Today's Speakers

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Agenda

I. Welcome and Introduction
II. Value-Based Modeling Key Considerations
III. Case Study One: Northwest Health System
IV. Case Study Two: Southern Health System

I. Welcome and Introduction

I. Welcome and Introduction

About ECG

About **ECG**

For more than 40 years, our mission has been to provide exceptional management consulting services to healthcare clients.

- ECG is a national consulting firm focused on offering strategic, management, and financial advice exclusively to healthcare providers.
  - We have approximately 210 consultants operating out of offices in **Atlanta, Boston, Chicago, Dallas, Minneapolis, San Diego, San Francisco, Seattle, St. Louis, and Washington, DC.**
  - Our clients are the nation's leading adult and pediatric hospitals, health systems, academic medical centers, and group practices.
- We are particularly known as experts in strategic and business planning, hospital-physician relationships, physician compensation, operations improvement, and practice management.

We take great care to provide workable, realistic solutions and are adept at balancing the needs of numerous internal interests.

I. Welcome and Introduction

Why Model Value-Based Arrangements?

- Healthcare facility and professional reimbursement is increasingly value-based.
- Providers already participate in Medicare value-based models (e.g., MACRA, Hospital Value-Based Purchasing program).
- There are scores of elective value-based models (e.g., the Medicare Shared Savings Program [MSSP], private payor arrangements).
- The financial impact of such initiatives can be in the millions of dollars for hospitals and can materially impact practitioners' reimbursement.
- Financial models are essential to understand the impact of value-based arrangements.

This presentation will describe seven key considerations in the modeling of value-based reimbursement arrangements.

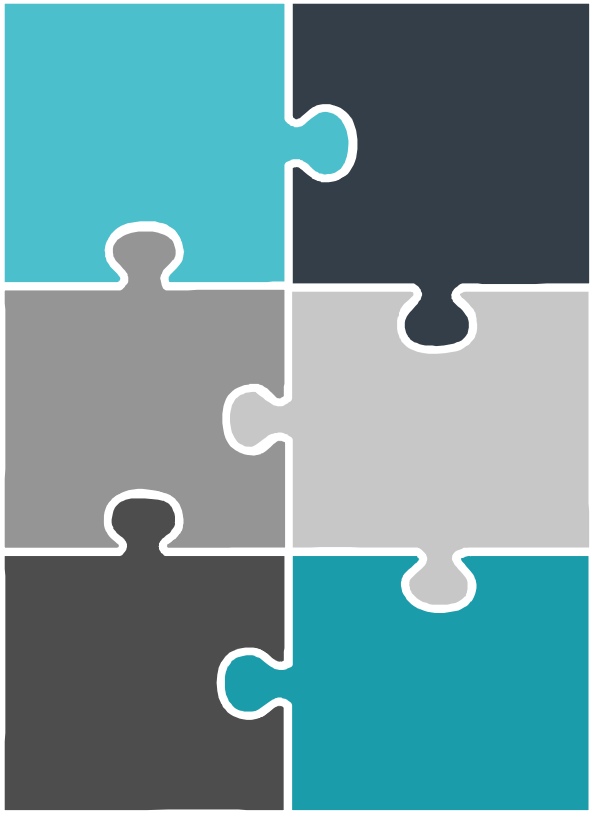
I. Welcome and Introduction

Potential Uses for Value-Based Financial Models

Decide whether to participate in a value-based arrangement.

Recruit partners to join value-based arrangement (e.g., ACO participants).

Budget revenues and expenses associated with value-based arrangements.



Develop funds flow models for participants in a value-based arrangement.

Set performance goals (e.g., to earn $X, we need to reduce readmissions by Y%).

Negotiate value-based arrangements.

Are there other potential uses for value-based financial models?

II. Value-Based Modeling Key Considerations

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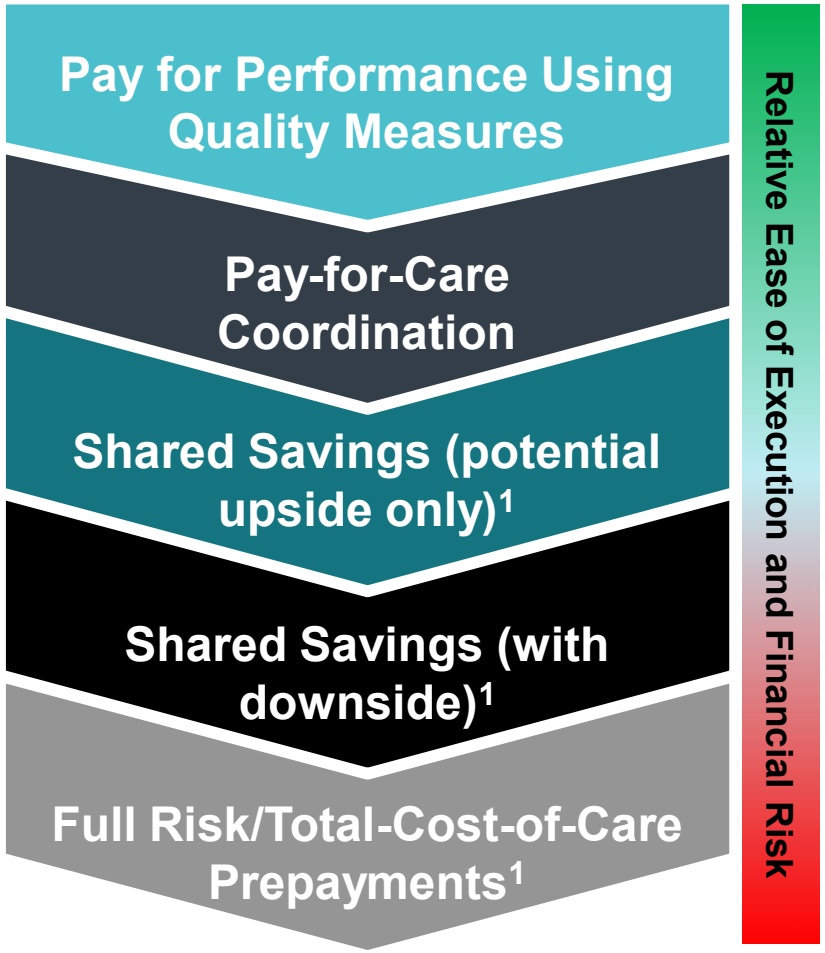
Number One: Type of Value-Based Reimbursement Arrangement

Understanding the mechanics of the payment arrangement in question is critical to building a useful financial model.



[1] Bundled payments could fall under this model, depending on the level of financial risk assumed by the provider.

II. Value-Based Modeling Key Considerations

Number Two: Payor Offering the Arrangement

The payor being modeled is important because (1) some payors have very specific rules for value-based payment arrangements and (2) premiums and medical expenses vary widely among Medicare, Medicaid, commercial, and other payors, as illustrated in the table below.

Hypothetical Differences between Medicare Advantage (MA) and Commercial Value-Based Arrangement

	MA	Commercial	Symbol	Calculation
Covered Lives	5,000	15,000	A	
Current Premiums PMPM[1]	$1,197	$303	B	
Premium Increase from Improving HCC Coding[2]	1%	0%	C	
Premium Increase from Achieving Four-Star Rating[3]	5%	0%	D	
Premiums PMPM after Increases	$1,269	$303	E	B × (1 + C) × (1 + D)
Current Medical Expense PMPM[4]	$1,077	$272	F	B × 90%
Medical Expense Reduction	3%	3%	G	
Medical Expense after Reduction	$1,045	$264	H	F × (1 – G)
PMPM Surplus before Premium Increases and Expense Reductions	$120	$30	I	B – F
PMPM Surplus after Premium Increases and Expense Reductions	$224	$38	J	E – H
Increase in Surplus to Be Shared with Provider Organization	$105	$8	K	J – I
Provider Organization's Percentage Share of Surplus	50%	50%	L	
Provider Organization's Share of Surplus PMPM	$52	$4	M	K × L
Reduction to Provider Organization's Share for Suboptimal Quality Scores	5%	5%	N	
Provider Organization's Total Annual Surplus	$2,984,342	$698,432	O	A × M × (1 – N) × 12

1. Based on Health Care Service Corporation (BCBS of Texas) HMO premiums and members' months for the year ending December 2016, as reported to the Texas Department of Insurance.
2. More accurate HCC coding by providers can increase MA plans' risk-adjustment factors, thereby increasing the PMPM funding the plans receive from CMS.
3. MA plans earn 5% bonuses on their payments from CMS if they earn at least a four-star rating. Because star ratings can be partly influenced by providers (star rating criteria include, for example, outcomes and patient experience), MA plans may be willing to enter into "percentage of premium" arrangements in which providers may share in any star rating bonuses earned.
4. Assumes both plans currently have a 90% medical loss ratio.

Note: Figures in the cells highlighted in yellow with blue ink denote variables that could be changed in different scenarios in a value-based financial model.

II. Value-Based Modeling Key Considerations

Number Three: Projecting Performance

Projecting performance in a value-based arrangement is both art and science. Two potential approaches are outlined below.

Peer-Performance Approach

- Description: Performance is projected based on what similar organizations have accomplished.
- Example: A new MSSP ACO may expect to achieve the average year one savings percentage among similarly sized MSSP ACOs in its region.
- Pros: Simple, information publicly available.
- Cons: Backward-looking, may not be appropriate for organizations that can reasonably expect to perform above average.

Actuarial Assumptions

- Description: Performance is projected based on assumptions that the organization will achieve certain benchmarks.
- Example: An ACO may calculate the shared savings it will earn if it reduces ED utilization, high-cost imaging, and brand-name drug use to state averages.
- Pros: Helps organization set goals.
- Cons: Requires detailed and reliable claims data and for appropriate benchmarks to be readily available.

II. Value-Based Modeling Key Considerations

Number Four: Expenses Associated with Value-Based Reimbursement

Typical expenses include population health IT, provider performance incentives, and care management staffing. A care management staffing expense calculation may look like the table below.

Sample Calculation of Care Management Staffing Expense

	Symbol	Calculation	Example	Notes
Covered Lives in Value-Based Arrangement	A		10,000	
Percentage of Covered Lives That Are High or Medium Risk	B		14%	Based on a Medicaid managed care risk stratification model. A commercial or MA risk stratification model may have a higher percentage of high- or medium-risk lives (e.g., 20% to 40%) due to older patient populations.
Number of High- or Medium-Risk Covered Lives	C	A × B	1,400	
Care Managers per High- or Medium-Risk Covered Life	D		0.01	Example reflects a ratio of 1 care manager for every 100 high- or medium-risk covered lives. Care management staffing ratios vary widely from organization to organization. ECG typically sees ratios of 1 care manager for every 75 to 150 high-risk patients and 1 care manager for every 100 to 200 medium-risk patients.
Number of Care Managers Needed	E	C × D	14	May be rounded to the nearest 1.0 FTE or 0.5 FTEs.
Average Care Manager Annual Salary	F		$71,902	National average care manager salary from ECG *2017 National Medical Group Cost and Infrastructure Survey*.
Total Annual Salaries	G	E × F	$1,006,628	
Benefits as a Percentage of Salaries	H		25%	Varies by organization. 20% to 30% is typical in ECG's experience.
Total Annual Benefits	I	G × H	$251,657	
Total Annual Care Management Staffing Expense	**J**	**G + I**	**$1,258,285**	

II. Value-Based Modeling Key Considerations

Number Five: Impact on Volume and FFS Revenues

Value-based arrangements generally reduce utilization volume for the population, but fee-for-service (FFS) revenue losses can be mitigated by earning value-based incentives, reducing internal costs, and attracting new patients.

Likely Impact of Value-Based Arrangements on Key Hospital Variables

Variable	Likely Impact
Inpatient (IP) Admissions	
Existing Patient Population	
New Patient Population (e.g., incremental narrow-network health plan members)	
Length of Stay	
Outpatient (OP) Encounters	
FFS rates	
FFS Revenues per Admission (if rates remain the same)	
DRGs	
Per Diems	
Percentage of Charge	
Expenses per Admission	
In-network Utilization	
Value-based Incentive Revenues	

II. Value-Based Modeling Key Considerations

Number Six: Sensitivity Analysis

Modeling a variety of scenarios can help providers understand the range of possible financial outcomes and mitigate the uncertainty of assumptions. Each scenario would include assumptions for inputs that could be highly variable and/or could have a significant impact on the model outputs.

Sensitivity Analysis for Surgery Practice's Narrow-Network Model (Sensitive Variables Are Highlighted)

	Optimistic	Moderate	Pessimistic	Symbol	Calculation
Annual Surgeries: Current[1]	3,354	3,354	3,354	A	
Percentage Change in Annual Surgeries from Incremental Narrow-Network Patients	10%	5%	0%	B	
Increase in Annual Surgeries from Incremental Narrow-Network Patients	335	168	0	C	A × B
Out-Migration: Current (Number of Surgeries Lost to Other Markets)[2]	413	413	413	D	
Percentage Change in Out-Migration from Narrower Network	-5%	-3%	0%	E	
Increase in Annual Surgeries from Reduced Out-Migration	21	12	0	F	– (D × E)
Revenue per Surgery: Current	$5,000	$5,000	$5,000	G	
Rate Reduction Required for Narrow-Network Inclusion	-5%	-10%	-15%	H	
Revenue per Surgery: Future	$4,750	$4,500	$4,250	I	G × (1 + H)
Annual FFS Revenue: Current	$16,770,000	$16,770,000	$16,770,000	J	A x G
Annual FFS Revenue: Future	$17,622,738	$15,903,405	$14,254,500	K	(A + C + F) × I
Quality Bonus Percentage: Future	2%	1%	0%	L	
Total Revenue: Future	$17,975,192	$16,062,439	$14,254,500	M	K × (1 + L)

[1] Source: ECG Analytics database of surgical episodes by provider and zip code. The provider organization's name has been redacted.

[2] Estimate based on overall out-migration rate for the practice's core-based statistical area, according to the ECG Analytics database.

II. Value-Based Modeling Key Considerations

Number Seven: The Cost of Inaction

In the short term, remaining in FFS may appear more profitable than entering into a value-based arrangement. But it is difficult to quantify scenarios such as the following:

1. The possibility of payors directing volume away from high-cost providers (e.g., exclusion from preferred or narrow networks)
2. The possibility that Medicare and other payors may someday require all providers to enter into shared savings arrangements, leaving providers with little value-based experience unprepared
3. The possibility of clinical and administrative talent leaving for more innovative organizations

Providers that believe they can better manage the cost and quality of care tend not to model "do nothing" scenarios, because they are convinced their practices or facilities will be left behind if they do not improve value.

III. Case Study One: Northwest Health System

III. Case Study One: Northwest Health System

The Situation

A Northwest health system used a high-level value-based financial model to aid in its decision about whether to pursue Advanced Alternative Payment Model (A-APM) status under MACRA or remain in the MIPS track.

- The system:
  - Has a robust network of employed physicians and rural health clinics—but there are independent providers in its service area.
  - Wanted to earn a bonus on its Medicare physician payments but was uncertain about how it would perform under the MIPS track.
  - Would almost certainly need to participate in a CMS ACO to quality for the A-APM track.
  - Has a limited appetite for financial risk.
- Discussion questions:
  - What are some key questions to ask before developing a financial model to help the system weigh the A-APM versus MIPS decision?
  - What assumptions may need to be made in the model?
  - On what variables may sensitivity analysis need to be performed?

III. Case Study One: Northwest Health System

The Model

The model shows the impact that participating in an MSSP Track 1+ ACO and qualifying for the A-APM track may have on Medicare revenues for the system.

	Breakeven	Pessimistic	Moderate	Optimistic	Symbol	Calculation
Estimated Northwest Health System Annual Medicare Payments (Baseline Medicare Payments)						
Rural Health Clinic (RHC) Physician	$ 39,966,000	$ 39,966,000	$ 39,966,000	$ 39,966,000	A	
Non-RHC Physician	59,949,000	59,949,000	59,949,000	59,949,000	B	
Facility/Other	161,660,000	161,660,000	161,660,000	161,660,000	C	
Total Baseline Medicare Payments	**$261,575,000**	**$261,575,000**	**$261,575,000**	**$261,575,000**	**D**	**A + B + C**
Estimated ACO Total-Cost-of-Care Benchmark[1]	$272,626,104	$272,626,104	$272,626,104	$272,626,104	E	(A + (B + C) × 67%) ÷ 68.9%
Minimum Savings/Loss Rate[2]	2.5%	2.5%	2.5%	2.5%	F	
Modeled Savings/Loss Rate (A Positive Number is Desirable)[3]	-3.664%	-2.5%	0.0%	2.5%	G	
Total Cost of Care	$282,615,124	$279,441,756	$272,626,104	$265,810,451	H	E × (1 – G)
Total Shared Savings/(Loss)	(9,989,020)	(6,815,653)	0	6,815,653	I	H – E
Northwest Health System Share of Savings/(Loss)	(2,996,706)	(2,044,696)	0	3,407,826	J	I × 50% (Savings) I × 30% (Loss)
A-APM Track Bonus on Physician Payments	2,997,450	2,997,450	2,997,450	2,997,450	K	B × 5%
Total Medicare Payments under ACO[4]	**$261,575,744**	**$262,527,754**	**$264,572,450**	**$267,980,276**	**L**	**D + J + K**
Difference from Estimated Annual Payments	**$744**	**$952,754**	**$2,997,450**	**$6,405,276**	**M**	**L – D**

1 Assumes that all RHC physician payments and two-thirds of non-RHC physician and facility payments are for patients attributable to the Northwest health system in a CMS ACO. It further assumes that 31.1% of traditional Medicare expenses for patients attributable to the Northwest health system come from outside of the Northwest health system, based on experience. CMS would also trend the cost of care forward, but to keep this analysis simple, a trend was not accounted for.

2 Minimum savings rate depends upon the number of attributed beneficiaries. A 2.5% rate indicates approximately 20,000 beneficiaries.

3 A negative savings rate indicates expenses exceeded the total-cost-of-care benchmark.

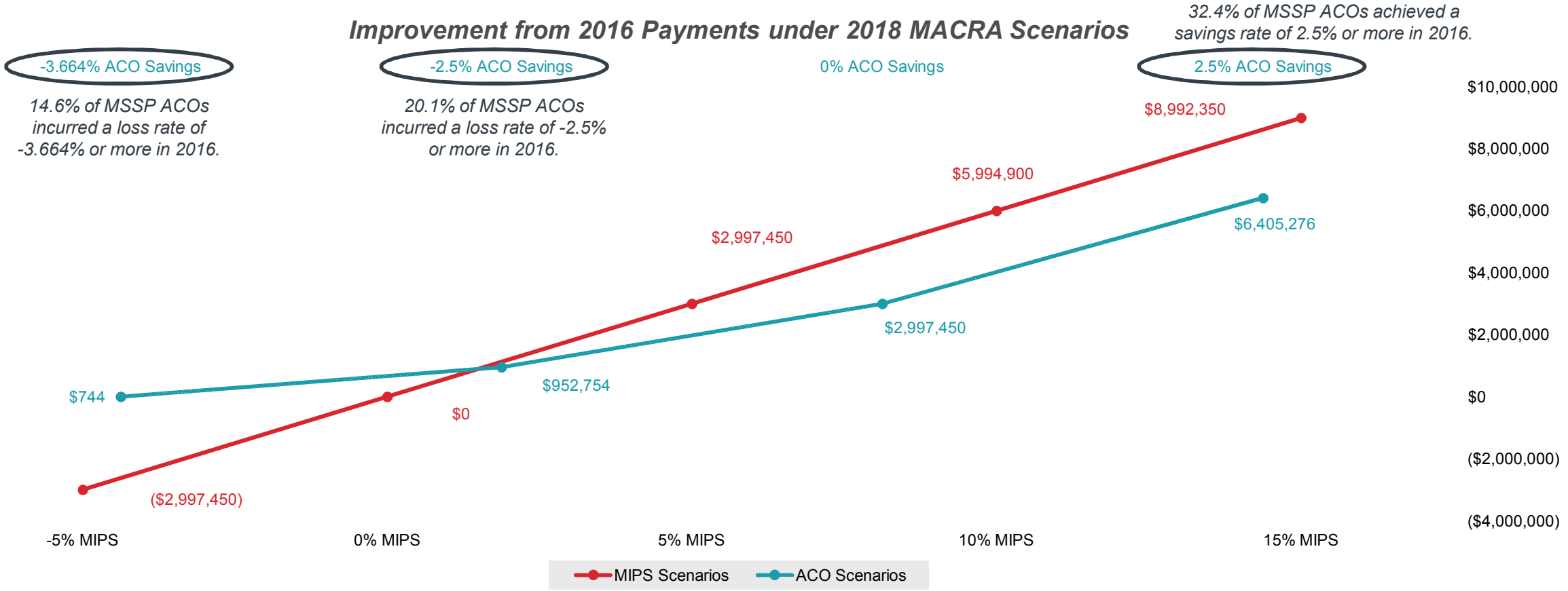
4 Assumes base physician and facility/other payments to the Northwest health system will remain at 2016 levels because (1) some total-cost-of-care reductions can come from non–Northwest health system providers and (2) any utilization reductions at the Northwest health system for the ACO patient population can be backfilled by patients paying at least Medicare rates.

The Northwest health system would have to exceed its MSSP Track 1+ expense benchmark by nearly 3.7% to negate its automatic 5% A-APM bonus on physician payments.

III. Case Study One: Northwest Health System

The Model *(continued)*

Because the MIPS maximum payment adjustment for non-exceptional performers is 5% in performance year 2018, the Northwest health system would likely need to be an exceptional performer to earn more revenues under the MIPS track than the A-APM track.



Based partly on this modeling, the system is still considering participation in the MSSP Track 1+.

IV. Case Study Two: Southern Health System

IV. Case Study Two: Southern Health System

The Situation

A Southern health system used a value-based financial model to help determine whether it should collaborate with a payor on a narrow-network health plan.

- The narrow-network plan:
  - Would be a major payor's exchange product for the hospital's metropolitan area.
  - Would be priced below the payor's comparable broad network products that are centered around other health systems, suggesting the possibility of attracting incremental volume to the Southern health system.
- Discussion questions:
  - What are some key questions to ask before developing a financial model to help the Southern health system weigh the narrow-network participation decision?
  - What assumptions may need to be made in the model?
  - On what variables may sensitivity analysis need to be performed?

IV. Case Study Two: Southern Health System

Key Assumptions

The modeling included four scenarios using a range of assumptions related to rates, volume, cost, and revenue.

- The payor estimated that premium discounts of approximately 10% would lead to an incremental 2,500 members enrolling in the narrow-network plan.
- All modeling started with the Southern health system's existing HMO volumes and revenues from the payor.
- In exchange for varying levels of potential preferential status in the narrow network, the system applied additional rate discounts to the payor's HMO rates.
  - The rate discounts were needed to achieve the competitive premiums that the payor would need to sell the product.
  - Different rates were needed for each scenario to offset the cost to the payor of excluding other lower-cost providers such as ASCs from the network.

Discounts to Current HMO Rates Required for Four Different Levels of Preferential Status

Variable	Scenario One	Scenario Two	Scenario Three	Scenario Four
Southern Health System's Preferential Status	Narrow Network Allows Independent ASCs and Imaging	Narrow Network Excludes Independent ASCs	Narrow Network Excludes Independent Imaging	Narrow Network Excludes Independent ASCs and Imaging
IP	-9%	-9%	-9%	-9%
OP				
Surgery	-10%	-54%	-10%	-54%
Diagnostic and Therapeutic	-10%	-10%	-10%	-10%
Radiology	-10%	-10%	-47%	-47%
J Codes	0%	0%	0%	0%
Other	0%	0%	7%	7%
OP Total	**-10%**	**-26%**	**-14%**	**-31%**
Total Additional Discount	**-10%**	**-18%**	**-12%**	**-21%**

Note: Figures may not be exact due to rounding.

IV. Case Study Two: Southern Health System

Key Assumptions *(continued)*

The estimates for overall potential increase in volume varied based on assumptions of "cannibalization" of existing HMO business and the payor's ability to sell the product to new members.

Variable	Scenario One	Scenario Two	Scenario Three	Scenario Four
Preferential Status	Narrow Network Allows Independent ASCs and Imaging	Narrow Network Excludes Independent ASCs	Narrow Network Excludes Independent Imaging	Narrow Network Excludes Independent ASCs and Imaging
Overall Impact				
Existing HMO Volume Moves to Narrow Network	30%	30%	30%	30%
Volume Increase Due to Narrow Network	10%	10%	10%	10%
Volume Increase Due to Preferred Status				
Surgery	0%	5%	0%	5%
Imaging	0%	0%	5%	5%

IV. Case Study Two: Southern Health System

Key Assumptions *(continued)*

Other key variables include increased bad debt due to higher deductibles and variable cost.

- The narrow-network product will have a significantly higher deductible than the payor's HMO product.
  - Current HMO deductible $1,500
  - Narrow-network deductible $3,000
- Assumed collection rate on patient responsibility portion is 50% (i.e., approximately $1,500 per encounter).
- Variable costs were applied on an average per case for IP and OP. As they are not specific to each service type (i.e., ASC and imaging), it is more important to focus on changes in revenue.
  - IP variable cost 20.52%
  - OP variable cost 14.19%
  - Variable Cost = (Direct Material + Direct Variable + Indirect Variable + Direct Material Rx) divided by (Current-State Charges)

IV. Case Study Two: Southern Health System

Sensitivity Analysis

In addition to the four scenarios addressing the exclusion of independent ASC and imaging centers, a range of likely outcomes was considered.

Outcome	Cannibalization	Overall Volume Increase	Additional Increase in ASC and Imaging Due to Exclusivity
Pessimistic	30%	0%	0%
Reasonable	30%	10%	5%
Optimistic	30%	20%	10%

The ability to attract additional volume was a key strategic consideration for the Southern health system, so the sensitivity analysis centered around different outcomes for volume increases.

IV. Case Study Two: Southern Health System

Financial Model Outputs

Under the reasonable outcome, the model predicted that the Southern health system would increase its revenues under scenarios one and three.

Category	Current	Scenario One: Narrow Network Allows Independent ASCs and Imaging	Scenario Two: Narrow Network Excludes Independent ASCs	Scenario Three: Narrow Network Excludes Independent Imaging	Scenario Four: Narrow Network Excludes Independent ASCs and Imaging
Pessimistic					
Revenue Less Bad Debt					
IP	$12,152,227	$11,657,105	$11,657,105	$11,657,105	$11,657,105
OP	10,177,050	9,570,142	8,911,936	9,434,924	8,776,994
Total	$22,329,277	$21,227,247	$20,569,041	$21,092,029	$20,434,099
Change from Current		**-4.9%**	**-7.9%**	**-5.5%**	**-8.5%**
Contribution Margin	42%	39%	38%	39%	38%
Reasonable					
Revenue Less Bad Debt					
IP	$12,152,227	$12,704,644	$12,704,644	$12,704,644	$12,704,644
OP	10,177,050	10,385,535	9,582,348	10,245,856	9,442,813
Total	$22,329,277	$23,090,180	$22,286,993	$22,950,501	$22,147,457
Change from Current		**3.4%**	**-0.2%**	**2.8%**	**-0.8%**
Contribution Margin	42%	39%	37%	38%	37%
Optimistic					
Revenue Less Bad Debt					
IP	$12,152,227	$13,752,184	$13,752,184	$13,752,184	$13,752,184
OP	10,177,050	11,201,144	10,251,927	11,056,908	10,107,701
Total	$22,329,277	$24,953,328	$24,004,111	$24,809,092	$23,859,885
Change from Current		**11.8%**	**7.5%**	**11.1%**	**6.9%**
Contribution Margin	42%	38%	36%	38%	36%

Note: Figures may not be exact due to rounding.

The Southern health system decided to join the narrow network under an arrangement similar to scenario one.