



HEALTH PLAN FUNDING ANALYSIS

Acme Manufacturing Co.

87 employees · 179 covered members · manufacturing · OH / IN / KY

Prepared by Sample Broker Partners · plan year effective 2026-10-01

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Illustrative projection for discussion purposes. Not an actuarial opinion, insurance advice, or a quote.
Outputs depend on user inputs and publicly available data.

■ §1 – EXECUTIVE SUMMARY

The verdict

\$214,148

expected annual savings vs. the renewal

87.5%

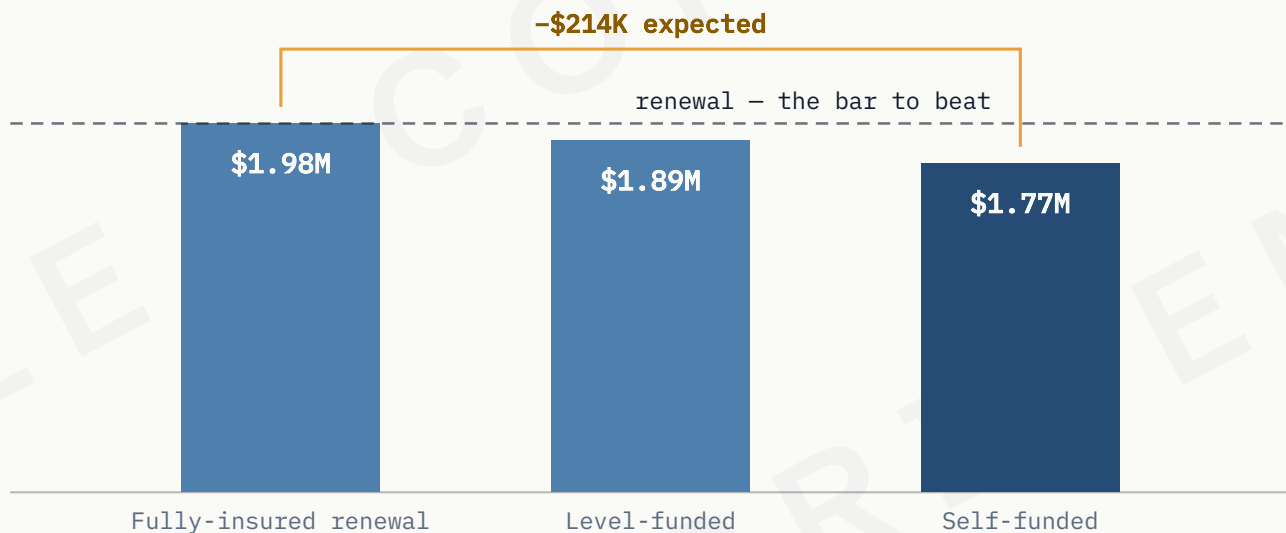
of simulated years beat the renewal

\$2.18M

contractual worst case under the quoted stop-loss terms

Exhibit 1.1 Expected annual cost by funding arrangement

Expected annual cost per arrangement; the full outcome distributions are in \$5.



Staying fully insured costs \$1.98M at the quoted renewal; self-funding the same plan design is expected to cost \$1.77M, with 9 of 10 simulated years landing between \$1.55M and \$2.05M. The +14.8% renewal increase clears this group's break-even threshold of +2.4% — and the risk-adjusted threshold of +7.8% at the selected P75 tolerance. Sections 2–10 show every factor behind those statements.

Bottom line: self-funding is expected to save **\$214K/yr** versus the renewal, with a 1-in-8 chance of costing more than the renewal in any given year. Over 3 years, the probability self-funding comes out ahead is **84%**. The contractual worst case under the quoted stop-loss terms is \$2.18M (\$7).

■ §2 — GROUP PROFILE

Who this analysis is about

The projection is built from this census — not from a book average.

Exhibit 2.1 Enrollment by tier

TIER	EMPLOYEES	MEMBERS	CURRENT / MO	RENEWAL / MO
Employee	41	41	\$960	\$1,102
Employee + Spouse	15	30	\$1,960	\$2,250
Employee + Children	12	34	\$1,780	\$2,043
Family	19	74	\$2,830	\$3,249

Totals: 87 employees • 179 covered members. Premiums are per-employee tier rates.

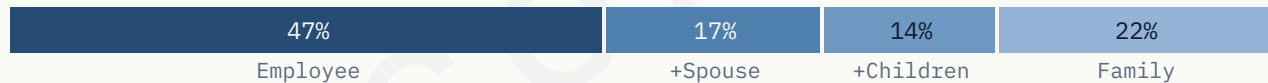


Exhibit 2.2 Age & gender distribution, all covered members

Average employee age 42.3 • average member age 31.5 • demographic factor 1.08× vs. book 1.00×

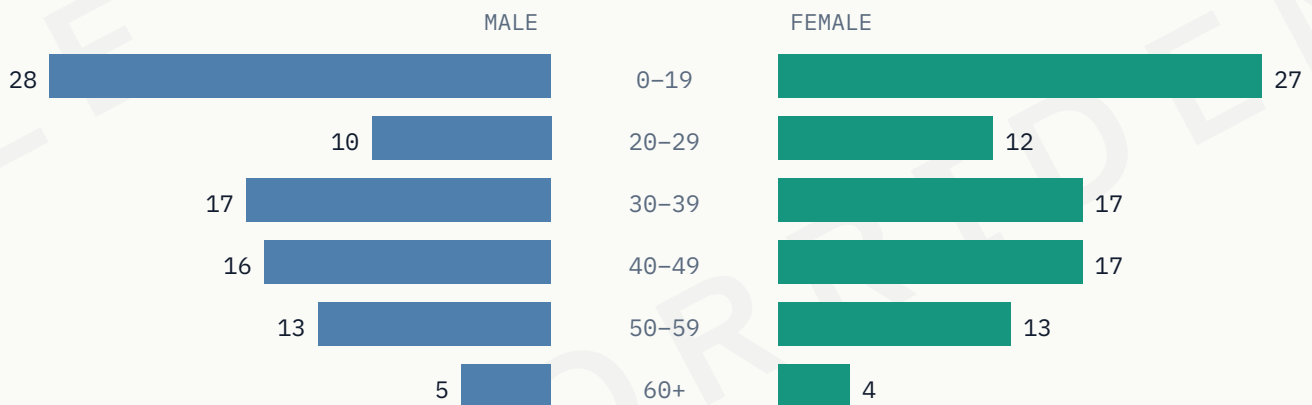


Exhibit 2.3 Geography

STATE	EMPLOYEES
Ohio	61
Indiana	14
Kentucky	12

The group runs slightly older than book average — the 1.08× demographic factor in §3 reflects exactly this census, and nothing else. Geography enters through state-level area factors, weighted by the employee counts at left.

■ §3 — EXPECTED CLAIMS PROJECTION

The buildup, shown in full

Carriers black-box this arithmetic. Every factor below is printed with its public data source.

Exhibit 3.1 Manual rate buildup (per member per month)

STEP	FACTOR	RUNNING PMPM	SOURCE
Base cost — reference PMPM	—	\$612.00	DS-3, DS-5
Age / gender factor — Group skews slightly older than book average.	× 1.08	\$660.96	DS-4
Area factor — OH/IN/KY blend, weighted by employees.	× 0.96	\$634.52	DS-4
Plan design (actuarial value) — Richer than reference design (\$1,500 embedded deductible, 80% coinsurance).	× 1.06	\$672.59	DS-1
Trend to plan-year midpoint	× 1.065	\$716.31	DS-7

Sources are itemized in the §10 registry. Factors shown at display precision; the chain multiplies at full precision.

Exhibit 3.2 Credibility blend

24 months of the group's own claims experience, weighted by limited-fluctuation credibility.

COMPONENT	PMPM	WEIGHT
Group experience rate (trended)	\$923.90	$Z = 0.264$
Manual rate (Exhibit 3.1)	\$716.31	$1 - Z = 0.736$
Blended projection	\$771.11	

$Z = \sqrt{(174 \text{ life-years} \div 2500 \text{ full-credibility standard})}$. The Z is shown, not hidden — check the work.

Expected incurred claims, plan year: **\$1,656,344** = \$771.11 PMPM × 179 members × 12 months

Why both rates matter: with 24 months of experience on 87 employees, the group's own history is informative but noisy — the blend leans 74% on the manual rate built from public reference data, exactly as the credibility standard dictates.

■ §4 — FUNDING ARRANGEMENT COMPARISON

What each arrangement actually costs

Fixed vs. variable split shown line by line. Stop-loss figures are the quotes you supplied — Corriden never prices stop-loss.

Exhibit 4.1 Fully-insured (renewal)

LINE ITEM	TYPE	ANNUAL
Renewal premium — carrier renewal quote (sample)	Fixed	\$1,982,148
Expected annual cost		\$1,982,148

Exhibit 4.2 Level-funded

LINE ITEM	TYPE	ANNUAL
Maximum claims funding	Variable	\$1,378,000
Administration	Fixed	\$156,000
Stop-loss (bundled) — carrier-quoted, bundled (sample)	Fixed	\$356,000
Expected annual cost		\$1,890,000

Surplus refund in a good year: up to ~\$180K of unspent claims funding, per carrier terms.

Exhibit 4.3 Self-funded

LINE ITEM	TYPE	ANNUAL
Expected claims, net of specific reimbursements — blended projection (\$3)	Variable	\$1,656,344
TPA / administration — \$42.00 per employee per month	Fixed	\$43,848
Specific stop-loss premium — user-entered quote (sample) · \$61.00/EE/mo · \$75K specific deductible	Fixed	\$63,684
Aggregate stop-loss premium — user-entered quote (sample) · \$3.95/EE/mo · 125% corridor	Fixed	\$4,124
Expected annual cost		\$1,768,000

In a P25 year the plan spends ~\$113K less than expected; the group keeps it.

The structural difference: fully insured, every dollar is fixed and none comes back. Level-funded caps the year and refunds part of a good one. Self-funded pays actual claims — the group keeps every dollar not spent, and stop-loss (on the quoted terms above) caps the bad years. \$5 quantifies how often each case occurs.

■ §5 — MONTE CARLO RISK ANALYSIS

How wide the outcomes really are

10,000 simulated plan years. The dashed line is the quoted renewal — every band is judged against it.

Exhibit 5.1 Year-1 cost distribution by arrangement

Outer band P5–P95 · inner band P25–P75 · tick = median · dot = mean · red = P95→P99 tail.

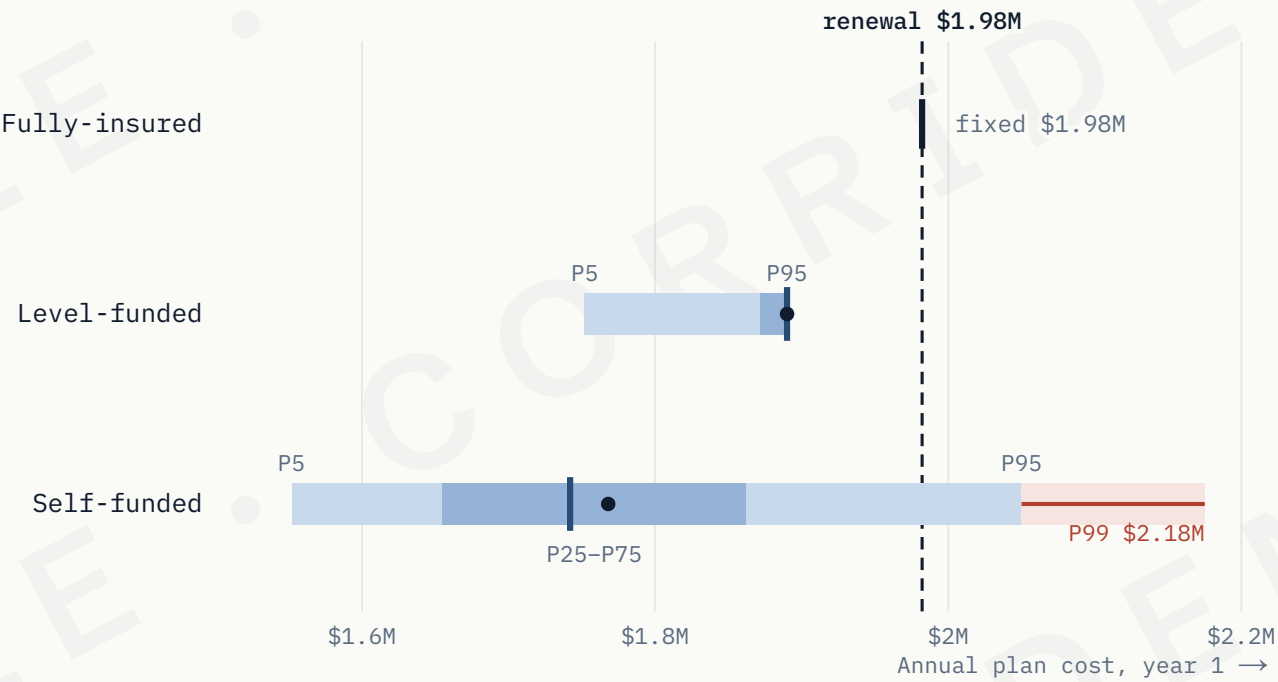


Exhibit 5.2 Percentile outcomes, year 1

ARRANGEMENT	P5	P25	P50	P75	P95	P99
Fully-insured	\$1.98M	\$1.98M	\$1.98M	\$1.98M	\$1.98M	\$1.98M
Level-funded	\$1.75M	\$1.87M	\$1.89M	\$1.89M	\$1.89M	\$1.89M
Self-funded	\$1.55M	\$1.66M	\$1.74M	\$1.86M	\$2.05M	\$2.18M

Fully-insured: Premium is fixed regardless of claims. Level-funded: Outcomes capped at the funded maximum; low percentiles reflect surplus refunds.

The fully-insured premium never moves. The level-funded band is one-sided — capped at the funded maximum, refunding good years. Self-funding carries the widest band, and still beats the quoted renewal in 87.5% of simulated years.

■ §5 — MONTE CARLO RISK ANALYSIS

The headline risk statistics

The question is not whether a bad year is possible — it is whether the worst case is affordable and how often the good case pays for it.

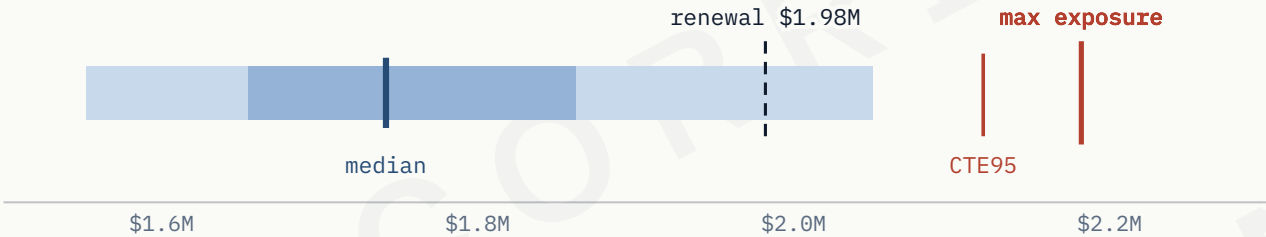
87.5% of simulated years beat the renewal	\$214,148 expected annual savings vs. renewal	\$2.12M CTE95 — average of the worst 5% of years	\$2.18M maximum plan exposure (agg + fixed)
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Exhibit 5.3 Reading the statistics

STATISTIC	VALUE	READING
Probability self-funding beats the renewal, year 1	87.5%	≈ 7 years in 8
Expected annual savings vs. renewal	\$214,148	the expected-value case for self-funding
CTE95 — average of the worst 5% of years	\$2,120,000	what a genuinely bad year looks like
Maximum plan exposure (agg attachment + fixed)	\$2,182,086	the contractual worst case — see §7

Exhibit 5.4 Where the risk statistics sit on the year-1 outcome scale

Self-funded band P5–P95 (inner P25–P75) with the renewal, CTE95, and the contractual maximum marked.



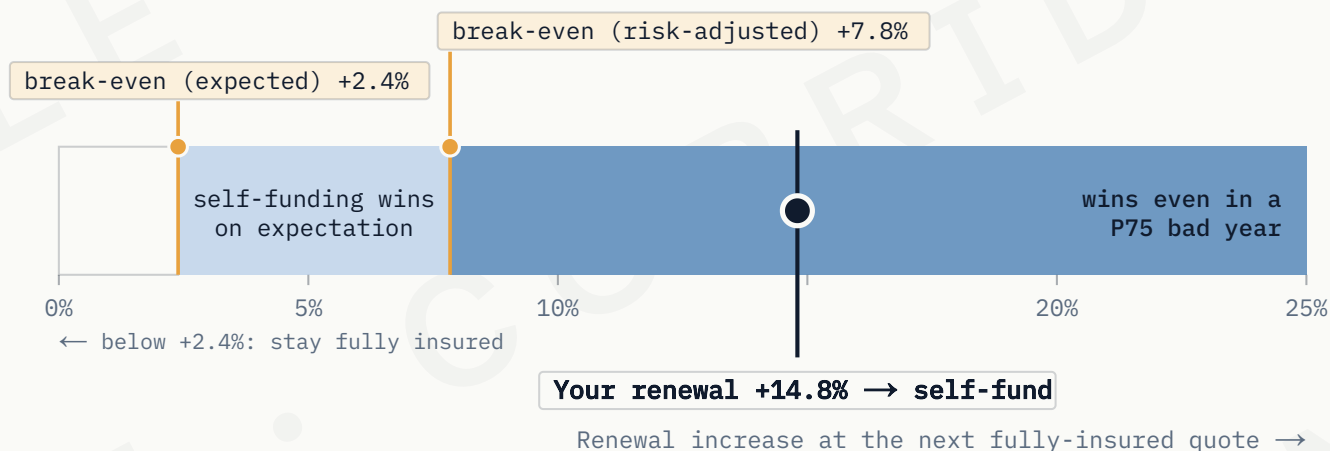
How to read this page with a CFO: a bad year is always possible. What matters is that the worst case is a known, affordable number — and that the ordinary case pays for the risk many times over. Both numbers are on this page, and §7 shows the contract term that caps the downside.

■ §6 — INDIFFERENCE ANALYSIS

Where self-funding breaks even for this group

Year-1 basis, derived from the §5 cost distribution. Current premium \$1,726,680. Multi-year probabilities appear in §8.

Exhibit 6.1 The indifference scale



At any renewal increase above **+2.4%**, self-funding has positive expected value for this group. At your selected risk tolerance — still breaking even at the P75 outcome — the threshold is **+7.8%**. The quoted renewal of **+14.8%** clears both.

The inverse is the negotiation weapon: a fully-insured premium at parity with expected self-funded cost — **\$1,768,000** — would make staying fully insured rational on expected value. Carriers sharpen pencils when they know the math is being checked.

The indifference point: renewal above **+2.4%** → self-funding is expected to cost less. Renewal above **+7.8%** → it still costs less at the P75 outcome, a 1-in-4 bad year. This renewal: **+14.8%**.

■ §7 — CASH FLOW & MAXIMUM EXPOSURE

What the months actually look like

Self-funded outlay varies month to month; the premium does not. Volatility is the price of keeping good-year dollars.

Exhibit 7.1 Monthly outlay vs. the flat premium

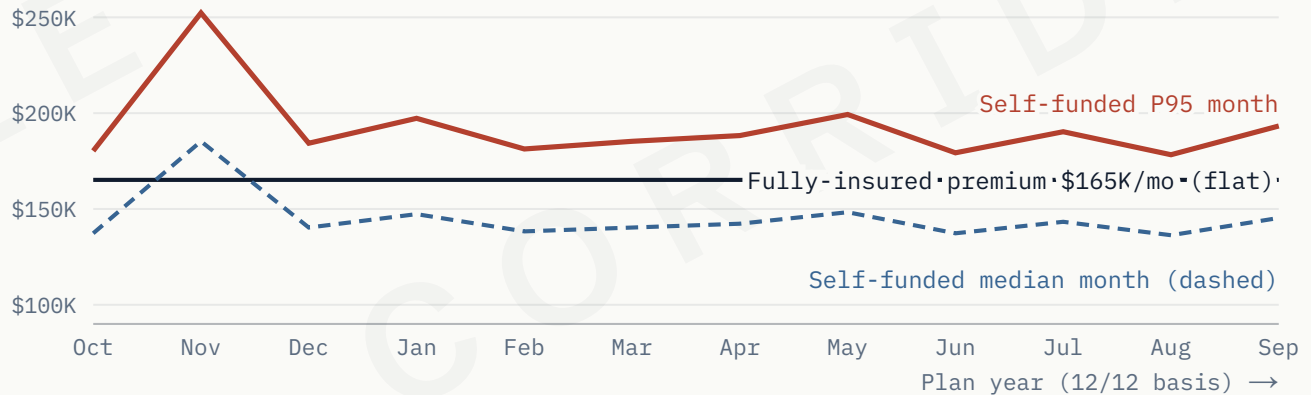


Exhibit 7.2 The corridor, and the contractual worst case

Aggregate stop-loss (quoted terms) attaches at 125% of expected claims.



The #1 employer fear, answered with a contract term: even if claims blow through every projection, the plan's contractual maximum under the quoted stop-loss terms is **\$2.18M** — about 10% above the renewal premium.

CAVEAT 12/12 contract basis (stop-loss pays only claims incurred and paid inside the plan year): a terminal liability of $\approx$ \$248K accrues and is payable at termination. Budget for it from month one.

■ §8 — MULTI-YEAR VIEW

What self-funding saves — and could cost — over five years

Cumulative savings vs. staying fully insured. Above the line, self-funding is ahead; the red whisker is the honest downside. Medians shown; the expected (mean) year-1 saving is the \$214K in §1.

Exhibit 8.1 Cumulative savings ranges

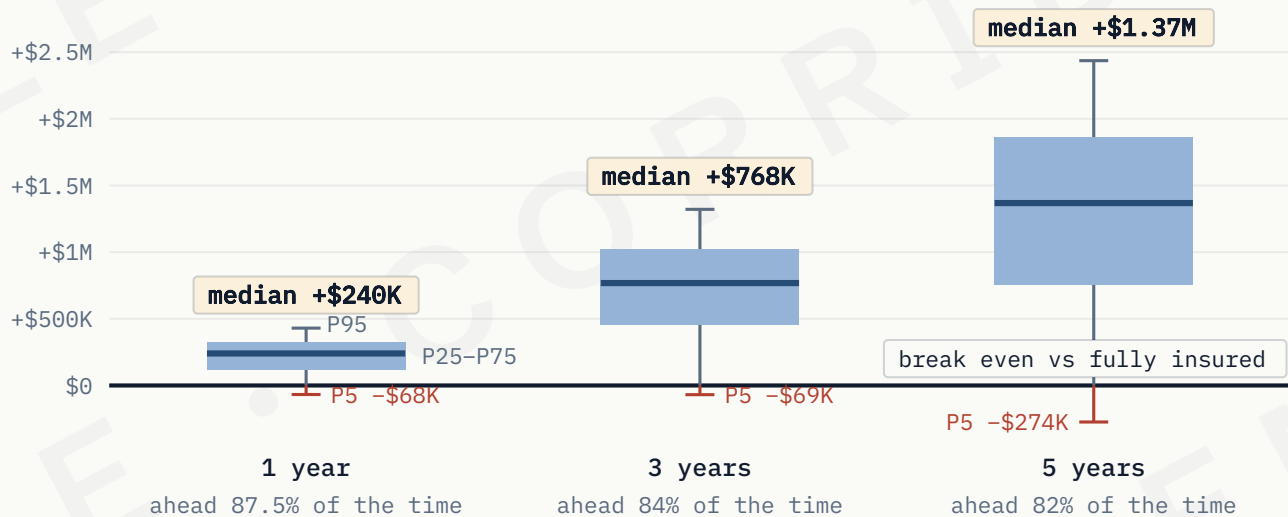


Exhibit 8.2 Probability self-funding is ahead, cumulative cost basis

HORIZON	PR(SF ≤ FI)	SF MEDIAN	FI CUMULATIVE
1 year	87.5%	\$1.74M	\$1.98M
3 years	84%	\$5.57M	\$6.34M
5 years	82%	\$9.92M	\$11.29M

Fully-insured renewals are assumed to grow with trend; actual renewals depend on carrier behavior and the group's experience.

CAVEAT Multi-year projections hold the census constant and model no lasering (carrier-imposed higher specific deductibles on named individuals) at stop-loss renewal — both simplifications favor stability. Level-funded surplus refund terms can also change at renewal and are not guaranteed. Re-run the analysis at each renewal with the actual census and quotes.

Trend uncertainty persists across years — a high-trend world stays expensive in every year — so the probabilities above do not assume independence.

■ §9 — PLAN DESIGN WHAT-IFS

Three levers, quantified

Actuarial-value deltas from published continuance tables; impact shown per funding arrangement.

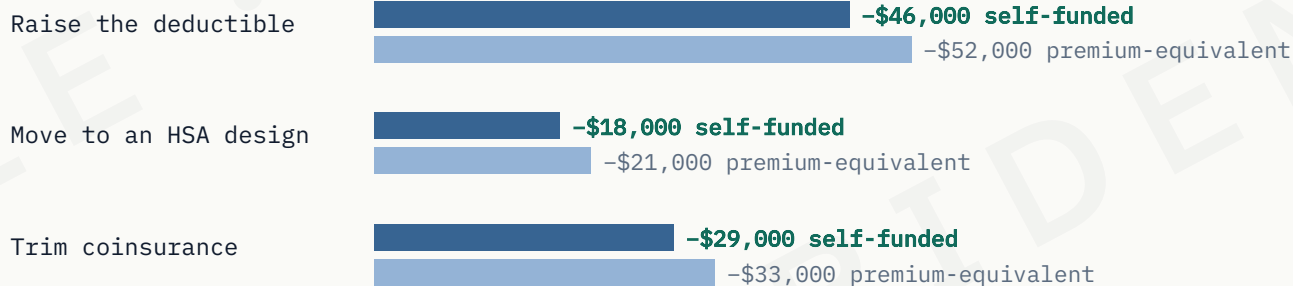
Exhibit 9.1 The three levers

SCENARIO	DESIGN CHANGE	AV Δ	SF ANNUAL Δ	FI PREMIUM-EQUIV. Δ
Raise the deductible	\$1,500 → \$3,000 embedded deductible	-0.021	-\$46,000	-\$52,000
Move to an HSA design	\$3,000 HDHP with a \$750 employer seed	-0.008	-\$18,000	-\$21,000
Trim coinsurance	80% → 70% coinsurance after deductible	-0.013	-\$29,000	-\$33,000

Negative deltas reduce plan richness and cost; member cost-sharing rises correspondingly. Level-funded impacts depend on carrier re-rating and are quoted on request.

Exhibit 9.2 Annual savings per lever

Paired bars: self-funded impact and the fully-insured premium-equivalent.



Plan design and funding arrangement are separate decisions, and this page keeps them separate: each scenario shows what the design change alone is worth under self-funding and what it would be worth as a fully-insured premium concession. Either lever can be pulled independently.

Scenarios are computed against this group's continuance profile, not book averages. Additional scenarios are available on request.

≈ \$260K

first-year impact of stacking the deductible move with self-funding (\$46K on top of the \$214K funding change)

Every lever on this page saves money — shown in teal above. The design question is how much cost-sharing the workforce should carry; the funding question stands on its own either way.

■ §10 — ASSUMPTIONS & METHODOLOGY

How the numbers were made

The full methodology is published at corriden.com — confidence through transparency.

Exhibit 10.1 Complete factor table

FACTOR	VALUE	RUNNING PMPM	SOURCE
Base cost — reference PMPM	—	\$612.00	DS-3, DS-5
Age / gender factor	× 1.08	\$660.96	DS-4
Area factor	× 0.96	\$634.52	DS-4
Plan design (actuarial value)	× 1.06	\$672.59	DS-1
Trend to plan-year midpoint	× 1.065	\$716.31	DS-7

Credibility: $Z = 0.264$ on 174 life-years (full credibility at 2500). Blended PMPM \$771.11.

Expected claims

Manual rate built from public reference data (base PMPM × demographic × area × plan-design × trend), blended with the group's own experience by limited-fluctuation credibility. Every factor appears in §3 with its source.

Simulation

Claims are simulated as member-level frequency and severity draws across 10,000 plan years, with specific and aggregate stop-loss applied on the user-supplied quoted terms. Percentiles are empirical.

Trend uncertainty

Trend is drawn once per trial and persists across years within that trial — multi-year outcomes are correlated, which is why certainty does not automatically improve with horizon.

Indifference analysis

i^* (expected value) is the renewal increase at which expected self-funded cost equals the fully-insured premium; i^* (at the selected percentile) applies the same test at the chosen risk tolerance. Both are read from the simulated distribution.

Reproducibility

Every figure is reproducible from (inputs, engine version, seed) printed on each page. The same inputs and seed always produce the same report.

Key assumptions: trend 6.5% annual; risk-tolerance percentile P75; aggregate corridor 125% (per quoted terms); 12/12 contract basis with completion factor 0.85; severity capped at \$5M per claimant.

■ §10 — ASSUMPTIONS & METHODOLOGY

Data source registry

Every input traces to a named public source. Nothing in this report relies on proprietary black-box data.

Exhibit 10.2 The registry

ID	SOURCE	USED FOR
DS-1	CMS Actuarial Value Calculator (current final workbook + methodology)	Continuance tables; actuarial-value and plan-design factors
DS-2	SOA Group Medical Insurance Large Claims Database; SOA high-cost claimant studies	Large-claim tail calibration
DS-3	KFF Employer Health Benefits Survey (latest annual)	Base PMPM calibration; market context
DS-4	MEPS-IC premium tables by state; MEPS-HC consolidated microdata	Area factors; age/sex curve
DS-5	CMS National Health Expenditure, private insurance per-enrollee	Base PMPM cross-check
DS-6	SOA “Health Care Costs — From Birth to Death” (Yamamoto)	Age-curve shape validation
DS-7	PwC HRI medical cost trend; Segal Health Plan Cost Trend Survey (latest)	Trend assumption
DS-8	Federal ACA standard age rating curve	Age-factor validation bracket
DS-9	Published medical claim lag / completion patterns (public actuarial literature)	Completion factors; monthly claim pattern

Exhibit 10.3 Disclosures

This report is decision-support analysis prepared for discussion between the plan sponsor and its advisors. It is not an actuarial opinion, not insurance advice, not legal or tax advice, and not an offer of insurance or a quote.

Stop-loss premiums, deductibles, and corridors used in this analysis are the quoted terms supplied by the user, reproduced as entered. Corriden does not produce stop-loss figures of any kind; actual coverage is governed solely by the carrier’s contract wording.

Projections are estimates with stated uncertainty. Actual claims experience will differ, and can differ materially, from any projection in this report. Decisions about plan funding remain with the plan sponsor and its advisors.

Census data underlying this analysis is de-identified: ages rather than birthdates, no names, no identifier-style fields. This sample report uses a synthetic census.

■ §10 — ASSUMPTIONS & METHODOLOGY

Limitations register

What this model deliberately does not capture. Printed in every Corriden report.

Exhibit 10.4 Ten things this model does not do

- 01 Member claims are modeled as independent; correlated events (e.g., family accidents, epidemics) are not simulated.
- 02 No lasering is modeled; stop-loss carriers may exclude or re-rate individual members at renewal.
- 03 The census is held constant across multi-year horizons; hiring, terminations, and demographic drift are not modeled.
- 04 Individual (embedded) accumulators only; aggregate family deductible mechanics are approximated.
- 05 Simulated severity is capped at \$5M per claimant; larger claims are possible.
- 06 Area factors are state-level; intra-state cost variation is not captured.
- 07 When only tier counts are provided, dependents are synthesized from book demographics.
- 08 Copay plan designs are mapped to effective deductible/coinsurance parameters.
- 09 Trend uncertainty is parameterized, not forecast; actual trend will differ.
- 10 Level-funded and self-funded contract terms vary by carrier; the quote's actual wording governs.

A model that hides its limitations is asking for trust; one that prints them is earning it. Where any limitation matters materially for this group, discuss it with your advisor before deciding.