BAS 2017 Molina Healthcare Case Competition

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Background and Case Objective

Affordable Care Act (ACA)

External Factors
- Border Redrawing
- Competitor Leaving

Internal Factors
- Rising Costs
- Demographic Changes

2018 Premiums
Overview

Data
- Claim data
- Membership records

Projections
- Cost Trends
- Future Membership
- Demographic

Calculations
- Risk Adjustment
- Calibration Factors
- Final Premiums
Data Processing and Projection

Cost Metrics
Using historical data to identify trends and determine claim expenses
- Utilizations/1000
- Unit Cost

Membership Characteristics
Considering future population shifts on a statewide and industry wide scale
- Regional Membership Changes
- Demographic Changes

Claims Expenses  Final Premiums  Calibration Factors
Unit Cost

- Increase in unit costs weighted by yearly utilizations (2015-16)
Unit Cost (Utilization Weighted Average) 2015-16 Comparison

<table>
<thead>
<tr>
<th>Service Category</th>
<th>IP</th>
<th>OP</th>
<th>Phys</th>
<th>Rx</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Weighted Average</td>
<td>$2,678.86</td>
<td>$430.58</td>
<td>$86.66</td>
<td>$51.20</td>
<td>$172.52</td>
</tr>
<tr>
<td>2016 Weighted Average</td>
<td>$2,696.26</td>
<td>$448.59</td>
<td>$87.79</td>
<td>$54.29</td>
<td>$181.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service Category</th>
<th>HIP</th>
<th>HOP</th>
<th>Prof</th>
<th>Other</th>
<th>Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Change</td>
<td>0.649%</td>
<td>4.184%</td>
<td>1.306%</td>
<td>6.023%</td>
<td>5.005%</td>
</tr>
</tbody>
</table>
Utilization/1000

- Increase in utilizations weighted by member months (2015-16)

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<thead>
<tr>
<th>Service Category</th>
<th>HIP</th>
<th>HOP</th>
<th>Prof</th>
<th>Other</th>
<th>Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Change</td>
<td>10.02%</td>
<td>7.01%</td>
<td>10.39%</td>
<td>8.05%</td>
<td>8.81%</td>
</tr>
</tbody>
</table>

![Utilization/1000 Graphs](image-url)
Membership Projection

- Redrawing of regional borders leading to changes in population
- US Care departure results in increased regional market share

2018 Membership By Region

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 Members</th>
<th>2018 Gain</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA</td>
<td>2413</td>
<td>48</td>
<td>1.90%</td>
</tr>
<tr>
<td>Berkeley</td>
<td>1804</td>
<td>54</td>
<td>2.30%</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>783</td>
<td>367</td>
<td>5.60%</td>
</tr>
</tbody>
</table>

Count
Age Distribution

- California demographic shift
- Regional age distribution
- Gain/Lapse rates (by age)

**Median Age:** 41 → 41

**Average Age:** 42.2318 → 43.3311

Source: California Finance Department
Final Premiums Calculation

Average (weighted) Premium → Area Calibration

Age Calibration → Final Premiums
Average Premium Breakdown

- Average (weighted) Premium
- Cost from member claims (70.2%)
- Risk Transfer Payment (11.7%)
- Administrative Costs (given as 15.1%)
- Profit Margin (3.0%)
Cost from Member Claims and Total Premium Calculation

2016 Base Claims PMPM = $348.66

2018 Projected Claims PMPM = $436.58

Applied Util/1000, Unit Cost, and Demographic/Age factors

2018 Cost PMPM = $305.61

Applied Paid-to-allowed factor (0.7)

Average Premium (PMPM) = $435.35

Added Administrative Costs, Risk Transfer Adjustment, and Profit Margin
Final Premiums Calculation

- Average (weighted) Premium
- Age Calibration
- Area Calibration
- Final Premiums
Area Calibration Factors Calculation

- Projected claims PMPM in 2018 by region
- Calculated area factors by taking the ratio of each region’s claims PMPM to the overall claims PMPM
- Calculated area calibration by taking the weighted average of these area factors

<table>
<thead>
<tr>
<th>Regions</th>
<th>Los Angeles</th>
<th>Berkeley</th>
<th>Santa Barbara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Factors</td>
<td>.9466</td>
<td>1.1424</td>
<td>.8801</td>
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</tbody>
</table>

Area Calibration 1.000163
Final Premiums Calculation

1. Average (weighted) Premium
2. Age Calibration
3. Area Calibration
4. Final Premiums
Age Calibration Factors Calculation

- Used projected membership distribution by age year with age curve to calculate the age calibration factor as **1.600**
Final Premiums Calculation

Average (weighted) Premium → Age Calibration → Area Calibration → Final Premiums
Final Premiums Calculation

- Combine average premium with localized factors: age and area
- Final Premium describes price charged to person of specific age living in one of the three regions

$$Final \; Premium = Average \; Premium \times \left( \frac{Area \; Factor}{Area \; Calibration} \right) \times \left( \frac{Age \; curve \; ratio}{Age \; calibration} \right)$$
Comparing Regions

Criteria:

• Natural Growth
• Lapse Rates
• Border Redrawing
Final Premiums Calculation

Average (weighted) Premium → Area Calibration

Age Calibration → Final Premiums
## Individual Premium Rates

### Regional Premium Prices for Various Ages

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Age Curve</th>
<th>LA</th>
<th>Berkeley</th>
<th>Santa Barbara</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>1.000</td>
<td>$257.60</td>
<td>$310.87</td>
<td>$239.51</td>
</tr>
<tr>
<td>34</td>
<td>1.214</td>
<td>$312.73</td>
<td>$377.39</td>
<td>$290.76</td>
</tr>
<tr>
<td>54</td>
<td>2.135</td>
<td>$549.97</td>
<td>$663.70</td>
<td>$511.35</td>
</tr>
<tr>
<td>64+</td>
<td>3.000</td>
<td>$772.80</td>
<td>$932.60</td>
<td>$718.52</td>
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</tbody>
</table>
THANK YOU