# Accountable Care Organizations: The Brave New World of Provider Risk

**Dr. Herbert T. Walker, III**

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The Affordable Care Act of 2010 (ACA) produced seismic changes in the healthcare ecosystem. The ACA authorized that the Secretary of Health and Human Service (HHS) design a "Medicare Shared Savings Program" that would "encourage investment in infrastructure and redesigned care processes for high quality and efficient service delivery." [1]

HHS policymakers were ultimately given a "triple aim" mandate that included enhancing a patient's quality of care, increasing the overall health of a given population, and reducing per capita spending on healthcare.[2] The triple aim has given rise to accountable care organizations (ACOs), which are a coterie of health care providers whose objective is to achieve high quality care at a lower cost. The ACOs represent a major departure from present day healthcare delivery, which has traditionally compensated providers almost exclusively through fee-for-service (FFS). Moreover, ACOs are proliferating, and healthcare administrators will invariably come into contact with the ACO model.[3]

To achieve a well-balanced healthcare ecosystem with regards to quality of care, ACOs are required to move from *volume to value* or "quality divided by cost," which translates into a value-based healthcare paradigm.[4] In the brave new world of healthcare, ACOs are accountable for their expenditures for a specified patient population and also accountable for achieving a quantifiable quality of care.[5] Although capitation models have been a rare modality of provider compensation, ACOs necessitate that providers assume risk in their treatment of patients.[6] In the ACO model, providers and payers have to find a "sweet spot" with regards to risk that is optimal for both parties.[7]

Expenditure "benchmarks" and quality of care scores are the two factors that ultimately determine ACO savings or losses. The Centers for Medicare and Medicaid Services (CMS) calculates ACO expenditure benchmarks for an initial agreement by weighting the yearly average healthcare costs of a specific population that would have been served by the ACO via Medicare FFS expenditures for the prior three years.[8] The third year prior to the agreement is weighted at 10%, the second benchmark year is weighted at 30%, and the most recent year or third benchmark year is weighted at 60%.[9]

To compensate ACOs, the CMS will compare the three-year historical benchmark of a given population to an ACO's expenditures for that population over the course of its respective agreement years to determine if it will share in savings or losses.[10] An ACO's structure of shared savings and shared losses are similar to each other. If an ACO is to qualify for shared savings, it must meet or exceed a prescribed minimum savings rate (MSR) and also fulfill minimum quality benchmarks.[11] In contrast, if an ACO meets or exceeds a prescribed minimum loss rate (MLR), then it will be fiscally penalized.[12] CMS gives ACOs three options when initially choosing their MSR and MLR:

I. A zero percent MLR

II. An MSR/MLR that increases in 0.5% increments from 0.5% to 2%

III. An MSR/MLR that is based on the ACO's number of beneficiaries and capped at 3.9% (Table 1)

The MSR/MLR options give ACOs the prerogative to set the threshold they must meet before sharing in savings or being held accountable for losses.[13] When an ACO has an MSR/MLR of 2.0%, and its benchmark for the year is $100,000,000, then its MSR will be $2,000,000. If the ACO has expenditures less than $98,000,000, which is the benchmark minus the MSR, then it shares in those savings. For example, if an ACO has a benchmark of $100,000,000 with an MSR of 2%, and its expenditures are $96,000,000, then it qualifies for shared savings of $4,000,000.

Table 1

| Number of assigned beneficiaries | MSR (low end of assigned beneficiaries) | MSR (high end of assigned beneficiaries) |
|---|---|---|
| 5,000–5,999 | 3.9% | 3.6% |
| 6,000–6,999 | 3.6% | 3.4% |
| 7,000–7,999 | 3.4% | 3.2% |
| 8,000–8,999 | 3.2% | 3.1% |
| 9,000–9,999 | 3.1% | 3.0% |
| 10,000–14,999 | 3.0% | 2.7% |
| 15,000–19,999 | 2.7% | 2.5% |
| 20,000–49,999 | 2.5% | 2.2% |
| 50,000–59,999 | 2.2% | 2.0% |
| 60,000 + | 2.0% | 2.0% |

(Source: Medicare Shared Savings Program. Shared Savings and Losses and Assignment Methodology. August 2020.)

The quality-of-care score is the other major variable the CMS uses to calculate provider compensation. The CMS currently uses 23 quality measures that span four quality "domains":[14]

- Patient/caregiver experience
- Care coordination and patient safety
- Preventive healthcare
- Treatment of at-risk populations

The CMS weights the four quality of care domains equally, so ACOs are compelled to focus on all four domains.[15] The number of measures within the four quality of care domains have changed over time, but the domains and their equal weighting have remained a constant in determining an ACO's quality of care score.[16]

Quality-of-care score formulas are ultimately determined by data from ACOs, group practices, and individual physicians who have qualified for Medicare's Shared Savings Program or the metrics of the Physician Quality Reporting System (PQRS) Merit-based Incentive Payment System.[17] For ACOs to qualify for compensation, the CMS requires that they meet a minimal quality score, which is defined as achieving the 30th percentile in at least one quality

measure in each domain.[18] If an ACO doesn't meet the minimal quality requirements of the CMS, then it is not eligible for shared savings. (Table 2)

Table 2

| ACO PERFORMANCE LEVEL |
| --- |
| 90+ percentile benchmark or 90+ percent |
| 80+ percentile benchmark or 80+ percent |
| 70+ percentile benchmark or 70+ percent |
| 60+ percentile benchmark or 60+ percent |
| 50+ percentile benchmark or 50+ percent |
| 40+ percentile benchmark or 40+ percent |
| 30+ percentile benchmark or 30+ percent |
| <30+ percentile benchmark or <30+ percer |

(Source: Medicare Shared Savings Program. Quality Measurement Methodology and Resources. May 2019.)

The final sharing rate between an ACO and Medicare will be determined by the ACO's benchmark savings, MSR, and quality score.[19] (Figure 1)

Figure 1


(Source: U.S. Department of Health and Human Services. Social Risk Factors and Performance Under Medicare's Value-Based Purchasing Programs. Washington, D.C. December 2016.)

The Medicare Shared Savings Program (MSSP) provides "Glide Paths" or options for ACOs relative to savings and risk: Five "Basic Tracks" and one Enhanced Track.[20] (Table 3) ACOs have the following options for savings and risk:

- Basic Level A
- Basic Level B
- Basic Level C
- Basic Level D
- Basic Level E
- Enhanced Level

Table 3

| CHARACTERISTIC | BASIC TRACK'S GLIDE PATH | | | | ENHANCED TRACK (RISK/ REWARD) |
|---|---|---|---|---|---|
| | LEVEL A & LEVEL B (ONE-SIDED MODEL) | LEVEL C (RISK/ REWARD) | LEVEL D (RISK/ REWARD) | LEVEL E (RISK/ REWARD) | |
| Shared Savings (once MSR met or exceeded) | 1st dollar savings at a rate of up to 40% based on quality performance; not to exceed 10% of updated benchmark | 1st dollar savings at a rate of up to 50% based on quality performance, not to exceed 10% of updated benchmark | 1st dollar savings at a rate of up to 50% based on quality performance, not to exceed 10% of updated benchmark | 1st dollar savings at a rate of up to 50% based on quality performance, not to exceed 10% of updated benchmark | 1st dollar savings at a rate of up to 75% based on quality performance, not to exceed 20% of updated benchmark |
| Shared Losses (once MLR met or exceeded) | N/A | 1st dollar losses at a rate of 30%, not to exceed 2% of ACO participant revenue capped at 1% of updated benchmark | 1st dollar losses at a rate of 30%, not to exceed 4% of ACO participant revenue capped at 2% of updated benchmark | 1st dollar losses at a rate of 30%, not to exceed the percentage of revenue specified in the revenue-based nominal amount standard under the Quality Payment Program[170] capped at 1 percentage point higher than the benchmark nominal risk amount[171] (e.g., 8% of ACO participant revenue in 2019–2024, capped at 4% of updated | 1st dollar losses at a rate of 1 minus final sharing rate, with minimum shared loss rate of 40% and maximum of 75%, not to exceed 15% of updated benchmark |

(Source: Medicare Shared Savings Program. Shared Savings and Losses and Assignment Methodology. August 2020.)

ACOs in the Basic track's Glide Path will be automatically advanced at the start of each performance year down the Glide Path's progression of risk/reward Levels, or they can elect to move more rapidly to a higher level of risk/reward over the course of their agreement period, which are now five years.[21] Basic Level A and Basic Level B are "tracks" designed for ACOs that are newly enrolled in the MSSP.[22] ACOs that enter the Glide Path at Level A can proceed to Level B after a year.[23] However, ACOs that are at Level B must proceed to Level E, which is a high risk and high reward Level.[24] The ACOs in these two tracks share savings and not risk. Their MSR is determined by the number of beneficiaries in the ACO.[25] (Table 1) ACOs in Basic Level A and Basic Level B that meet or exceed their MSR in savings will receive a maximum savings rate of 40%, but their final compensation will also be contingent of their quality-of-care scores.[26] Shared savings for a hypothetical ACO at Level A and B are derived by the following formula:

- The ACO benchmark is $100,000,000
- The ACO's yearly expenditures are $90,000,000
- The ACO has an MSR of 2%
- The maximum savings rate is 40%
- The ACO has a quality-of-care score of 95%

The following six steps calculate this ACO's shared savings amount for the year:

1) Determine the total savings:

$100,000,000 – $90,000,000 = $10,000,000

2) Determine if the total savings exceeds the MSR:

MSR = 2% x $100,000,000 = $2,000,000

(If the total savings exceeds the MSR, then the ACO is eligible for shared savings.)

3) The maximum savings rate is then multiplied by the quality score to derive the maximum sharing percentage:

(The maximum savings rate is 40% and the quality-of-care score is 95%)

40% x 95% = 38%

4) The next step is multiplying the maximum sharing percentage by the total savings:

38% x $10,000,000 = $3,800,000

5) Medicare providers are subjected to a 2% payment cut, which is the "sequestration" rate:

$3,800,000 x 2% = $60,000

6) The ACO's total sharing amount after the sequestration rate:

$3,800,000 - $60,000 = $3,740,000

In the case of ACOs that are at Level A and B, their final sharing amount cannot exceed 10% of their benchmark.[27] Ten percent of the benchmark for this ACO would be $10,000,000, which is significantly greater than the total sharing amount of $3,740,000, so the total sharing amount would remain at $3,740,000. If the ACO's total shared savings amount exceeded $10,000,000, then the ACO's total shared savings would be capped at $10,000,000.

Level C on the Glide Path has a maximum savings rate of 50%.[28] Consequently, the shared savings for the above ACO at Level C would be determined with the following calculation:

- The ACO benchmark is $100,000,000
- The yearly expenditures are $90,000,000
- The ACO has an MSR of 2%
- The maximum savings rate is 50%

- The quality-of-care score is 95%

1. Determine the total savings:

$$\$100,000,000 – \$90,000,000 = \$10,000,000$$

2. Determine if the total savings exceeds the MSR:

$$2\% \times \$100,000,000 = \$2,000,000$$

(The total savings exceeds the MSR so the ACO is eligible for shared savings.)

3. The maximum savings percentage is then multiplied by the quality-of-care score to derive the maximum sharing percentage:

(The maximum savings percentage is 50% and the quality score is 95%)

$$50\% \times 95\% = 47.5\%$$

4. The next step is multiplying the maximum sharing percentage by the total savings:

$$47.5\% \times \$10,000,000 = \$4,750,000$$

5. Medicare providers are subjected to a 2% "sequestration" rate:

$$\$4,750,000 \times 2\% = \$95,000$$

6. The ACO's total sharing amount after the sequestration rate:

$$\$4,750,000 - \$95,000 = \$4,655,000$$

Unlike Levels A and B, Level C has a risk or loss sharing percentage of 30%.[29] Shared losses for this hypothetical ACO at Level C are derived by the following formula:

- The benchmark is $100,000,000
- The yearly expenditures are $102,100,000
- The ACO has an MLR of 2%
- The maximum loss percentage is 30%
- The ACO has a quality-of-care score of 95%

1. Determine the total losses against the benchmark:

$100,000,000 – $102,100,000 = -$2,100,000

2. Determine if the total losses exceed the MLR:

   2% x $10,000,000 = $2,000,000

   (The total losses exceed the MLR so the ACO will be penalized by shared losses.)

3. The maximum loss percentage is then multiplied by the quality score to derive the maximum shared losses percentage:

   (The maximum loss percentage is 30% and the quality score is 95%)

   30% x 95% = 28.5%

4. The next step is multiplying the maximum shared loss percentage by the total losses:

   28.5% x -$2,100,000 = -$598,500

5. The ACO's total loss sharing:

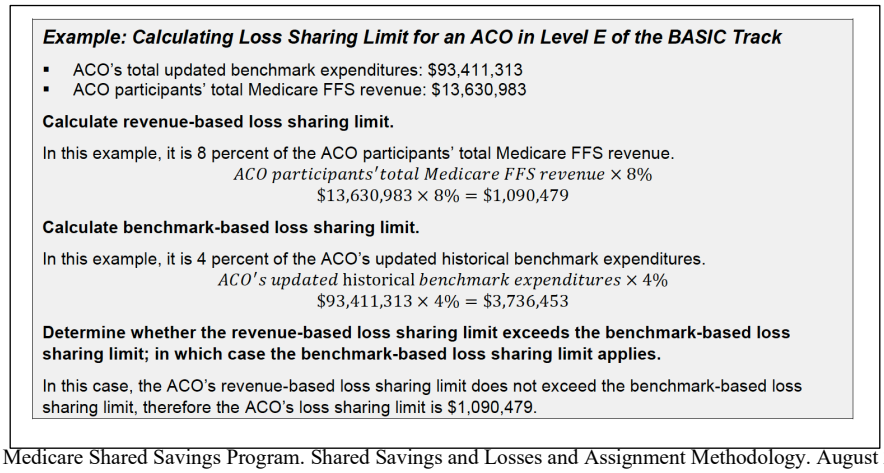
   (ACOs that suffer loss sharing are not subject to the sequestration rate.)

   $-598,500

ACOs are capped from overly excessive losses. At Level C, ACOs cannot have shared losses greater than 1% of their updated benchmark, which would be $1,000,000 for this hypothetical ACO.[30] ACO losses are also capped using a "provider revenue" formula.[31] Provider revenue is primarily the revenues provider groups receive from Medicare A and B FSS.[32] For example, if this ACO at Level C had provider revenues of $30,000,000, then its revenue-based loss sharing limit would be capped at 2% of the $30,000,000 or $600,000. The shared losses of the ACO were $598,500, which is less than either 1% of its benchmark or 2% of its revenue-based loss sharing limit. So, the ACO's total loss sharing would be $598,500. If the ACO had a shared loss of $700,000, then its shared loss would be greater than its revenue-based loss sharing limit of $600,000, so the ACO's shared losses would be $600,000.

Like Basic Level C, Basic Level D and Basic Level E have a shared savings rate of 50%, but both Levels potentially assume an incrementally greater risk.[33] At Level D, ACOs loss sharing is capped at 2% of its benchmark or 4% of its provider revenue, which potentially has a twofold greater risk than Basic Level C.[34] And at Basic Level E, ACOs loss sharing is capped at 4% of its ACO's or 8% of its provider revenue. Figure 2 delineates the capped loses for Basic Level E.

Figure 2



***Example: Calculating Loss Sharing Limit for an ACO in Level E of the BASIC Track***

- ACO's total updated benchmark expenditures: $93,411,313
- ACO participants' total Medicare FFS revenue: $13,630,983

**Calculate revenue-based loss sharing limit.**

In this example, it is 8 percent of the ACO participants' total Medicare FFS revenue.

$$ACO\ participants'\ total\ Medicare\ FFS\ revenue \times 8\%$$
$$\$13{,}630{,}983 \times 8\% = \$1{,}090{,}479$$

**Calculate benchmark-based loss sharing limit.**

In this example, it is 4 percent of the ACO's updated historical benchmark expenditures.

$$ACO's\ updated\ \text{historical}\ benchmark\ expenditures \times 4\%$$
$$\$93{,}411{,}313 \times 4\% = \$3{,}736{,}453$$

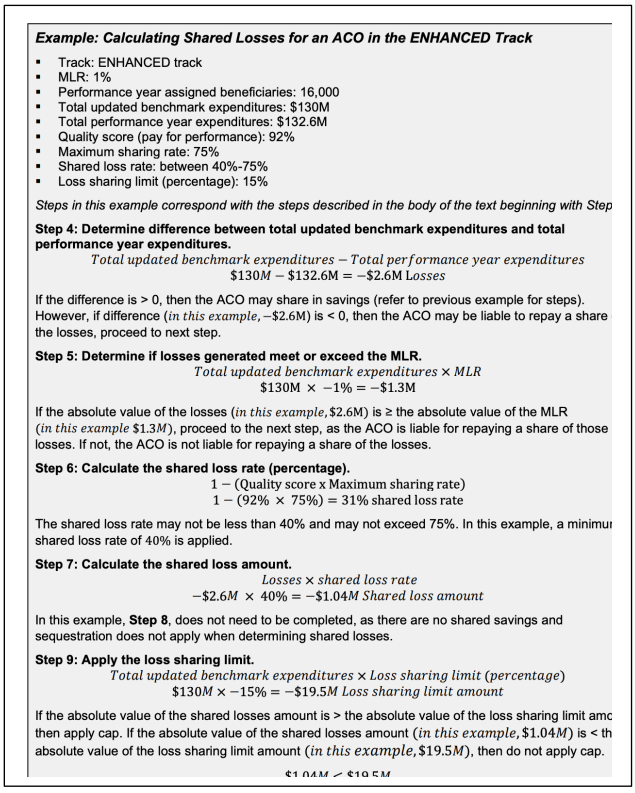
**Determine whether the revenue-based loss sharing limit exceeds the benchmark-based loss sharing limit; in which case the benchmark-based loss sharing limit applies.**

In this case, the ACO's revenue-based loss sharing limit does not exceed the benchmark-based loss sharing limit, therefore the ACO's loss sharing limit is $1,090,479.

(Source: Medicare Shared Savings Program. Shared Savings and Losses and Assignment Methodology. August 2020.)

The Enhanced Track has the potential for maximum shared savings or maximum shared losses. Figure 3 is an example of the shared losses that can be accrued by an ACO in the Enhanced Track.

Figure 3



***Example: Calculating Shared Losses for an ACO in the ENHANCED Track***

- Track: ENHANCED track
- MLR: 1%
- Performance year assigned beneficiaries: 16,000
- Total updated benchmark expenditures: $130M
- Total performance year expenditures: $132.6M
- Quality score (pay for performance): 92%
- Maximum sharing rate: 75%
- Shared loss rate: between 40%-75%
- Loss sharing limit (percentage): 15%

*Steps in this example correspond with the steps described in the body of the text beginning with Step*

**Step 4: Determine difference between total updated benchmark expenditures and total performance year expenditures.**

$$Total\ updated\ benchmark\ expenditures - Total\ performance\ year\ expenditures$$
$$\$130M - \$132.6\text{M} = -\$2.6\text{M}\ Losses$$

If the difference is > 0, then the ACO may share in savings (refer to previous example for steps). However, if difference ($in\ this\ example, -\$2.6\text{M}$) is < 0, then the ACO may be liable to repay a share the losses, proceed to next step.

**Step 5: Determine if losses generated meet or exceed the MLR.**

$$Total\ updated\ benchmark\ expenditures \times MLR$$
$$\$130\text{M} \times -1\% = -\$1.3\text{M}$$

If the absolute value of the losses ($in\ this\ example, \$2.6\text{M}$) is ≥ the absolute value of the MLR ($in\ this\ example\ \$1.3M$), proceed to the next step, as the ACO is liable for repaying a share of those losses. If not, the ACO is not liable for repaying a share of the losses.

**Step 6: Calculate the shared loss rate (percentage).**

$$1 - (\text{Quality score x Maximum sharing rate})$$
$$1 - (92\% \times 75\%) = 31\%\ \text{shared loss rate}$$

The shared loss rate may not be less than 40% and may not exceed 75%. In this example, a minimu shared loss rate of 40% is applied.

**Step 7: Calculate the shared loss amount.**

$$Losses \times shared\ loss\ rate$$
$$-\$2.6M \times 40\% = -\$1.04M\ Shared\ loss\ amount$$

In this example, **Step 8**, does not need to be completed, as there are no shared savings and sequestration does not apply when determining shared losses.

**Step 9: Apply the loss sharing limit.**

$$Total\ updated\ benchmark\ expenditures \times Loss\ sharing\ limit\ (percentage)$$
$$\$130M \times -15\% = -\$19.5M\ Loss\ sharing\ limit\ amount$$

If the absolute value of the shared losses amount is > the absolute value of the loss sharing limit amc then apply cap. If the absolute value of the shared losses amount ($in\ this\ example, \$1.04M$) is < th absolute value of the loss sharing limit amount ($in\ this\ example, \$19.5M$), then do not apply cap.

$\$1.04M < \$19.5M$

(Source: Medicare Shared Savings Program. Shared Savings and Losses and Assignment Methodology. August 2020.)

The MSSP program commenced in 2012/2013, and, at that time, 220 ACOs were enrolled.[35] The 220 ACOs had 3.2 million assigned beneficiaries and yielded a shared savings of $3.2 million.[36] As of January 1, 2021, the program has 477 ACOs with 10.7 million assigned beneficiaries.[37] In 2019, the average overall quality of care score was 92% and ACOs had an aggregate shared savings of $1.471 billion.[38] So, clearly, ACOs are proliferating in terms of numbers and assigned beneficiaries, and they may become the healthcare model of the future. Consequently, the ACO model has been the subject of studies to determine whether or not ACOs are delivering higher quality healthcare at a reduced cost.

Studies thus far have given ACOs mixed reviews. A study conducted by Nyweide et al., published in the *Journal of the American Medical Association,* compared Medicare spending, utilization, and CAHPS scores between Medicare ACOs and standard Medicare FFS.[39] The study was conducted in the infancy of ACOs—2012 and 2013. The ACO cohort had 1,481,970 Medicare beneficiaries from 32 ACOs and the standard Medicare FFS cohort had 25,337,848 beneficiaries. The investigators concluded that the ACOs had a favorable but slight expenditure and utilization differential and there was "little difference" in quality of care.

Comfort et al. evaluated the impact of ACOs with regards to hospital utilization and financial measures in rural areas.[40] The researchers compared 643 rural hospitals that participated in an ACO for at least one year between 2011 and 2018 versus 1,541 rural hospitals that did not participate in an ACO. Comfort et al. found that ACO participation did not correlate with changes in hospital utilization or financial measures. In fact, they found that inpatient utilization increased for ACO beneficiaries during the second year, but the increases were not significant beyond the third year of ACO participation.

Conversely, a study published in the *New England Journal of Medicine* found that ACOs reaped marked Medicare savings.[41] The study, conducted by McWilliams et al., analyzed FSS Medicare claims from 2009 through 2015 to compare variations in Medicare spending for 9,340 Medicare beneficiaries before and after their entry into ACOs. The investigators noted an escalating increase in net savings for Medicare recipients in ACOs. In 2015, spending reductions for the study's ACO beneficiaries comprised a net savings of $256.4 million for Medicare.

Overall, despite mixed results, ACOs have engendered guarded optimism, because they have demonstrated an ability to reduce healthcare costs while also maintaining quality of care. However, the ACO model is in its relative infancy, and it must evolve and be finetuned if it is to become a viable alternative for the future of healthcare delivery. CMS is aware of the current shortcomings of the ACO model, and it is in the midst of engineering the "Next Generation" of ACOs. CMS hopes that these ACOs, which will offer greater risks and rewards, will flourish in our healthcare ecosystem.

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