

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 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

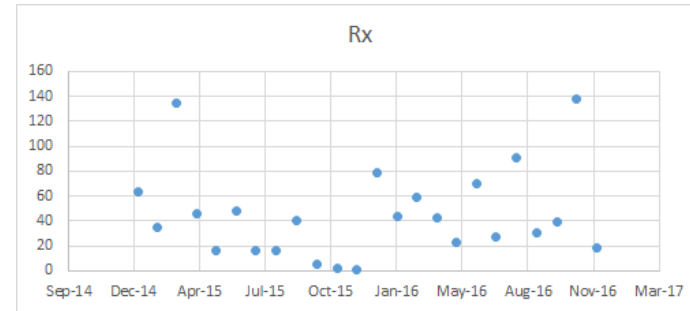
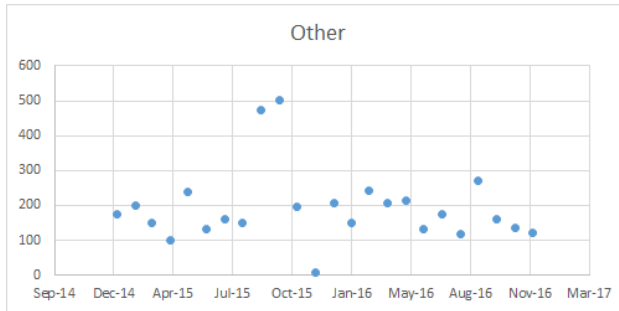
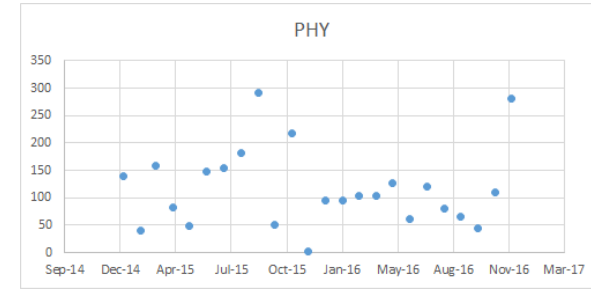
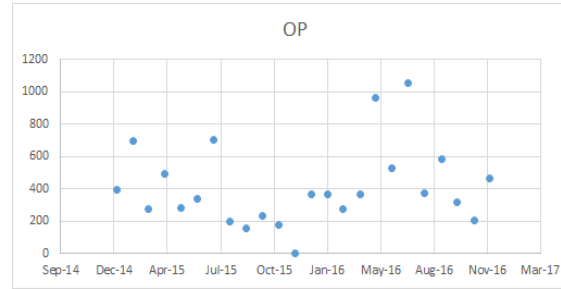
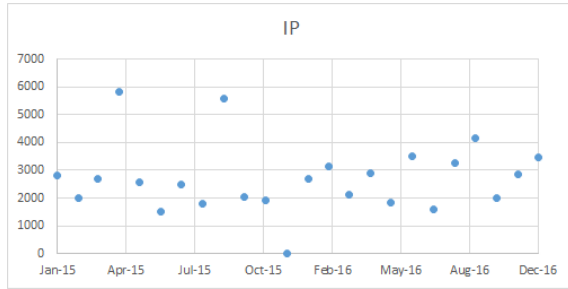
Claims Expenses

Final Premiums

Calibration Factors

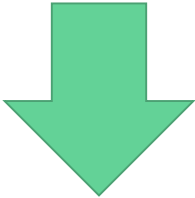
Unit Cost

- Increase in unit costs weighted by yearly utilizations (2015-16)



Unit Cost (Utilization Weighted Average) 2015-16 Comparison

Service Category	IP	OP	Phys	Rx	Other
2015 Weighted Average	\$ 2,678.86	\$ 430.58	\$ 86.66	\$ 51.20	\$ 172.52
2016 Weighted Average	\$ 2,696.26	\$ 448.59	\$ 87.79	\$ 54.29	\$ 181.16



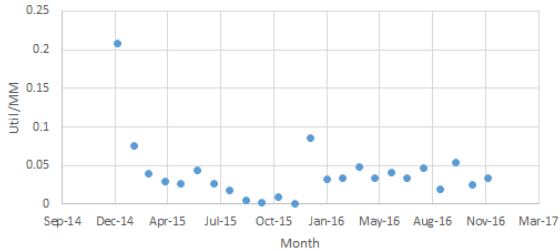
Service Category	HIP	HOP	Prof	Other	Rx
Annual Change	0.649%	4.184%	1.306%	6.023%	5.005%

Utilization/1000

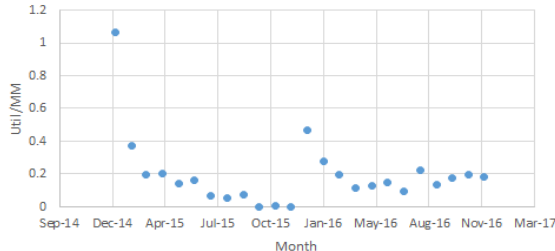
- Increase in utilizations weighted by member months (2015-16)

Service Category	HIP	HOP	Prof	Other	Rx
Annual Change	10.02%	7.01%	10.39%	8.05%	8.81%

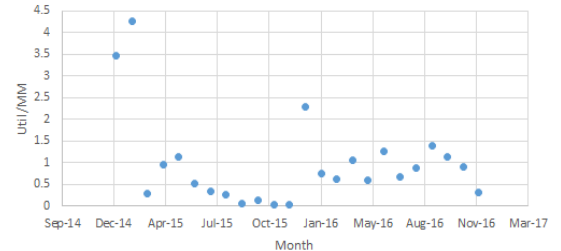
Util/MM (IP)



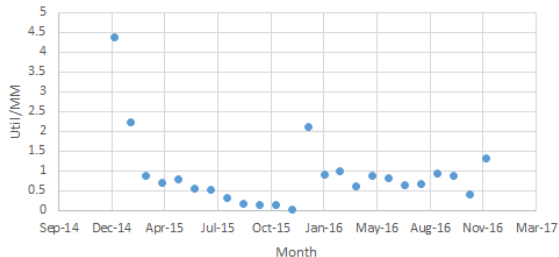
Util/MM (OP)



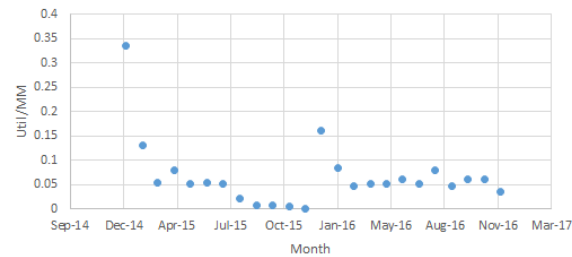
Util/MM (Phys)



Util/MM (Rx)



Util/MM (Other)



Membership Projection

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

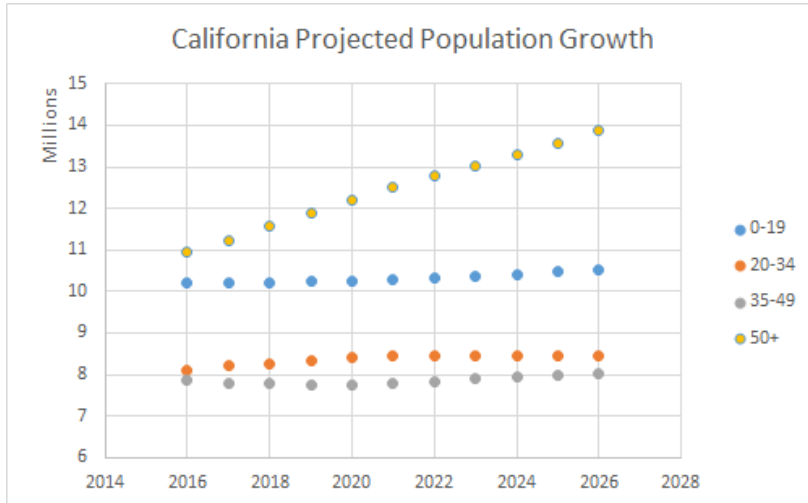
2018 Membership By Region



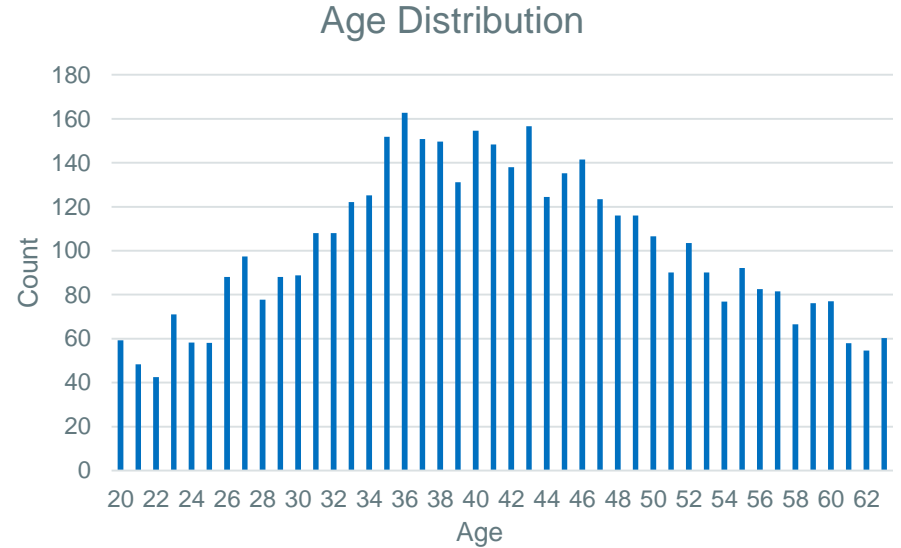
Region	2016 Members	2018 Gain	Market Share
LA	2413	48	1.90%
Berkeley	1804	54	2.30%
Santa Barbara	783	367	5.60%

Age Distribution

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



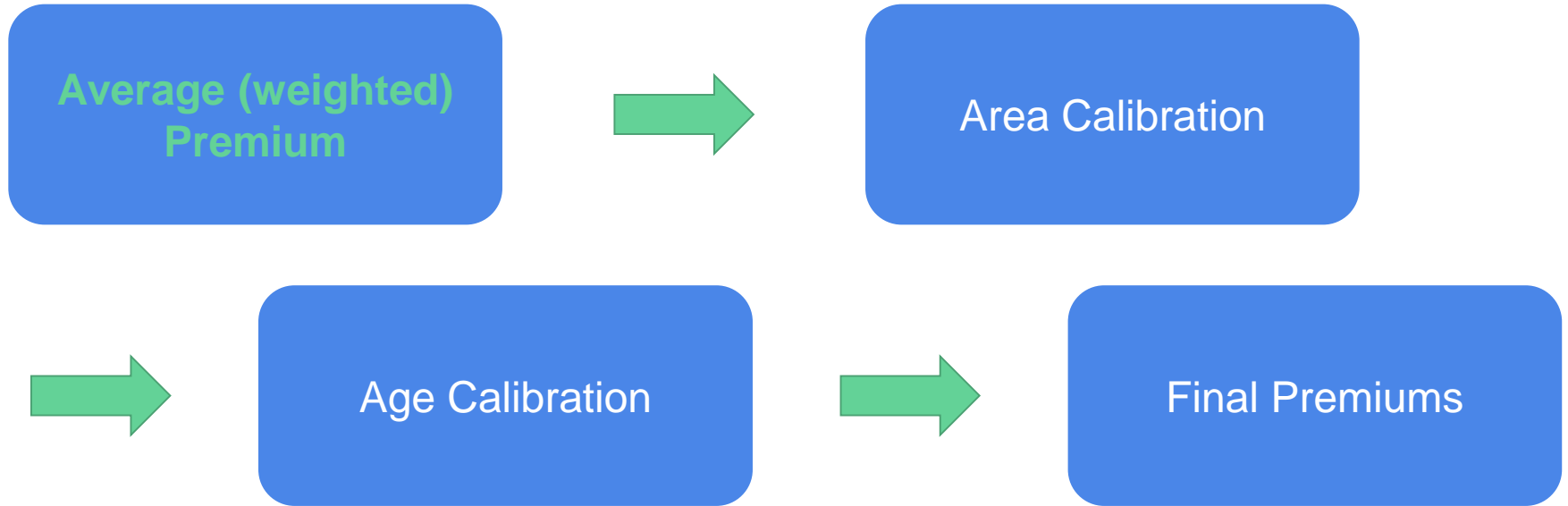
Source: California Finance Department



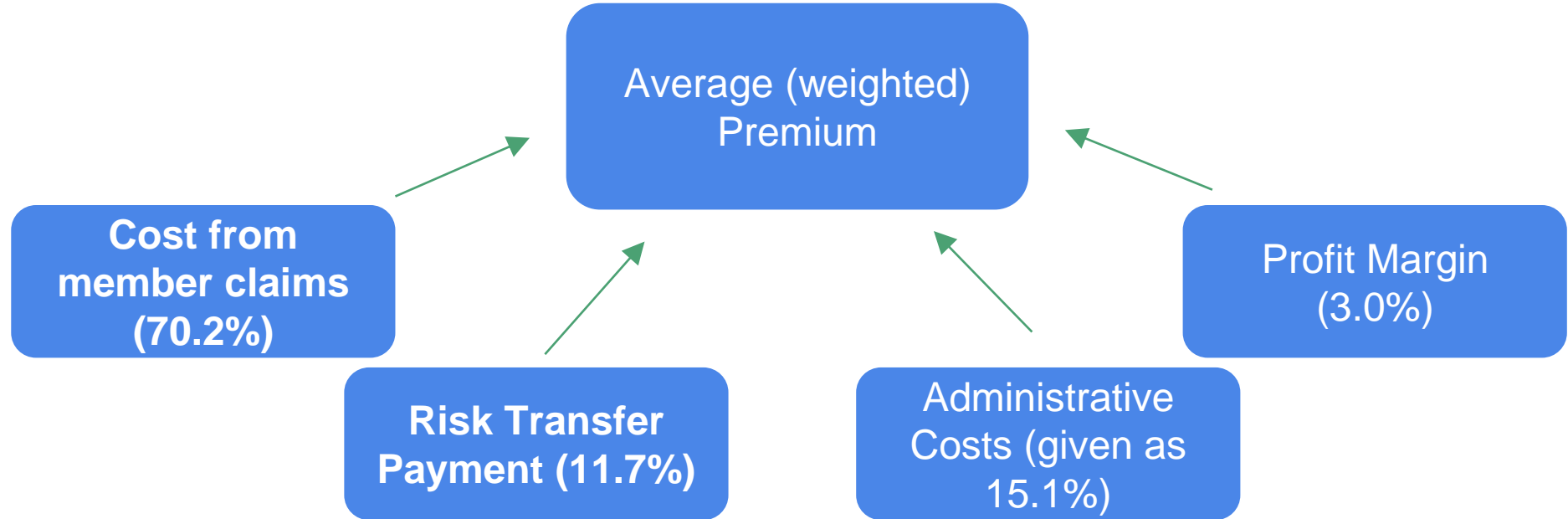
Median Age: 41 → 41

Average Age: 42.2318 → 43.3311

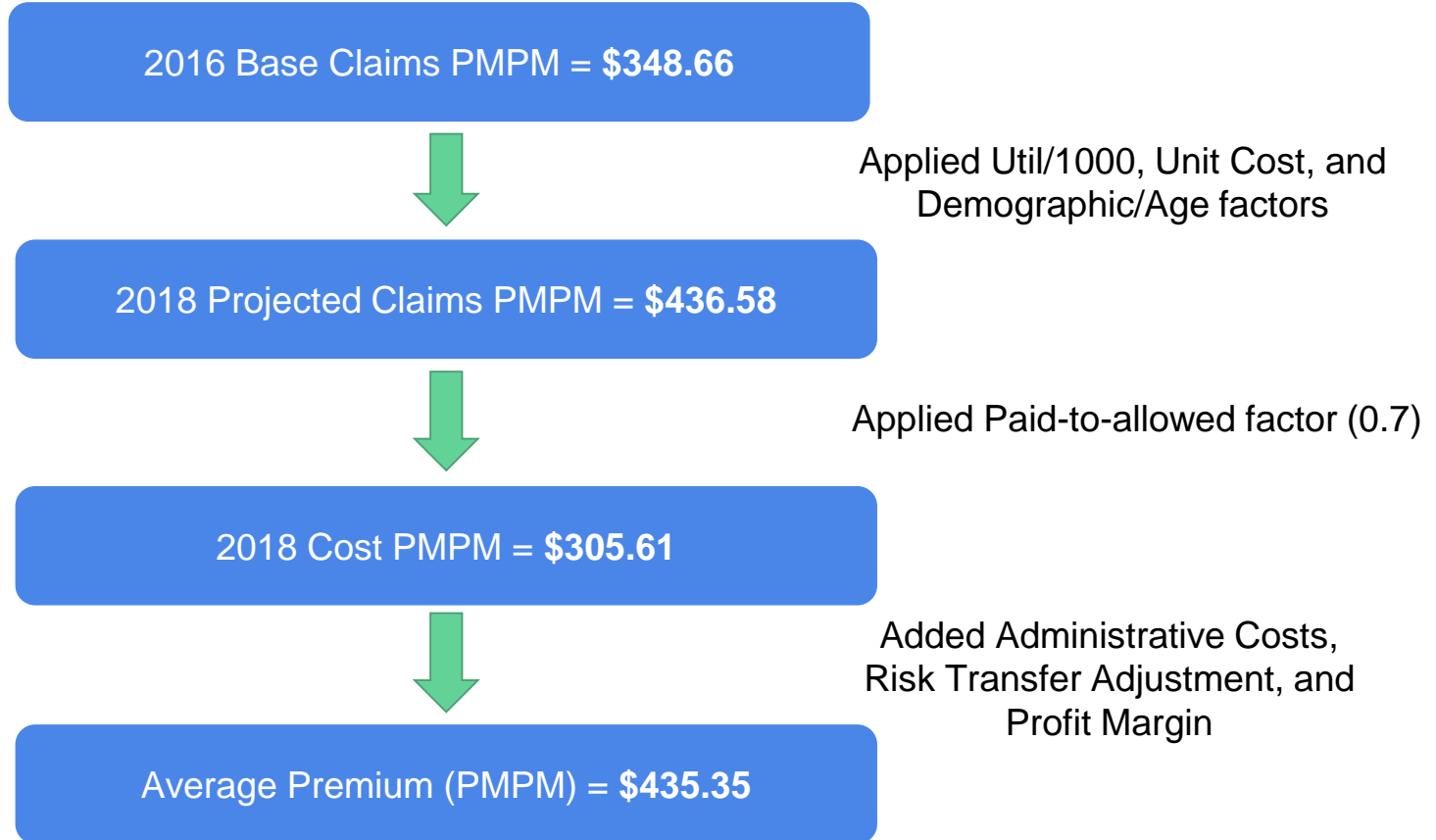
Final Premiums Calculation



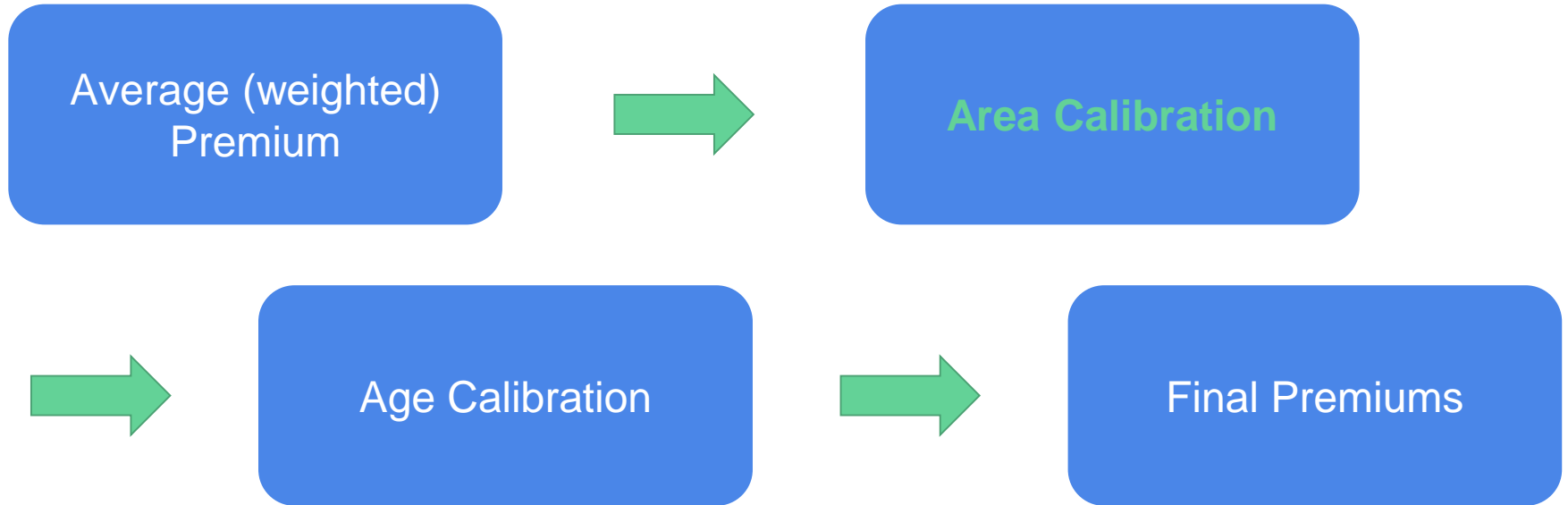
Average Premium Breakdown



Cost from Member Claims and Total Premium Calculation



Final Premiums Calculation



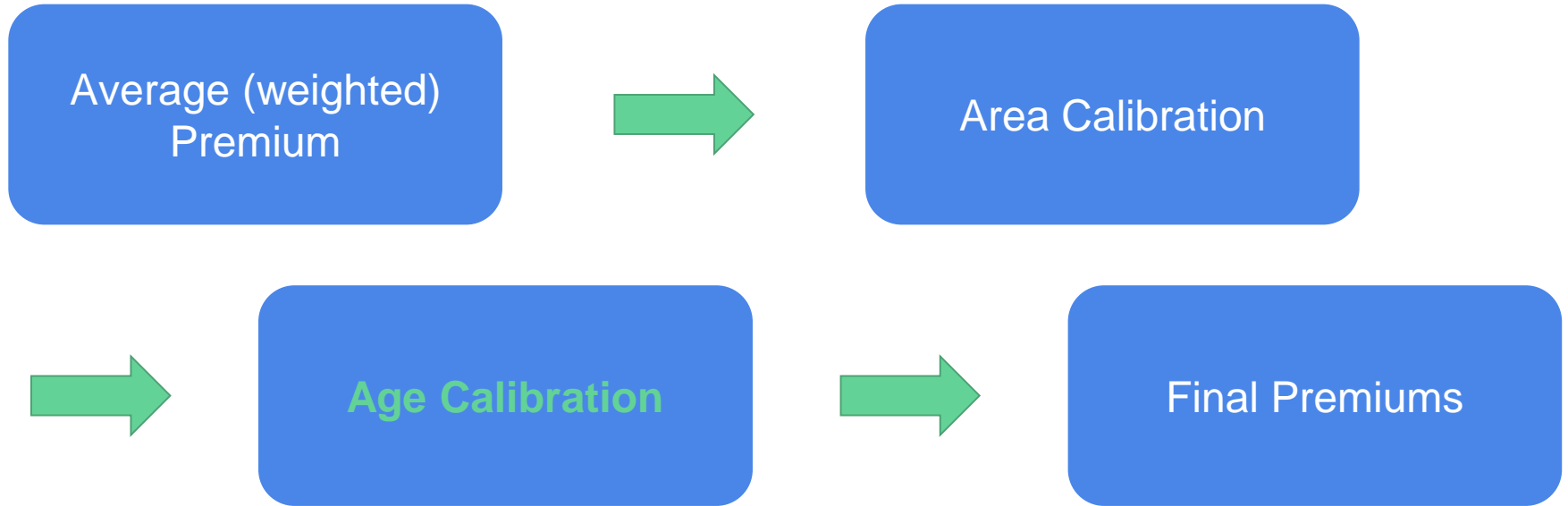
Area Calibration Factors Calculation

- 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

Regions	Los Angeles	Berkeley	Santa Barbara
Area Factors	.9466	1.1424	.8801

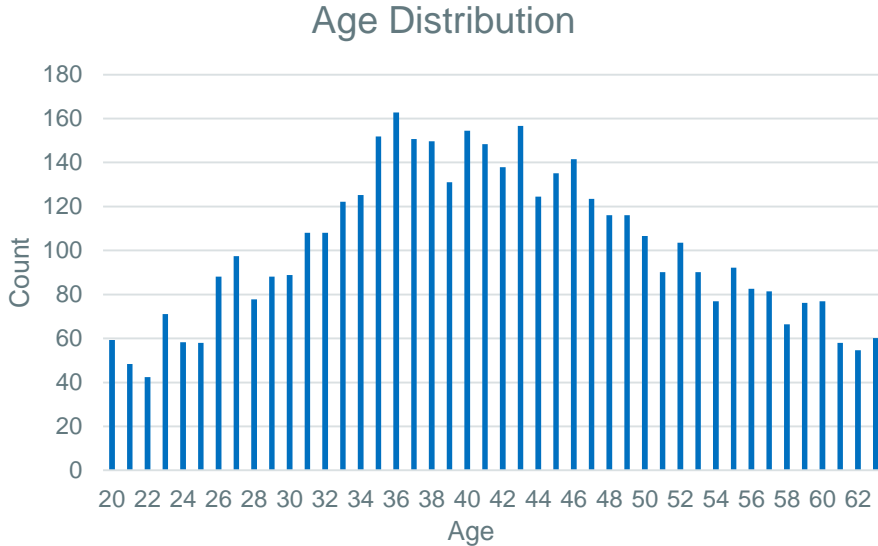
Area Calibration
1.000163

Final Premiums Calculation



Age Calibration Factors Calculation

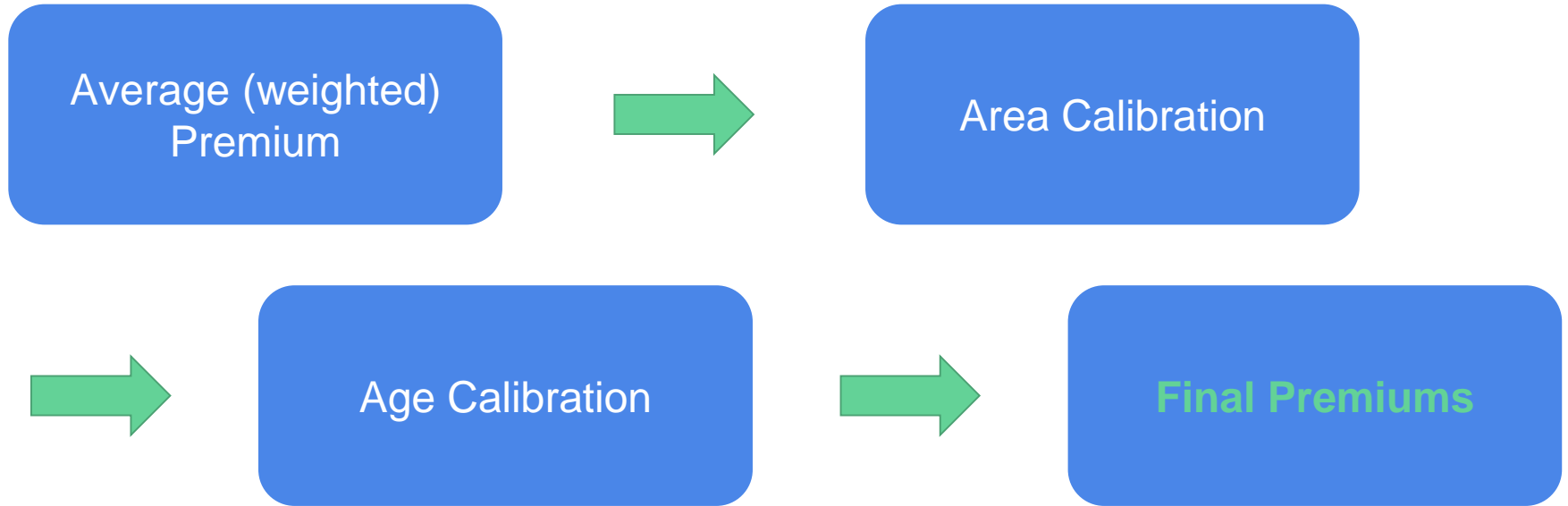
- Used projected membership distribution by age year with age curve to calculate the age calibration factor as **1.600**



Sample Age Curve Premium Ratios

Age Range	Age Curve
21	1.000
34	1.214
54	2.135
64 +	3.000

Final Premiums Calculation



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

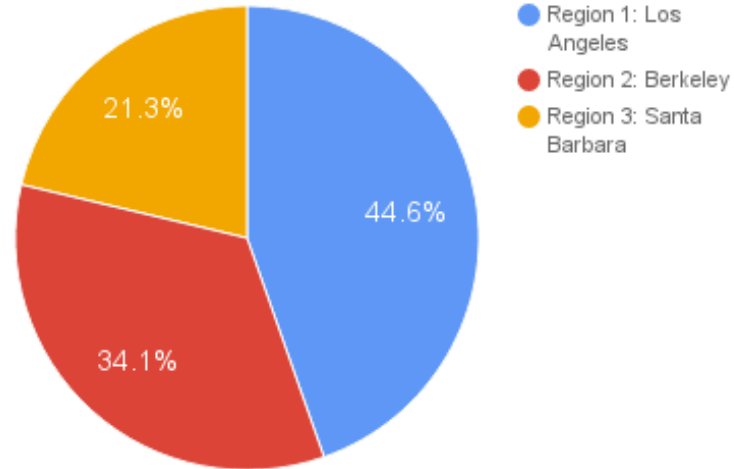
$$\textit{Final Premium} = \textit{Average Premium} * \left(\frac{\textit{Area Factor}}{\textit{Area Calibration}} \right) * \left(\frac{\textit{Age curve ratio}}{\textit{Age calibration}} \right)$$

Comparing Regions

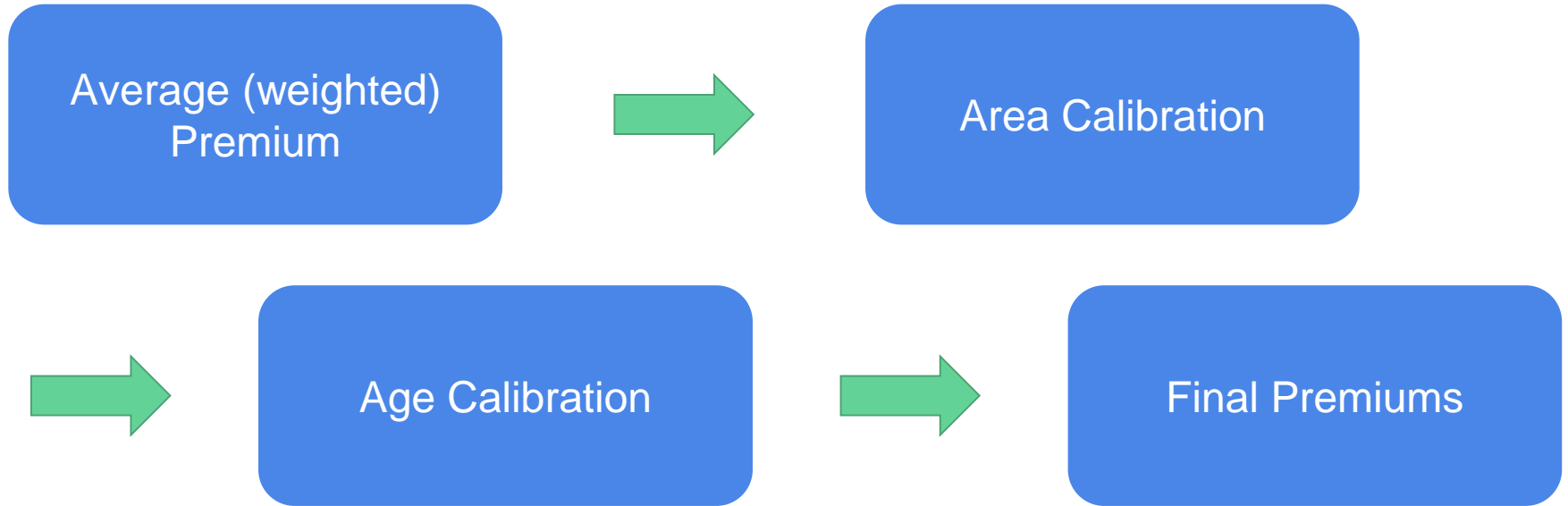
Criteria:

- Natural Growth
- Lapse Rates
- Border Redrawing

Projected Members 2018



Final Premiums Calculation



Individual Premium Rates

Regional Premium Prices for Various Ages

Age Range	Age Curve	LA	Berkeley	Santa Barbara
21	1.000	\$ 257.60	\$ 310.87	\$ 239.51
34	1.214	\$ 312.73	\$ 377.39	\$ 290.76
54	2.135	\$ 549.97	\$ 663.70	\$ 511.35
64 +	3.000	\$ 772.80	\$ 932.60	\$ 718.52

THANK YOU