Anomalous Urinary Catheter DME Billing Patterns in Medicare: ACO-Affiliated Beneficiaries at Disproportionate Risk

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Executive Summary

We examined urinary catheter DME billing for 31.5 million full-year Medicare fee-for-service (FFS) beneficiaries in 2025. Beneficiaries attributed to ACOs — both MSSP and ACO REACH — were billed for catheter supplies at more than twice the rate of non-ACO peers, generating roughly 370,000 excess recipients and $1.8 billion in spending above the non-ACO baseline.

Ten high-volume suppliers drive most of this billing. Compared with 2,883 other active suppliers, they show patterns hard to reconcile with clinical practice. Single-claim billing is near-universal, all claims fall in a single month, beneficiaries live out of state, and there is no documented encounter between ordering physician and patient.

We do not call this confirmed fraud. The mechanism behind the ACO concentration is unsettled — geography, beneficiary selection, and ACO penetration may all contribute (Section 3.5). The role of ACOs and their beneficiaries, however, is plain: they are *targets*, not actors. They bear the cost anyway, through inflated benchmarks, reduced shared savings, and weakened performance signals.

1. Background and Motivation

Urinary catheter supplies (HCPCS A4351–A4359)[1] are a known target for Medicare DME fraud.[2,3,4] Recurring billing, low per-claim scrutiny, and broad clinical indication make them easy to abuse. Public reporting in 2024 traced a surge from ~$153 million in 2021 to over $2 billion in 2023 to a small group of suppliers.[2]

Less examined is the link between DME billing anomalies and Medicare program structure. ACOs cover a large share of FFS enrollment: MSSP attributed roughly 11.2 million beneficiaries across about 480 ACOs in PY 2025;[5,6] ACO REACH covered another 2.5 million across 103 ACOs.[7,8]

(Denominators here differ slightly because of the full-year FFS restriction and the MSSP-precedence rule; see Section 2.) These beneficiaries remain in traditional FFS — their claims flow through the same systems — but they are also tied to ACO infrastructure, care coordination platforms, and provider networks.

This brief asks two questions: are ACO beneficiaries over-represented in catheter DME billing, and are the billing patterns consistent with legitimate care?

2. Methodology

2.1 Study Population

All Medicare FFS beneficiaries enrolled in Parts A and B for all 12 months of 2025, with no Medicare Advantage in any month. The full-year restriction excludes partial-year coverage that would distort utilization rates. n ≈ 31.5 million.

Beneficiaries were assigned to three mutually exclusive groups via ACO attribution files:

- MSSP: from MSSP Q4 2025 final assignment (ACO.BENEFICIARY_SSP_2025Q4), restricted to full-year FFS
- ACO REACH: active enrollment period overlapping CY 2025 in the REACH file (CMMI.CMDS_APM63_BENEFICIARY), full-year FFS, excluding those already in MSSP
- Non-ACO FFS: all remaining full-year FFS beneficiaries

When a beneficiary appeared in both attribution files, MSSP took precedence.

2.2 Catheter DME Identification

Catheter DME claims came from 2025 monthly DME line files, using HCPCS A4351–A4359 (intermittent and indwelling urinary catheter supplies). Voided, reversed, and credit adjustment claims (CARR_CLM_ENTRY_CD 3, 6, 7) were excluded. Lines were joined to headers to obtain beneficiary, ordering physician, supplier, and state fields.

A beneficiary-level summary captured total claims, units, paid amount, claim date range, and two flags: single-month (all claims within one calendar month) and single-claim (exactly one claim for the year).

2.3 Prevalence Analysis

Prevalence is the share of attributed beneficiaries with at least one catheter claim. Denominators come from the full attribution files. To estimate excess utilization, we applied the non-ACO prevalence rate to the MSSP and REACH populations as a counterfactual baseline.

Per-member paid (total paid ÷ aligned population) decomposes into prevalence (recipients per member) and intensity (paid per recipient).

2.4 High-Volume Supplier Comparison

The core comparison is between ten high-volume catheter DME suppliers and the remaining 2,883 active suppliers in 2025.

Each of the ten served tens of thousands to over 150,000 beneficiaries under a single NPI. The median active catheter supplier served 4 — putting these ten at 10,000–40,000× the median, statistical outliers by any measure of scale.

Per-supplier metrics, computed across each beneficiary portfolio:

- Total beneficiaries served: distinct beneficiaries with at least one catheter line at that NPI
- Average units per beneficiary: total units ÷ distinct beneficiaries
- Average claim span (days): days between first and last catheter claim per beneficiary; near zero means all claims on one date
- Single-month rate: share of beneficiaries whose claims fall in a single calendar month
- Single-claim rate: share of beneficiaries with exactly one catheter claim in 2025
- Geographic mismatch rate: share of beneficiaries residing in a different state than the supplier
- No ordering-physician encounter rate: share of beneficiaries whose ordering physician did not appear as a rendering provider on any carrier E&M; claim for that beneficiary in 2025

The E&M; check uses post-2010 valid E&M; codes — office, nursing facility, home, and telehealth visits — as a proxy for a documented physician-patient relationship at the time of the order.

Mean, median, and 25th–95th percentile statistics were computed in PROC MEANS, one observation per NPI, to avoid weighting by supplier volume.

2.5 Beneficiary Profile Analysis

Demographics come from the 2025 Master Beneficiary Summary File (MBSF), restricted to catheter recipients: age as of January 1, sex, race/ethnicity, age band. Beneficiaries are "fraud-signal exposed" if any catheter claim was billed by one of the ten Section 2.4 suppliers.

2.6 Limitations

- Carrier-only clinical context: the encounter and UTI-diagnosis checks rely on carrier claims. Inpatient, FQHC, RHC, SNF, and VA encounters are not captured, which may overstate missing encounters for institutionalized or VA-involved beneficiaries.
- Single referring physician per beneficiary: where multiple ordering physicians exist, only one NPI is used for the encounter check, conservatively assessing beneficiaries with legitimate ties to several ordering physicians.
- Mail-order DME: geographic mismatch is normal for mail-order distribution; the signal is most meaningful combined with other anomalies, not in isolation.

• Validation set size: the ten suppliers are an extreme stratum. Findings may not generalize to lower-volume suppliers with different patterns.

• Causal inference: this is observational. ACO affiliation and elevated prevalence are associated, not shown to be causally linked.

• Full-year FFS restriction: partial-year FFS beneficiaries — including mid-year MA transitions — are excluded and may have different exposure profiles.

3. Findings

3.1 ACO Beneficiaries Are Disproportionately Represented in Catheter DME Utilization

Of 31.5 million full-year FFS beneficiaries, 1.09 million received at least one catheter DME claim in 2025.

Prevalence varied sharply by group:

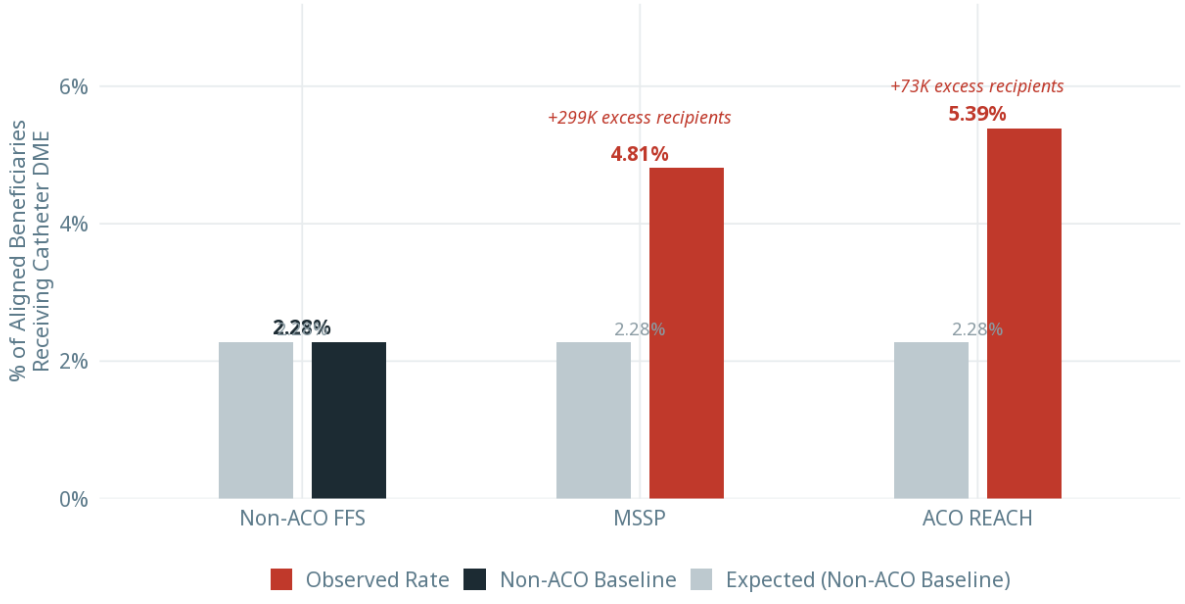
• ACO REACH: 5.39% of 2.3 million attributed (125,760 recipients)

• MSSP: 4.81% of 11.8 million attributed (567,517 recipients)

• Non-ACO FFS: 2.28% of 17.4 million (395,515 recipients)

Figure 1. ACO-Attributed Beneficiaries Receive Catheter DME at More Than Twice the Non-ACO Rate

Observed catheter DME prevalence vs. expected rate at non-ACO baseline
2025 full-year Medicare FFS population (n = 31.5M)



Source: 2025 Medicare FFS RIF (CMS VRDC). Full-year FFS enrollees only.
Expected = non-ACO prevalence rate (2.28%) applied to MSSP and REACH populations.

Applying the non-ACO rate as a baseline, MSSP has ~299,000 excess recipients and REACH ~73,000 — a combined ~372,000 above what non-ACO utilization predicts. At per-recipient payments of $4,981 (MSSP) and $4,826 (REACH), that excess equals ~$1.8 billion in spending. The non-ACO baseline itself is not fraud-free: Section 3.4 shows 87% of non-ACO recipients were served by the same high-volume cohort, so $1.8B is a lower bound on excess relative to legitimate need.

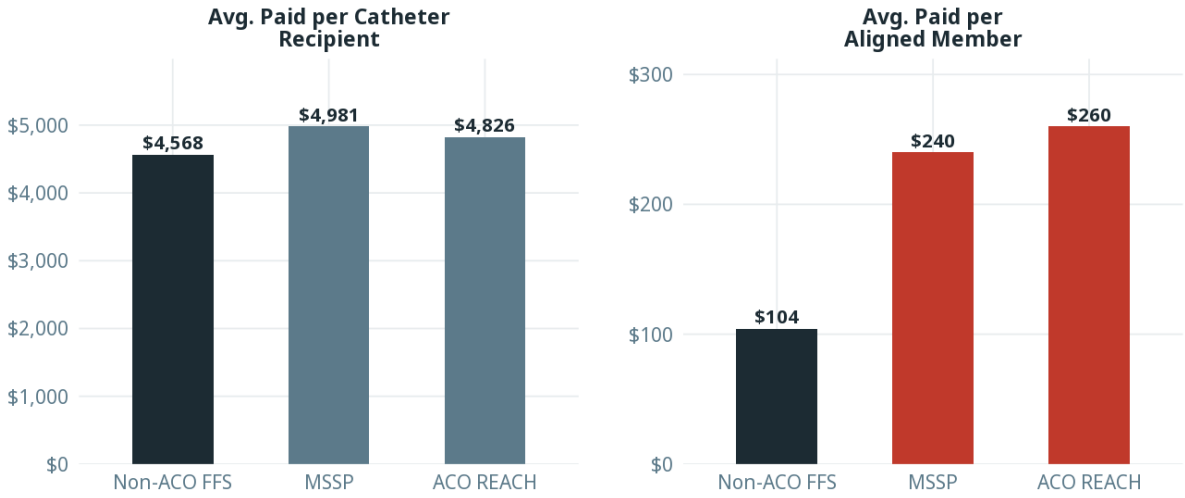
Per-recipient payments are similar across groups: $4,568 (non-ACO), $4,826 (REACH), $4,981 (MSSP). The ACO premium in per-member spend — $240 MSSP and $260 REACH versus $104 non-ACO — comes entirely from more recipients, not higher billing per recipient.

That rules out over-billing existing patients, which would raise per-recipient amounts. It points to additional beneficiary identities entering the billing pool.

Figure 2. The ACO Spend Premium Is Driven Entirely by Prevalence — Not by Higher Billing per Recipient

Average Medicare catheter DME paid per recipient (left) vs. per aligned member (right)

Near-identical per-recipient amounts confirm the excess is in volume of recipients, not billing intensity



Source: 2025 Medicare FFS RIF (CMS VRDC).

Per aligned member = total paid divided by total attributed FFS population per group.

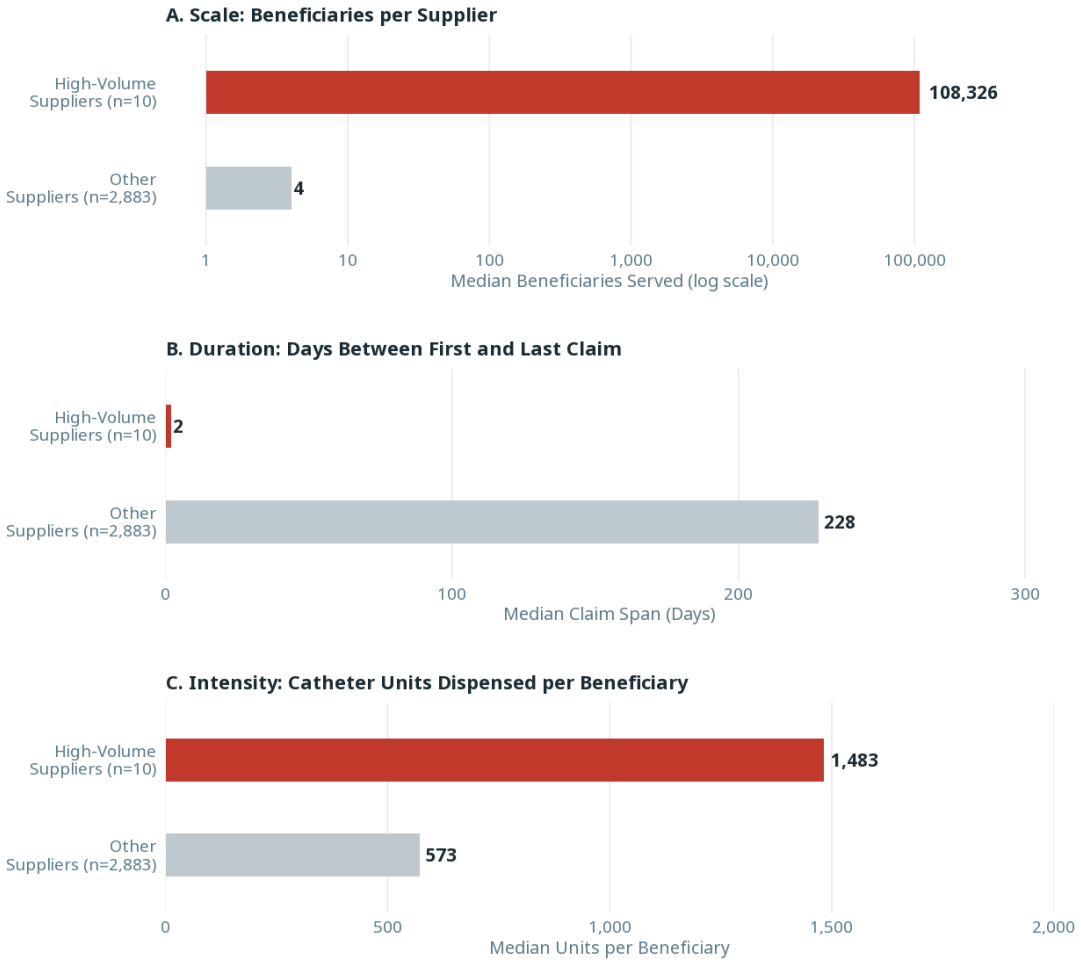
3.2 Ten High-Volume Suppliers Display Anomalous Billing Profiles

The ten high-volume suppliers are outliers by every measure of scale. Their median panel was 108,326 beneficiaries, compared with 4 for other active suppliers, and the largest served 159,775 beneficiaries under a single NPI in one year.

Their billing patterns also diverge from the rest of the market across every metric:

Figure 3. High-Volume Suppliers Operate at Extraordinary Scale and Bill Each Beneficiary Exactly Once

Median values per supplier group — volume, claim duration, and supply intensity
A 2-day median claim span vs. 228 days confirms a single-transaction billing pattern



Source: 2025 Medicare FFS RIF (CMS VRDC). All metrics at supplier level (one obs. per NPI).
Scale panel uses log scale. High-volume group defined as top 10 suppliers by beneficiary volume among catheter DME suppliers.

Claim duration: median claim span was 2 days vs. 228 days. Catheter use is typically chronic with monthly supply claims; a 2-day span means all claims happened on essentially the same date — one transaction, no follow-up.

Single-transaction patterns: median 99% of beneficiaries had all claims in a single month and 99% had exactly one claim for the year, vs. 1% and 0% among other suppliers. The clearest billing-level signal in the data.

Units per beneficiary: despite billing once, high-volume suppliers billed a median 1,483 units — 2.6× the 573 median among others. Consistent with structuring each claim for high per-transaction yield.

Geographic mismatch: 97.5% of served beneficiaries lived in a different state, vs. 15% for others. Mail-order DME is legitimate, but a portfolio where virtually the entire panel is out of state is not normal.

Ordering physician encounters: 99% of beneficiaries had no documented carrier E&M; visit with the ordering physician on their DME claim, vs. 42% among others.

ACO concentration: high-volume suppliers' panels are 64.2% ACO-attributed on average vs. 59.3% for others — a modest but consistent over-representation. Mechanism cannot be identified from claims data alone (Section 3.5).

3.3 Candidate Signals and Their Discriminatory Value

Seven signals were tested for separation between high-volume and other suppliers. Not all worked.

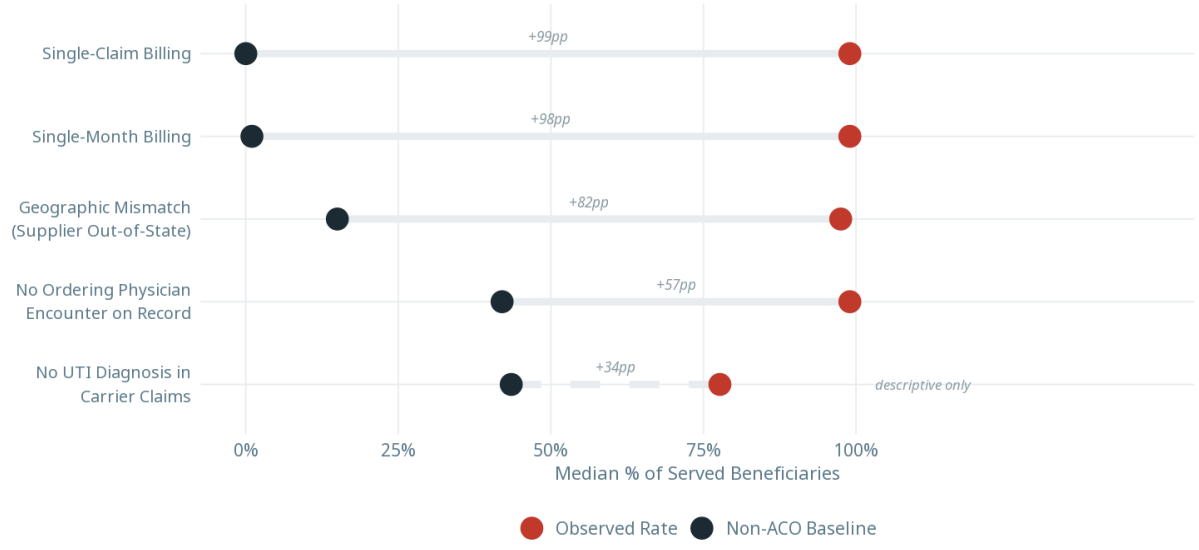
Strong discriminatory value:

- Single-month billing (99% vs. 1% median, 98pp gap)
- Single-claim billing (99% vs. 0% median, 99pp gap)
- Geographic mismatch (97.5% vs. 15% median, 82.5pp gap)
- No ordering physician encounter (99% vs. 42% median, 57pp gap)

Figure 4. Four Billing Signals Reliably Distinguish High-Volume Suppliers from the Broader Market

Median % of served beneficiaries exhibiting each signal

High-volume suppliers (n=10) vs. all other catheter DME suppliers (n=2,883), 2025



Source: 2025 Medicare FFS RIF (CMS VRDC). Medians at supplier level.
Gap in percentage points shown above each connector.
UTI diagnosis signal retained as descriptive only (carrier claims capture only).

Weak or absent discriminatory value:

Claim burst (3+ claims within 30 days) was 0% among high-volume suppliers vs. 0.2% among others — the pattern is single-transaction, not clustered. Excluded.

Lab-ordering physician NPI match ran inverse: 0.8% among high-volume vs. 6.7% others. Excluded.

Absence of UTI diagnosis showed moderate separation (77.7% vs. 43.5%) but is retained as descriptive only, given carrier-only capture and clinical diversity of catheter indications.

3.4 Beneficiary Profile

Of 1.09 million catheter recipients in 2025, 966,752 (88.9%) had at least one claim from the ten high-volume suppliers. That cohort accounts for nearly the entire catheter DME market for full-year FFS beneficiaries.

Non-exposed recipients look clinically plausible. Mean age 73; 18% under 65 (the disability-aged population, with indications such as post-surgical and neurogenic bladder); $1,950 average paid; only 18% billed via single-claim pattern.

Fraud-signal-exposed recipients differ sharply. Mean age 76; near-zero under-65 share; $5,174 average paid — consistent with high-yield, single-transaction billing. The biggest gap is sex: 57% female vs. 27% in the non-exposed group. Legitimate intermittent catheter use skews male (post-prostatectomy, BPH). The reversed ratio, combined with near-absent under-65 share and single-transaction billing, suggests beneficiaries selected to look demographically plausible rather than reflecting a real clinical profile.

Exposure rises with ACO affiliation: 91.2% REACH, 89.4% MSSP, 87.2% non-ACO — aligned with the prevalence pattern in Section 3.1.

Single-month billing rates by age track the same picture. Ages 65–74 and 75–84: 79–83%, dominated by single-transaction billing. Under 65: 10–12% across groups, consistent with legitimate ongoing need. 85+ (7.8–8.1% of recipients): 62–66%, reflecting more institutional care.

3.5 Interpretation: Why ACO-Attributed Beneficiaries?

The data show ACO over-representation; they do not show *why*. This is observational, and several non-malicious explanations are plausible.

Geographic confounding. ACO participation is concentrated in urban and metro markets where DME supplier activity is also densest. The overlap may reflect shared geography, not anything ACO-specific.

Beneficiary selection. ACO-attributed beneficiaries are, by design, full-year FFS enrollees with stable coverage and established primary care. The traits that fit ACO attribution — predictable utilization, regular contact, stable demographics — also make them attractive marks for the cold-call and lead-list operations behind the 2024 catheter schemes.

Statistical scaling. ACOs cover ~45% of full-year FFS. A scheme targeting by zip code or demographics will hit ACO-attributed beneficiaries at rates that track ACO penetration, with no preferential targeting required.

Target-list overlap. Lead lists from data brokers and telemarketers use age, chronicity, and geography filters that resemble CMS's ACO attribution criteria. Two unrelated processes can produce overlapping populations.

Regardless of mechanism, ACOs and their beneficiaries are clearly in the role of *targets*, not participants. Gains accrue to high-volume suppliers, while the harms — inflated benchmarks and reduced shared savings — fall on ACOs that had no role in the disputed activity. That asymmetry drives Section 4.

4. Implications

4.1 ACO Benchmark Accuracy

ACOs bear the financial consequences of a billing pattern they did not create, control, or clinically participate in. The mechanism of over-representation is unsettled (Section 3.5); the mechanism of harm is not.

ACO benchmarks in MSSP and REACH are built from historical Medicare expenditures for attributed populations, risk- and trend-adjusted.[6] Phantom DME claims inflate that historical cost base.

CMS has acted on this twice. A June 2024 MSSP final rule excluded A4352 and A4353 from CY 2023 performance-year calculations in response to concentrated "significant, anomalous, and highly suspect" (SAHS) billing.[9,10] The ACO REACH PY 2026 Model Update then extended the approach to REACH for PY 2024, excluding A4353 and A5057 (ostomy) from PY 2024 expenditures, retrospective trend adjustments, and stop-loss — and from the historical benchmark years used in PY 2024 through PY 2026.[12] Adjusting benchmark years was a meaningful step beyond the performance-year-only fix used in MSSP. Both rules drew NAACOS and industry support.[10,11]

Both actions confirm that CMS recognizes the structural problem this brief documents. They are also backward-looking by design, each responding to activity already observed in a specific prior period. Future cost baselines depend on whether, and when, new patterns get comparable treatment.

Without that adjustment, benchmarks overstate the true cost of caring for ACO beneficiaries. ACOs in markets with high phantom-billing exposure face inflated benchmarks; if exposure varies by geography or cohort, distortion is uneven across ACOs.

4.2 Shared Savings Calculations

MSSP shared savings equal actual expenditures minus the risk-adjusted benchmark. DME is in the total cost of care. Phantom catheter claims attributed to ACO beneficiaries raise expenditures and

can erode or erase shared savings.

An ACO with beneficiaries on fraudulent supplier rosters takes a direct financial hit through no fault of its own. Magnitude depends on the overlap between ACO attribution and supplier panels — which this analysis suggests is substantial.

4.3 Program Sustainability and Trust

Value-based care depends on claim-data integrity. Shared savings, quality measurement, risk adjustment, and benchmark-setting all assume paid claims equal delivered care. Systematic phantom billing at the scale documented here undermines that assumption.

The ACO model is premised on accountability for total cost of care. That mechanism works only if cost reflects actual utilization. If a meaningful share of DME spend is identity misuse, providers are being evaluated on — and held responsible for — activity they cannot control.

4.4 Future Trajectory

These patterns scale easily. Single-transaction, high-unit phantom billing needs no ongoing beneficiary relationship, no clinical infrastructure, and no recurrence risk. A supplier can run hundreds of thousands of identities with minimal operational complexity.

If more suppliers adopt the model — or if current suppliers expand panels — the aggregate effect on ACOs grows. The 370,000 excess recipients in 2025 is one year's snapshot. The trajectory warrants ongoing monitoring.

5. Conclusion

ACO-attributed FFS beneficiaries were exposed to catheter DME billing in 2025 at 2.1–2.4× the non-ACO rate, generating ~372,000 excess recipients and ~$1.8 billion above baseline. The excess comes from more beneficiaries in the billing pool, not higher billing per recipient.

Ten suppliers, defined by extraordinary scale, share signals — single-transaction billing, out-of-state panels, no documented physician relationship — inconsistent with normal operations. They served 88.9% of all 2025 catheter recipients, whose demographic profile diverges sharply from likely-legitimate use.

The mechanism behind the ACO concentration cannot be established from claims data; geographic confounding, beneficiary selection, statistical scaling, and target-list overlap are all plausible (Section 3.5). The direction of the financial flow, however, is clear. Gains accrue to suppliers, while the losses — inflated benchmarks and reduced shared savings — accrue to ACOs that played no role. ACOs are *targets*, not actors.

Benchmarks, shared savings, and the accountability structure of value-based care rest on data integrity. Systematic anomalous billing within ACO populations — whatever its source — threatens the accuracy and fairness of those measurements, and the financial viability of the providers doing

the program's clinical work.

Data Source and Methodology: Analysis conducted using 2025 Medicare fee-for-service Research Identifiable Files (RIF) accessed through the CMS Chronic Conditions Warehouse (CCW) Virtual Research Data Center (VRDC). The views and findings expressed in this publication are those of Falcon Health and do not represent the official position of the Centers for Medicare & Medicaid Services or the Department of Health and Human Services. Study population: full-year Parts A and B FFS enrollees with no Medicare Advantage enrollment, calendar year 2025 (n ≈ 31.5 million). ACO attribution: MSSP Q4 2025 final assignment (ACO.BENEFICIARY_SSP_2025Q4) and ACO REACH active enrollment (CMMI.CMDS_APM63_BENEFICIARY). Catheter DME: HCPCS A4351–A4359, DME line files, voided and reversed claims excluded. Signal validation: distributional comparison of ten highest-volume catheter DME suppliers against 2,883 other active suppliers using PROC MEANS; all metrics at supplier level (one observation per NPI). Beneficiary demographics: 2025 MBSF.

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