

Long-term Enhanced Accountable Care Organization Design (LEAD) Model

Risk Adjustment Overview

August 2026

Version History

Version Number	Update	Date
1.0	First release	August 17, 2026

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Summary

CMMI has calibrated two updated risk adjustment models and will use them in the Long-term Enhanced ACO Design (LEAD) model with the aim of enhancing predictive accuracy, mitigating coding intensity concerns, and protecting accountable care organizations (ACOs) from expenditures associated with unavoidable health events to enhance access to care for beneficiaries.

Our analysis shows that the new models result in ACO performance similar to the prior models used in ACO REACH while accomplishing three important goals:

- First, the updated models protect ACOs from unavoidable health events that result in beneficiaries newly meeting High Needs criteria (“becoming High Needs beneficiaries”) during a performance year. Using the Whole Person and Incident High Needs Flag approaches described below, CMMI recalibrated the Concurrent model to adequately reflect the increased expenses associated with these beneficiaries, thus ensuring that ACOs are not disadvantaged for providing upstream care to beneficiaries before they meet High Needs criteria. Additionally, our analysis shows that it is rare for beneficiaries to approach High-Needs-like spending patterns without meeting High Needs eligibility criteria, and that higher-spending populations – including higher-spending non-High Needs beneficiaries – are well-predicted in LEAD’s risk adjustment model.
- Second, some High Needs ACOs may see a reduction in overprediction for their High Needs beneficiaries under the new models as well as an improvement in lessening potential underprediction for other beneficiaries. For these ACOs, this reduction is likely to apply to both base years and performance years, meaning that reduced overpredictions would not necessarily result in reduced benchmarks. In addition to enhancing sustainability, the models also align with LEAD’s broader High Needs integration approach, which allows these ACOs to also serve beneficiaries that do not yet meet High Needs criteria. As described above, the recalibrated models improve prediction to ensure that ACOs providing care to beneficiaries in advance of their meeting High Needs criteria are not disadvantaged, offering protection to High Needs ACOs as they expand their aligned beneficiary panels upstream.
- The new models place increased weight on demographic factors, reducing the need for ACOs to invest in risk coding activities. The new models maintain or improve predictiveness and should be particularly helpful for ACOs and practices that serve relatively healthy populations, as the recalibration should streamline risk coding efforts and address potential underprediction issues for low utilizing beneficiaries who may have “pent-up demand” once their access to health care improves after alignment.

- Finally, the recalibration of the models and placing of greater weight on demographic factors should result in more stable and lower normalization factor adjustments leading to greater stability in risk scores overall.

Below, this document describes the approach used in developing the new models, which includes:

- Calibrating the new Concurrent model based only on expenditures from beneficiaries who meet High Needs criteria and a new Prospective model based only on expenditures from beneficiaries who do not meet High Needs criteria;
- Updating calibration to 2023 expenditures;
- For the recalibrated Concurrent model, capturing spending - such as in relation to a health event - that occurs in the same year a beneficiary meets High Needs criteria (the “Whole Person” approach to treating a beneficiary as High Needs for the full year) and predicting higher spending from beneficiaries who newly meet High Needs criteria during the year (“Incident High Needs flags”);
- Mitigating distortions that resulted from billing activity associated with significant, anomalous, and highly suspicion (SAHS) and skin substitutes

Overall, deploying the new models is expected to support LEAD’s broader benchmarking approach, enhance accuracy, and promote sustainability.

Background

The Center for Medicare and Medicaid Innovation (CMMI) recognizes that risk adjustment is essential to enabling accountable care organizations (ACOs) to care for beneficiaries with significant health needs. A model which fails to recognize that some beneficiaries have greater health needs creates incentives that can cause organizations to engage in beneficiary selection (“cherry picking”), but models must also minimize incentives to engage in artificial coding intensification activities with resulting overpayments. By recalibrating these models and using them in its Long-term Enhanced ACO Design (LEAD) model, CMMI aims to provide accurate, predictive benchmarks that minimize negative incentives while empowering ACOs to engage in prevention activities such as care coordination.

ACO REACH’s innovative High Needs Track used a distinctive risk adjustment model to ensure High Needs ACOs had the ability to focus resources appropriately on their beneficiaries. Specifically, it used *concurrent* risk adjustment – that is, utilizing diagnoses from within the performance year – in light of the rapid changes in clinical course of many High Needs individuals.

The LEAD Model will enable integrated care for beneficiaries across the continuum of care by applying High Needs benchmarking methodology to beneficiaries with High Needs regardless of ACO type. As part of that integration, LEAD will use risk adjustment models dedicated specifically to beneficiaries in each of the High Needs and non-High Needs populations to improve predictive accuracy in both subpopulations.

This document seeks to provide an overview of the two recalibrated models.

Model descriptions

LEAD will apply a different risk adjustment model to each of its three beneficiary categories, as described below.

- For those Aged & Disabled (A&D) beneficiaries that do not meet high needs criteria, benchmarks will be risk adjusted using a modified version of the CMS-Hierarchical Condition Categories (HCC) Risk Adjustment Model Version 28, hereafter referred to as the CMMI Prospective Model V1. ACO REACH had numerous beneficiaries who met High Needs criteria in standard ACOs receiving Prospective risk adjustment, so it was appropriate to include High Needs beneficiaries in the calibration pool. With LEAD applying High Needs benchmarks to all beneficiaries meeting criteria, a recalibration of the Prospective model that reflects the model's intended population is now needed to enhance accuracy.
- CMS will risk adjust benchmarks for beneficiaries in the High Needs beneficiary category – as defined in the Request for Applications (RFA) and Alignment & Finance Methodology Paper – using the CMMI HCC Concurrent Risk Adjustment Model V2. Compared to the Concurrent Risk Adjustment Model V1, which was used in ACO REACH, V2 has been modified to reflect the 2024 CMS-HCC Prospective Risk Adjustment Model architecture (including updates made in Version 28) and recalibrated to improve risk score prediction by reflecting only the High Needs population.
- Benchmarks for beneficiaries in the End-stage renal disease (ESRD) beneficiary category will be risk adjusted using the Payment Year 2023 V24 ESRD CMS-HCC Risk Adjustment model, which will not be specifically recalibrated for LEAD.

Role in setting benchmarks

LEAD's benchmarking method is based first on the ACO's historical baseline expenditures. As a result, risk adjustment scores affect benchmarks where (a) scores in the performance year vary from the base years, or (b) scores impact adjustments such as the regional efficiency adjustment, the cap to the prior savings adjustment, and an ACO's higher- or lower-spending status.

First, growth in risk scores from base years to performance years affects historical benchmark expenditures. In calculating historical benchmark expenditures, LEAD first *risk standardizes* those expenditures – that is, *divides* the expenditures by the risk scores in the base years to ensure accurate measurement of spending as controlled for beneficiary health status. It then *risk adjusts* those expenditures to apply them to the performance year benchmark – that is, *multiplies* the standardized expenditures by the risk scores from the performance year – in order to adjust for population and mitigate incentives to “cherry-pick.”

The result of these divide-and-then-multiply steps is that historical benchmark expenditures are affected by *changes* in risk score rather than the raw risk score. In other words, if the recalibrated models result in a higher or lower average risk score for a particular ACO compared to prior models, this would not necessarily result in a higher or lower benchmark, as the recalibrated model may equally affect the base years and performance years.

For more details on historical benchmark expenditure calculations, please see the LEAD Request for Applications (RFA) and the Performance Year 2027 Alignment and Financial Methodology paper.

Second, risk scores affect several of the benchmark adjustments included in LEAD.

- **Regional efficiency adjustment:** ACOs in the Global Risk track with baseline spending that is lower than average Medicare FFS spending in their region (“lower-spending ACOs”) will receive a positive regional efficiency adjustment to their benchmark, equal to 50% of the difference between the *risk adjusted* BY3 regional expenditures and the ACO’s historical base year expenditures, subject to the cap described below. A higher risk score, all else equal, would be expected to increase an ACO’s calculated regional efficiency.
- **Higher/lower-spending status:** Higher-spending ACOs – defined reciprocally to lower-spending ACOs described above – are also eligible for a lower Global Discount (1.75%, increasing to 3%) and the Administrative Add-On, an incentive capitation payment equal to 1.5% of the ACO’s total benchmark that is not included in expenditure calculations at settlement. A higher risk score, all else equal, would be expected to decrease the odds of being considered a higher-spending ACO.
- **Benchmark Adjustment cap:** Eligible lower-spending ACOs are eligible for the higher of the prior savings and regional efficiency adjustments, subject to a cap of 3% (for lower-spending ACOs that were previously in the Shared Savings Program) or 5% (all other ACOs) of risk-standardized United States Per Capita Costs (USPCC). A higher risk score, all else equal, would effectively increase the cap.

Recalibration methodology, findings, and policies

The new risk adjustment models have been recalibrated to capture meaningful variation in beneficiary expenditures while preserving incentives to provide high-quality care.

Timing: Both models are calibrated using 2023 expenditures with 6 months of claims runout; the CMMI Prospective Model V1 uses 2022 diagnoses, while the Concurrent Model V2 uses 2023 diagnoses. Recalibration to a more recent set of years facilitates accuracy in risk coding and provides a more stable model for the duration of its use.

- All else being equal, CMS expects that a more recent calibration year should improve predictability of normalized risk scores due to a reduced normalization factor.

Whole-person High Needs benchmarking: CMS analysis found that many High Needs beneficiaries experience significant health care events – and expenditures – in the months *before* meeting High Needs criteria. LEAD will account for these expenditures in the High Needs benchmark – that is, if CMS determines that an aligned beneficiary newly meets the High Needs eligibility criteria during a quarterly reassessment, the beneficiary will be treated as High Needs for the full period during which they were aligned to the ACO for purposes of benchmark development and financial settlement. For more detail, please see LEAD’s Alignment and Financial Methodology paper. This pre-High Needs increase in spending was less critical in ACO REACH, where beneficiaries aligned to a High Needs ACO were required to meet high needs criteria at the point of alignment; ACOs therefore generally only became accountable for expenditures after a health care event and a period of stability.

Accordingly, CMMI calibrated risk adjustment models to match by including the year’s spending from High Needs beneficiaries in the Concurrent Model even if they met criteria partway through the year. For example, if a beneficiary experiences a health crisis in March and meets High Needs Criteria in July, the spending from that March crisis has been included in the calibration pool for the Concurrent rather than the Prospective model. Likewise, the risk score for the beneficiary will reflect Concurrent Risk Adjustment for the total period of alignment.

Incident High-Needs beneficiaries: As described above, many High Needs beneficiaries experience significant spending shortly before meeting High Needs criteria, resulting in “incident patients” – those that meet High Needs criteria during the year – often having higher spending. Accordingly, the Concurrent Model V2 applies a series of “flag” variables to adjust spending based on the quarter in which a beneficiary met High Needs criteria. A given beneficiary would be assigned a corresponding flag depending on whether he or she:

- Meets High Needs criteria at the start of the year or in Quarter 1,
- Newly meets High Needs criteria in Quarter 2,
- Newly meets criteria in Quarter 3,
- Newly meets criteria in Quarter 4, or

- No longer meets High Needs criteria during the performance year, but (as described in the LEAD RFA) retains High Needs benchmarking methods due to meeting criteria during a prior year.

Institutional factor: The CMS HCC Prospective Risk Adjustment Model – as used in ACO REACH – calibrated seven distinct segments. Six were based on the combination of qualification pathway (Aged or Disabled) and eligibility for Medicaid (non-dual, partial dual, full dual). The seventh segment, for beneficiaries meeting Institutional status, had a prohibitively small remaining population during calibration, as High Needs beneficiaries comprised more than 70% of the institutional population. To ensure stable coefficient estimates, Institutional status is no longer a standalone risk adjustment segment but instead is captured as a separate factor that is added to the predicted expenditures of institutional beneficiaries within each of the other six segments. This add-on factor ensures that expenditures for institutional beneficiaries are predicted accurately and capture 100% of actual spending.

CMMI will continue to evaluate the segments for appropriateness and revise as required to ensure accurate representation of beneficiary expected costs.

SAHS and skin substitutes: To improve accuracy and align risk adjustment calibration more closely with performance years, LEAD removed from the risk calibration pool:

- HCPCS codes determined to be significant, anomalous, and highly suspect (SAHS) in CY 2023 (A4352 and A4353)
- Skin substitute-related HCPCS codes included in 2023 expenditures that were updated in the Physician Fee Schedule (PFS) for years 2026 and after

Retaining these codes would have caused distortions – increasing coefficients closely linked to those codes and decreasing all other coefficients – relative to:

- LEAD performance years (due to the expected reductions from the PFS revisions) *and*
- Other value-based models, such as Medicare Advantage or the Shared Savings Program, that calibrate risk adjustment models based on years where skin substitute spending was less extensive.

Risk score cap: As described in the LEAD Alignment and Financial Methodology paper, CMS will apply a symmetric 3 percent risk score growth cap for the Aged and Disabled (A&D) and End-stage Renal Disease (ESRD) beneficiary categories and a symmetric 4 percent risk score growth cap for the High Needs beneficiary category. Base Year 3 will be the static reference year for measuring risk score growth for at least the first two Performance Years of LEAD (PY 2027 and PY 2028).

Note that this cap will be calculated *excluding* any voluntarily aligned beneficiaries who meet High Needs criteria in the performance year but were not classified as High Needs in the third base year. This policy intends to avoid disadvantaging ACOs who assume care for patients shortly after they first meet criteria.

Demographic variables: Overall, the CMMI Prospective Model V1 places relatively greater emphasis on demographic variables (age & sex) and less emphasis on coded HCCs compared to the CMS HCC Prospective Risk Adjustment model used in ACO REACH. This is consistent with reduced expenditure variation in the population used; previously, beneficiaries who met High Needs criteria were in the Prospective model and their spending variation needed to be explained via weight on the HCCs; as that variation decreases with their removal, the coefficients associated with the HCCs fall.

- This may further enhance predictability of normalized risk scores, as risk score growth in the eligible population (used to set normalization factors) is expected to be slower in a model that places increased weight on demographic components.

As with all risk models, both the new CMMI Prospective Model V1 and the Concurrent Model V2 were calibrated to capture 100% of spending; therefore, the increased weight on demographic variables is balanced with lower weight on some HCCs but does not result in lower average predicted costs.

Closing

CMMI strives to ensure that risk adjustment models promote simplicity and accuracy while minimizing incentives to engage in artificial coding intensity and beneficiary selection. The CMMI Concurrent Model V2 and CMMI Prospective Model V1 represent advances to accompany LEAD's integration of High Needs care across ACOs as CMMI aims to empower ACOs and beneficiaries alike.

Please contact the LEAD Model team at LEAD@cms.hhs.gov with any questions.