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Beating the Odds: Redefining Risk

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Risk Adjustment Without Illusion

Can we truly price for fairness?

Part 1 — The US Experience · **Ankit Nanda, FSA, MAAA, FCA** · Optum India

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THE PROBLEM IT WAS INVENTED TO SOLVE

Make sick members financially neutral: not profitable, not unprofitable

- **Community rating without transfers.** Insurers compete on selection, not efficiency.
- **Selection is cheap.** Benefit design, network, formulary, distribution channel.
- **Risk adjustment is a transfer mechanism** — not a pricing model. Neutrality is the design target.

WITHOUT A TRANSFER

The insurer that attracts the sick disappears.
The insurer that avoids them wins, without ever becoming more efficient.

Everything that follows is a question of how well the transfer approximates true morbidity.

The US is not a model to copy. It is the world's longest-running laboratory, and every system eventually creates incentives of its own.



THREE SYSTEMS, THREE DESIGNS

One country, three risk adjustment regimes

Each design choice buys accuracy at the cost of a different incentive distortion.

TIMING



FUNDING



CALIBRATION



 Medicare Advantage · CMS-HCC
  Individual / Small Group · HHS-HCC
  Medicaid Managed Care · CDPS / CRG



THE ACCURACY CEILING

Good group fit can hide persistent selection incentives

12–19%

Individual-level variation explained
2024 CMS-HCC (V28), six community segments

≈40%

Concurrent designs (illustrative)
partly because they measure what was spent

≈1.00

Group-level predictive ratios
middle deciles — over-predicted at the top,
under-predicted at the bottom

Good average fit can still conceal systematic undercompensation of identifiable groups — and that is where residual selection incentives remain.

A plan does not need to predict any individual's cost.

It only needs to know which enrollee segments are systematically undercompensated.

Source: CMS, Report to Congress: Risk Adjustment in Medicare Advantage (Dec 2024), §§2.2–2.6 (R^2 by segment 0.12–0.19; predictive ratios by decile). Concurrent R^2 is illustrative, not a CMS V28 figure.



01

FAILURE OF INCENTIVES

Selection moves from enrolment to service access

- **Predictable losses persist** for behavioural health, SUD, HIV, and high-cost chronic conditions — especially in Marketplace and MA studies.
- **Plans can respond rationally:** formulary tiering, narrow specialist networks, prior authorisation intensity.
- **Selection relocates.** Risk adjustment does not eliminate it; it can move from enrolment to access.

Behavioural health undercompensation is one of the most replicated findings in US risk-adjustment research (Marketplace and MA). The distortion can move from who you enrol to how easily care can be accessed.

Sources: Montz, Layton, Busch, Ellis, Rose & McGuire, Health Affairs 2016;35(6):1022–1028; Zink & Rose, BMJ Health & Care Informatics 2021;28:e100414. System-level; public sources only.



02

FAILURE OF MEASUREMENT

Risk scores conflate morbidity with coding practice

- **Diagnoses become valuable.** Documentation effort is not separately observable from true morbidity.
- **US response has been blunt:** 5.9% statutory coding adjustment; RADV audits (expanded; 2023 extrapolation vacated Sept 2025, on appeal); V28 full phase-in for CY2026.
- **Measured coding intensity:** $\approx 10.3\%$ above FFS before adjustment; $\approx 4\%$ residual after the statutory 5.9% adjustment and revised trend (MedPAC, March 2026). MedPAC resists clean attribution across V28 and trend.

Two layers of unobservability: we cannot fully separate coding from morbidity, and we cannot cleanly separate the fix from the change in how we measure it.

Sources: CMS MA rate announcements; MedPAC; Humana v. Becerra (N.D. Tex. 25 Sept 2025; appeal pending) on RADV extrapolation.



03

FAILURE OF MARKET DESIGN

Zero-sum transfers can create a pricing–transfer tension

- **Budget-neutral by design.** Within state and market, one issuer’s gain is another issuer’s loss.
- **Premium scaling matters.** Relative risk and formula factors drive direction; a lower-cost issuer can still owe a higher-cost competitor.
- **Volatility can deter entry.** Small issuers can face transfer swings large relative to capital.

Lower-cost issuer

OWES TRANSFER

budget-neutral within state — scaled by statewide average premium

Higher-cost issuer

This is the design a new market often copies by default, because it looks self-financing and fair. Fairness between enrollees and fairness between issuers are not the same objective.

Source: CMS / CCIIO risk-adjustment methodology (budget-neutral transfers; statewide average premium).



WHAT MATURE SYSTEMS ACTUALLY DO

Risk adjustment alone was never enough

- **Cost concentration is extreme.** Top 1% = 21.7% of spend in 2022 (24.0% in 2021) — MEPS, civilian noninstitutionalised; other populations differ.
- **The tail is stochastic.** Prospective models cannot reliably compensate catastrophic costs.
- **RA is never alone.** ACA high-cost risk pool (e.g. 60% above \$1m); many Medicaid programmes use corridors and MLR floors; MA uses benchmarks — not member-level reinsurance.

THE DESIGN PRINCIPLE

**Risk adjustment for the predictable middle.
Reinsurance for the tail. Corridors for model error.**

Sources: AHRQ MEPS Statistical Brief #560 (Mar 2025); CMS CCIO RA reports (ACA high-cost pool); CMS Medicaid managed-care rate guidance.



THE HANDOFF

Accuracy is not fairness

- **Better prediction, not settled fairness.** Thirty years of US refinement improved models without resolving the equity question.
- **What should be compensated?** Which cost variation reflects plan choices we do not want to subsidise?
- **Reproduce or correct?** Should the model mirror existing practice patterns and disparities?

A perfectly accurate model of observed spending could reimburse inefficiency and disparities perfectly.

