<th>Easily understood</th>
<th>Transparent</th>
<th>Trustworthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAC</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMP</td>
<td></td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASP</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>AWP</td>
<td></td>
<td>✔️</td>
<td></td>
<td></td>
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<tr>
<td>EAC</td>
<td></td>
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<td>FUL</td>
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<td>MLP</td>
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<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AAC – actual acquisition cost  
AMP – average manufacturer price  
ASP – average sales price  
EAC – estimated acquisition cost  
MAC – maximum allowable cost  
MLP – manufacturer list price  
WAC – wholesale acquisition cost  
NADAC – national average drug acquisition cost
Issues for Stakeholders

• “...cost prices should be jurisdiction specific because of differences in relative or absolute price levels among jurisdictions”...
• but there can be different pricing strategies and benchmarks within the same jurisdiction

Key issues for drug pricing data
✓ Data availability and methodology
✓ Transparency in reporting
✓ Limits comparability and generalizability of results
✓ Differences in cost-effectiveness estimates
✓ Interpretation of the value of therapies
✓ Economic evidence to inform decision-making in a particular population or treatment setting
✓ Inefficient use of scarce health care resources
Policy Implications for Stakeholders

• Comparative claims in promotion and advertising
  – Drug sponsors are permitted to include truthful, non-misleading information about the price of their products
    • Price comparisons should include contextual information such as the two drugs are not comparable in terms of safety and efficacy, costs presented does not necessarily reflect actual prices paid, as well as information on the source and date of pricing information
    • Further substantiation needed for claims about "cost savings" or "lower treatment cost"
  – Brand vs generic products, which have been found to be interchangeable
• Price differences within therapeutic classes
• Increases in pharmaceutical expenditure
• Changes to manufacturers launch strategies
• Access to medications
• Reduction in gross margins to pharmacies
• Pharmaceutical pricing and reimbursement policies
  – Overpayment of ingredient costs for drugs by state Medicaid agencies
  – Increasing cost sharing by patients
• Information sharing and price transparency
  – rebates and discounts which may differ by type of purchaser

Example: Comparative Promotional Claims

• Example: Notice of Violation issued for Miralax (polyethylene glycol 3350 NF powder)
  – Mar 29, 2001
Clinical Studies

**Clinical Trials**

In one study, patients with less than 3 bowel movements per week were randomized to MiraLax, 17 grams, or placebo for 14 days. An increase in bowel movement frequency was observed for both treatment groups during the first week of treatment. **MiraLax was statistically superior to placebo during the second week of treatment.**

In another study, patients with 3 bowel movements or less per week and/or less than 300 grams of stool per week were randomized to 2 dose levels of MiraLax or placebo for 10 days each. **Success was defined by an increase in both bowel movement frequency and daily stool weight.** For both parameters, superiority of the 17 gram dose of MiraLax over placebo was demonstrated.
Misleading Comparisons

Preference Claims - A patient preference claim that appears in the MiraLax Sell Sheet depicts blurred but discernable images of containers of Metamucil and Citrucel next to a sharply focused picture of MiraLax. The headline reads, “Which Laxative Would Your Patients Prefer?” followed by a chart that selectively presents and compares presumed preference features of MiraLax vs. Fiber (e.g. Metamucil and Citrucel). This comparative preference claim is misleading because it suggests that patients prefer MiraLax to Metamucil and Citrucel without data to provide adequate substantiation for this claim.

Cost Savings Claims – A chart appears in the Dear Director of Nursing Letter that compares the (daily, weekly, and annual) costs of therapy with MiraLax to the therapy costs associated with all other OTC laxatives. The chart is misleading because it implies that all costs associated with laxative therapy have been evaluated, not simply the acquisition price of the drug. The chart also implies that efficacy and/or outcomes of the different therapies are the same without supporting evidence. The chart also does not disclose that retail or wholesale prices listed do not necessarily correlate with the price actually paid for the drugs by a pharmacy or consumer.

Standardization Towards a Single National Pricing Benchmark?
Download Handout

https://goo.gl/lMKsbT