Validation of the Highmark **Total Cost of Care Analysis**

Summary

Jay Miniati Actuarial Services was engaged to review and validate the Highmark Total Cost of Care Analysis conducted by Highmark Inc.'s actuaries. Jay Miniati independent actuaries found that the analysis produces a reasonable and compelling estimate of the cost advantage offered by Highmark Inc.'s health care networks of providers versus its national insurance carrier competition, beyond that suggested by a simple comparison of discounts offered on provider billed charges.

Major Points

- Traditionally, the value proposition of a provider network of health care facilities has been characterized in an oversimplified way by the level of the discount offered on the billed charges of the providers in the network. Colloquially, the higher the discount, the "better" the network value proposition must be. While useful, this characterization can be misleading.

- Example: Facility A charges $70 for a service, in the absence of a discount arrangement. Facility B charges $100 for the same service. Facility A offers a 50% discount and is paid $35 for its service. Facility B offers a 60% discount and is paid $40 for the same service. Despite offering a higher discount, Facility B is more expensive on a net basis (+14%) than Facility A, for the same service. A network of providers like Facility B will cost more than a similarly situated network of Facility A-type providers.

- The Highmark Total Cost of Care analysis focuses on medical costs, excluding pharmacy. Among medical costs, 65% are assumed to be facility-based. Professional services are assumed to be 35% of medical, non-pharmacy costs, and in the cost of care analysis, no cost advantage is assumed to be held by Highmark Inc. or its competition.

- Highmark has developed proprietary cost factors ("facility cost relativities") for its service area that encompass outpatient care and inpatient care.

- Highmark Inc.'s national carrier competition has total costs of medical care (excluding pharmacy) that range from 11% to 16% higher than Highmark Inc.'s cost in the western Pennsylvania (WPA) region, where Highmark has partnerships with a major health system and community hospitals.

- The Total Cost of Care analysis can conceivably be replicated and conducted in other service areas.

Total Cost of Care

The Highmark Total Cost of Care Analysis illuminates the differences in realized costs of care between Highmark Inc. and its competition, in which total cost of care is a more appropriate measure than discounts alone. The cost of care analysis focuses on medical costs, not pharmacy. Among medical costs, 65% are assumed to be facility-based. Professional services are assumed to be 35% of medical, non-pharmacy costs, and in the cost of care analysis, no cost advantage is assumed to be held by Highmark Inc. or its competition.

Specifically, Highmark Inc.'s facility partnerships in WPA, with a major hospital system and community hospitals, allow it to compete directly against other national insurance carriers.

Facility Cost Relativity

The assessment of Highmark Inc.'s total cost of care in a geographic area such as WPA begins with its competitive position at an individual facility or hospital. The facility portion of the total cost of care is comprised of outpatient care and inpatient care, and is influenced by facility contracts, the level of member utilization of lower or higher cost providers, and the mix of services offered at facilities, which drives billed charges. Highmark Inc.'s hospital data shows significant variation in billed charges, discounts, and ultimate allowed costs. Highmark Inc. has developed proprietary cost factors for western Pennsylvania from a mix of sources that includes percent of Medicare reimbursement data, claim analysis from coordination of benefits (COB), trends, and competitive insights. We have thoroughly reviewed this factor development and find the approach, described below, to be actuarially sound.

Outpatient Care

The first component of the facility cost relativity (FCR) development focuses on outpatient claims, specifically using outpatient COB claims, where Highmark Inc. receives about 40 times more outpatient COB claims than inpatient claims.

Highmark Inc. gains insight to its competitive position when it is the secondary payer on a claim and the COB mechanism is in place. Claims are first reviewed to see if there is a common allowed-to-bill ratio for the competitors, allowing for a cost relativity factor at a particular facility to be estimated using discounts, or on a percent-of-billed-charges basis. For claims not paid as a percent of charges, Highmark Inc. examines a variety of payment-level metrics. These include claim-weighted, dollar-weighted, and raw data averages using all claims and two methods to remove outliers.

Using these metrics and actuarial judgment, Highmark Inc.'s actuaries assign a cost relativity factor (or "competitiveness factor") to each facility and competitor combination. As Highmark Inc. easily knows its own payment contracts in terms of a percentage of Medicare reimbursement, it can use the cost relativity factors to estimate a competitor's costs also in terms of Medicare reimbursement, and this becomes the common currency for cost comparison. We find this approach to be actuarially sound. Facilities are then grouped together by region or ownership to produce an overall cost relativity for outpatient care.

	OP Cost Relativity Competitor/HM AVG		
	National Competitor/HM		
Regional Hospital System	A	B	C
A	1.251	1.340	1.227
B	1.217	1.204	1.094
C	1.183	1.548	1.398
D	1.044	1.010	1.257
Total	1.173	1.206	1.273

The interpretation of the table above is that National Competitor A, for example, is estimated to have outpatient costs that are 17.3% higher than those at Highmark Inc.

Inpatient Care

The competitiveness/relativity adjustment for inpatient care is set using competitive survey data from Hewitt. In that survey, Highmark Inc. is estimated to be 3% to 10% more competitive on inpatient services than outpatient services. Therefore, Highmark Inc. simply increases its outpatient relativities by 3% to approximate its inpatient competitiveness at all facility subgroups except those at its local health system partner, where Highmark Inc. assumes a flat 10% advantage.

	IP Cost Relativity Competitor/HM AVG		
	National Competitor/HM		
Regional Hospital System	A	B	C
A	1.100	1.100	1.100
B	1.247	1.234	1.124
C	1.213	1.578	1.428
D	1.074	1.010	1.257
Total	1.154	1.175	1.208

The interpretation of the table above is that National Competitor C, for example, is estimated to have inpatient costs that are 20.8% higher than those at Highmark Inc.

Total Facility Cost

The outpatient factors and the inpatient factors are weighted based on the distribution of costs within Highmark Inc.'s book of business to arrive at the FCR at the subgroup and overall levels.

	Total Facility			
		National Competitor/HM AVG		
Regional Hospital System	HM/ HM AVG	A	B	C
A	0.984	1.162	1.210	1.149
B	1.175	1.445	1.430	1.301
C	1.131	1.352	1.765	1.596
D	0.922	0.972	0.941	1.169
Total	1.000	1.165	1.194	1.247

Facility Weighting	
Category	Weight
Inpatient	0.4
Outpatient	0.6

Total Medical Cost

For the total medical cost of care, Highmark Inc. includes professional services, assuming no cost advantage for them.

	Total Medical			
		National Competitor/HM AVG		
Regional Hospital System	HM/ HM AVG	A	B	C
A	0.989	1.105	1.136	1.097
B	1.114	1.289	1.279	1.195
C	1.085	1.229	1.497	1.387
D	0.949	0.982	0.961	1.110
Total	1.000	1.107	1.126	1.161

Medical Weighting	
Category	Weight
Inpatient	0.26
Outpatient	0.39
Professional	0.35

The interpretation of the table above is that National Competitor B, for example, has a total cost of care that is 12.6% higher than that of Highmark Inc. How would this translate into dollars? If, for example, medical costs were $400 per member per month, the cost advantage over National Competitor B amounts to $605,000 in annual savings per 1,000 members ($400 x 0.126 x 1000 x 12).

Source Data and Reliance

In performing its review, Jay Miniati actuaries relied on the data and documentation provided to them by Highmark Inc. They received actual calculations of the analysis based on claims incurred between January 2019 and March 2020, and a comprehensive presentation slide deck presenting the concept and its value proposition, as well as written documentation of the analysis. Information was shared verbally during conference calls with Highmark Inc.'s actuaries, as well as through email communication with Highmark Inc.'s actuaries. They reviewed the data for reasonableness but have not audited it; as such, cannot certify herein as to its accuracy. If the underlying data is inaccurate or incomplete, the assessment may likewise be inaccurate or incomplete.

Conclusion

Jay Miniati Actuarial Services concluded the following: We believe the techniques, methodologies, and assumptions used in this analysis are reasonable and adhere to generally accepted actuarial principles as promulgated by Actuarial Standards of Practice Numbers 5, 23, 41 and 56. The analysis will reasonably represent the difference in the total cost of care between Highmark Inc. and its competition, and it could conceivably be applied to other markets in which Highmark conducts business.

It should be noted that the actuarial items referred to in this review are estimates, and the exact cost of care can only be determined after a sufficient passage of time permits the filing and payment of all outstanding claims.

Engagement Attestation

Jay Miniati Actuarial Services is an independent actuarial consulting firm. They provide independent actuarial services to entities in the health care industry, including Highmark Inc. Their assessment and validation of the Highmark Total Cost of Care Analysis was prepared in accordance with the aforementioned actuarial standards of practice and the actuarial Code of Professional Conduct with no conflicts of interest.