Reference Pricing in Insurance Design: Surgery, Diagnostics, Drugs

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Overview

Impact of Reference Pricing

- Market dynamics
- Surgical and diagnostic procedures
- Outpatient drugs

“Geez Louise—I left the price tag on.”
Price Variation in Health Care

- In health care, variation in price is in part due to factors on the ‘supply side’:
  - Manufacturers: patents and exclusivity
  - Providers: market consolidation

- The variation in price is facilitated by factors on the ‘demand side’
  - Consumers lack incentive to shop, as someone else is paying (insurer, employer)
  - Consumers lack information on prices and quality at the time of making choice
What is Reference Pricing?

- Sponsor (employer, insurer) establishes a *maximum contribution* (reference price) it will make towards paying for a particular service or product
  - This limit is set at some point along the observed price range (e.g., minimum, median)
  - Patient must *pay the full difference* between this limit and the actual price charged
  - Patient may reduce cost sharing by switching to low-priced product or provider
- Patient chooses his/her cost sharing by choosing his/her product or provider
  - Patient has good coverage for low priced options but *full responsibility for choice*
Reference Pricing for Surgical and Diagnostic Procedures

Variation in Colonoscopy Prices

Reference Price  •  ASC Price  •  HOPD Price
Market Dynamics: Procedures

1. Hospitals merge into chains
2. Hospital chains acquire ambulatory infusion, diagnostic, and surgery facilities and physician practices
3. Hospital systems increase prices
4. Payers respond through narrow network designs and consolidation
5. Hospitals and physicians consolidate even more and increase prices
6. Guess what happens next?
Reference Pricing for Ambulatory Procedures at CalPERS

- In 2011 CalPERS expanded reference pricing to ambulatory procedures, with intent of convincing beneficiaries to select lower-price ambulatory surgery centers (ASC) over hospital outpatient departments (HOPD)
- Reference price was set for HOPD at average price for ASC
Multivariable Statistical Analysis

- Insurance claims for colonoscopy procedures from 2009 to 2014 were obtained from CalPERS (N=35,195) and comparison group Anthem Blue Cross (N=258,616)
- Multivariable (difference-in-difference) analyses:
  - 18 percentage point growth in probability that patient selects a (low-priced) non-hospital clinic
  - 21% reduction in average price paid
  - No change in surgical complications

Percentage of Colonoscopy Patients Choosing ASC over HOPD before and after Implementation of Reference Pricing

Anthem

CalPERS

Reference Price Implementation

2009  2010  2011  2012  2013
Average Price (Allowed Charge) for Colonoscopy Before and After Implementation of Reference Pricing

- CalPERS
- Anthem

Reference Price Implementation
Surgical Complications for Colonoscopy Before And After Implementation of Reference Pricing

- **Anthem**
- **CalPERS**

Reference Price Implementation

2009 2010 2011 2012 2013
Potential Impact is Greater in Markets with High Variance in Prices
Reference Pricing for Ambulatory Drugs

- Wide variation in drug prices
- RETA Trust implemented reference pricing for 76 non-specialty drug classes, capping payment at price of least-cost drug in class
- Patients were exempted if their MD provided clinical justification for more expensive drug
1. Payers create formularies with drugs assigned to copayment ‘tiers’ based on price and willingness to offer rebates
2. Manufacturers respond by offering copay cards, financed by higher prices
3. Payers increase cost sharing from copays to coinsurance & deductibles
4. Manufacturers offer physician and patient support programs & raise prices
5. Payers tighten prior auth and step edits
6. Manufacturers create MD practice support programs & raise prices
7. Guess what happens next?
# Drug Price Variation within Therapeutic Classes

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Number of Fills</th>
<th>Price of Lowest-Priced Drug in Class</th>
<th>Price of Highest-Priced-Drug in Class</th>
<th>Difference Between Highest and Lowest Price Drug ($)</th>
<th>Share of Lowest Price Drug in Class (%)</th>
<th>Share of Highest Price Drug in Class (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMG CoA Reductase Inhibitors</td>
<td>11,701</td>
<td>$12.3</td>
<td>$447.2</td>
<td>$434.9</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Thyroid Hormones</td>
<td>8,386</td>
<td>$5.3</td>
<td>$33.4</td>
<td>$28.1</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Selective Serotonin Reuptake Inhibitors (SSRIs)</td>
<td>7,287</td>
<td>$10.3</td>
<td>$201.0</td>
<td>$190.7</td>
<td>10.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>ACE Inhibitors</td>
<td>6,601</td>
<td>$5.9</td>
<td>$50.4</td>
<td>$44.5</td>
<td>2.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Beta Blockers Cardio-Selective</td>
<td>5,490</td>
<td>$6.1</td>
<td>$78.0</td>
<td>$71.9</td>
<td>6.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Proton Pump Inhibitors</td>
<td>5,345</td>
<td>$25.7</td>
<td>$296.1</td>
<td>$270.4</td>
<td>28.7%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Biguanides</td>
<td>4,185</td>
<td>$11.8</td>
<td>$525.2</td>
<td>$513.4</td>
<td>41.0%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Hydrocodone Combinations</td>
<td>4,073</td>
<td>$27.8</td>
<td>$297.4</td>
<td>$269.6</td>
<td>7.7%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Nonsteroidal Anti-inflammatory Agents (NSAIDs)</td>
<td>4,021</td>
<td>$9.9</td>
<td>$521.0</td>
<td>$511.1</td>
<td>12.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Calcium Channel Blockers</td>
<td>3,864</td>
<td>$14.6</td>
<td>$221.8</td>
<td>$207.2</td>
<td>3.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Angiotensin II Receptor Antagonists</td>
<td>3,497</td>
<td>$11.5</td>
<td>$166.6</td>
<td>$155.1</td>
<td>8.6%</td>
<td>0.4%</td>
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<tr>
<td>Benzodiazepines</td>
<td>3,286</td>
<td>$3.0</td>
<td>$15.1</td>
<td>$12.1</td>
<td>0.1%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Anticonvulsants - Misc.</td>
<td>3,224</td>
<td>$17.9</td>
<td>$292.2</td>
<td>$274.3</td>
<td>0.2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Nasal Steroids</td>
<td>2,952</td>
<td>$34.0</td>
<td>$422.1</td>
<td>$388.1</td>
<td>60.8%</td>
<td>0.3%</td>
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<tr>
<td>Thiazides and Thiazide-Like Diuretics</td>
<td>2,647</td>
<td>$4.1</td>
<td>$69.4</td>
<td>$65.3</td>
<td>0.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)</td>
<td>2,644</td>
<td>$41.5</td>
<td>$299.7</td>
<td>$258.2</td>
<td>17.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Beta Adrenergics</td>
<td>2,379</td>
<td>$8.0</td>
<td>$489.4</td>
<td>$481.3</td>
<td>0.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-Benzodiazepine - GABA-Receptor Modulators</td>
<td>2,233</td>
<td>$34.3</td>
<td>$221.4</td>
<td>$187.1</td>
<td>12.6%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Human Insulin</td>
<td>2,070</td>
<td>$108.9</td>
<td>$323.2</td>
<td>$214.3</td>
<td>2.8%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Angiotensin II Receptor Antag &amp; Thiazide/Thiazide-Like</td>
<td>1,987</td>
<td>$16.0</td>
<td>$139.5</td>
<td>$123.5</td>
<td>14.0%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Antidepressants - Misc.</td>
<td>1,896</td>
<td>$28.0</td>
<td>$97.4</td>
<td>$69.4</td>
<td>2.5%</td>
<td>37.1%</td>
</tr>
</tbody>
</table>
Drug claims from 2010 to 2014 were obtained from private employer alliance (N=573,456) and from comparison labor union (N=549,285)

Multivariable (difference-in-difference) analyses:
- 11.3% growth in probability that a patient selects the low-priced drug within its class
- 13.9% reduction in average price paid
- 5.2% increase in employee cost sharing

Impact of Reference Pricing: Increased Share for Low-Price Drug with Each Class

![Graph showing the impact of reference pricing on drug share. The graph compares Union Trust and RETA Trust with a vertical dashed line indicating the date of reference pricing implementation.](graph.png)
Impact of Reference Pricing: Reduced Prices Paid and Increased Consumer Cost Sharing
Can Reference Pricing Be Applied to Specialty Drugs?

- Much of the price increases and variability have been for specialty drugs, which are more complex and expensive than traditional medications.
- There is great potential for price competition among specialty drugs: innovation is producing large numbers of therapeutic equivalents.
- However, specialty drugs differ amongst themselves in efficacy, toxicity, mode of administration.
- To be effective, reference pricing will need to incorporate comparative effectiveness analysis.
- A better term would be ‘value-based pricing’.
ICER value-based price benchmarks

Goal:
Sustainable Access to
High-Value Care for All
Patients

Long-Term
Value for Money

Short-Term
Affordability

ICER Value-Based
Price Benchmark
Value-based Drug Pricing and Patient Access

Comparative clinical assessment: Does the new drug offer better safety and/or efficacy than other options? No

REFERENCE PRICING:
Purchaser limits payment for new drug to the price charged by the cheapest, clinically equivalent option

Does the drug’s price represent a reasonable value, based on comparative clinical and cost effectiveness criteria? No

MARKET PRICING:
Purchasers exclude drug from formulary or include only subject to strict prior authorization and step therapy

Yes

VALUE-BASED PRICING
Value-based pricing requires value-based patient access:

Payers include drug in formulary. Prior authorization and step therapy are limited to clinical (not economic) criteria. Purchasers and producers promote appropriate adoption and adherence. Multi-year price and access guarantees
Reference Pricing