

\$12M Cost-Cut Rx Restoring Healthcare Margin Through Analytics

Aaron Goldman

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01

Crisis & Cure

High-Cost Members Bleed Margin

01



Top 5% of Patients Drive Costs

The top 5% of patients account for 52% of total healthcare spend, significantly straining the organization's financial resources and contributing to margin erosion.

02



Denial Rate Impact

An 11% claim denial rate threatens \$9.7M in annual revenue, further exacerbating financial challenges and necessitating urgent intervention.

03



Immediate Action Required

The current financial trajectory is unsustainable. Immediate, data-driven interventions are crucial to restore financial health and resilience.

Analytics Prescription Worth \$12M

Targeted Interventions

Implementing AI coding, eligibility APIs, and nurse case management for high-cost cohorts will address the root causes of excessive spend and claim denials.

Projected Savings

These interventions are projected to yield \$12.1M in annual savings, with a one-time investment of \$1.4M, achieving payback in just seven months.



02

Data Proof

2.4M Claims Map Spend

Comprehensive Data Analysis

The analysis covers 2.4 million claims and 900,000 EHR encounters over two years, providing a robust dataset for accurate insights.

Financial Reconciliation

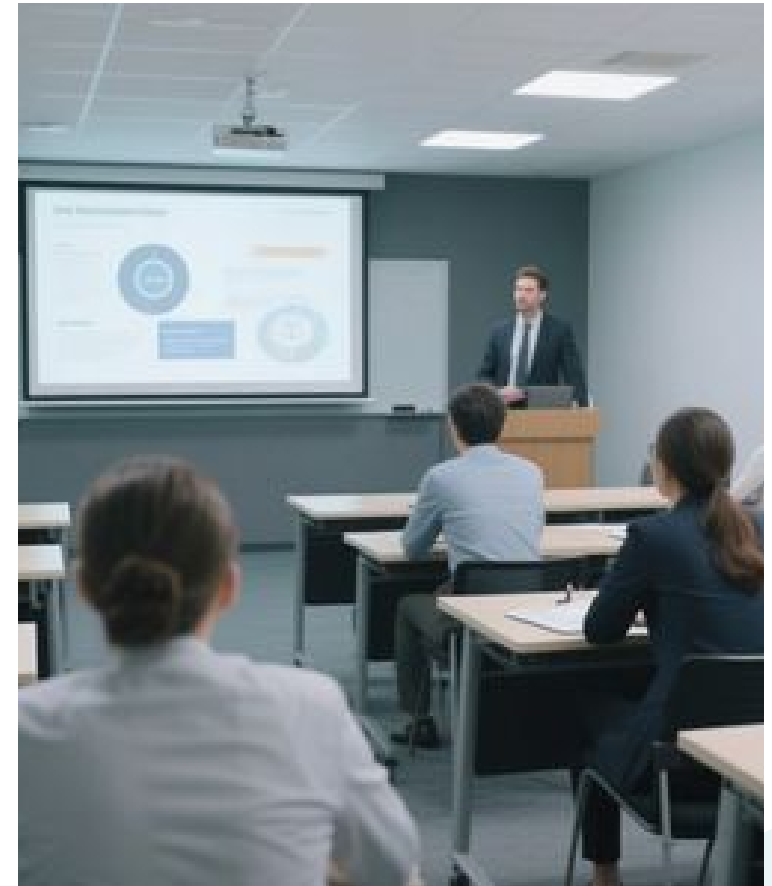
The dataset reconciles to the finance ledger within 2%, providing trustworthy and audit-ready financial numbers.

Data Integrity

Data is joined on member_id and service_date with less than 0.1% missing keys, ensuring high data quality and reliability.

Actionable Insights

This comprehensive data mapping enables precise identification of cost drivers and denial patterns, supporting targeted interventions.





Pareto Spotlights 5% Cohort

Pareto Analysis

Pareto analysis reveals that the top 1% of members consume 28% of spend, the top 5% consume 52%, and the top 10% reach 68%, highlighting the disproportionate impact of a small cohort on overall costs.

Denials Drain \$9.7M Yearly

01

Denial Rate

Eleven percent of all claims are denied, with denial rates rising to 18% in high-cost areas like imaging and infusion services.

02

Annual Revenue Impact

This denial rate results in \$9.7M in annual revenue exposure, making denial prevention a critical area for intervention.

03

Targeted Solutions

Implementing real-time edits and documentation fixes will address denial triggers and yield significant ROI.





03

Action Plan



Nurse Case Management Deployed

Intensive Outreach

Nurse-led case management for the top 5% of members includes eligibility verification, medication adherence calls, and 48-hour discharge follow-ups.

Expected Outcomes

This intervention is projected to reduce per-member-per-month spend by 9% and ED visits by 15% within six months, significantly lowering overall costs.



AI Coding Catches Denial Triggers

Machine-Learning Assistant

The AI coding assistant reviews charts pre-submission to flag missing comorbidity codes and medical necessity gaps.

Payer-Specific Rules

It also identifies payer-specific rules to ensure compliance and reduce denials.

Projected Savings

This intervention aims to lower the denial rate from 11% to under 8%, saving \$4.3M annually.

Real-Time Rules Engine Block Errors

Order-Entry API

The real-time rules engine validates prior authorization, policy compliance, and documentation completeness at the point of order entry, reducing errors and denials.



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Govern & Track

KPI Dashboard Monitors Savings

02 Readmission Rate

It also monitors the 30-day readmission rate, denial rate by payer and service line, and appeal success rate.

04 Actionable Insights

These metrics provide actionable insights to drive ongoing improvements and sustain financial resilience.

01 Monthly Metrics

The KPI dashboard tracks total medical spend, top-percentile spend share, PMPM by cohort, and ED visits per 1,000 members.

03 Savings Tracking

The dashboard includes realized savings versus forecast, ensuring continuous monitoring and validation of cost-cutting initiatives.

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Data Quality & HIPAA Guardrails

Data Quality



The process enforces SHA-256 hashed IDs, role-based access, full audit logs, and PHI minimization to ensure data integrity and security.

Regulatory Compliance



It also includes 99% denial-code completeness, lineage documentation, and financial reconciliation within 2% to maintain HIPAA compliance and trust.



Risk Register with Mitigations

Part One

Late Adjudication

Late adjudication is tracked via sliding-window reconciliation to ensure timely claim processing and revenue capture.

Part Two

Provider Resistance

Provider resistance is mitigated through quick pilot programs that demonstrate wins and leverage clinician champions.

Part Three

Privacy Exposure

Unintended privacy exposure is controlled through de-identification, role-based access, and audit logging.

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Roadmap & ROI

Six-Month Rollout Schedule

Implementation Timeline

The six-month rollout includes securing charter and data access, piloting eligibility APIs, deploying case management, rolling out AI coding, launching the enterprise dashboard, scaling denial rules, and validating savings.



Budget and Payback Math

01 One-Time Investment

The one-time investment of \$1.4M covers licenses, analytics environment, change management, and vendor integration.

02 Recurring Costs

Recurring operational expenses add \$0.3M annually, ensuring sustainable operations.

03 ROI

The projected \$12.1M annual gross savings yield a seven-month payback and a nine-to-one ROI over three years.

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Conservative Case Still Wins



Sensitivity Analysis

Even at 60% of denial-reduction targets and 70% of cohort-management savings, the net annual benefit exceeds \$7M.

Compelling ROI

This conservative scenario still achieves payback under twelve months, preserving a compelling margin-recovery story.



06

Next Moves

Immediate Executive Actions

01

Budget Approval

Approve the \$1.4M pilot budget to initiate the project and secure necessary resources.

02

Data-Use Agreements

Sign data-use agreements to ensure access to claims, EHR, and pharmacy data for analytics.

03

Executive Sponsorship

Appoint an executive sponsor, project manager, and analytics lead to drive project success.

04

Kickoff Schedule

Finalize KPI definitions and schedule the week-one kickoff to lock in the eligibility pilot start and maintain momentum.

Architecture & Validation Brief

01

Technical Architecture

The cloud data lake ingests daily feeds, dbt creates member-level marts, and dashboards serve PowerBI/Tableau with OAuth2 and VPC for secure layers.

02

Validation

Hold-out validation achieves $AUC > 0.85$ and financial variance $< 2\%$, ensuring credible and reliable outputs.



Awareness

Drive awareness through town-halls to ensure all stakeholders understand the project's importance and objectives.

Desire and Knowledge

Build desire with pilot incentives and impart knowledge via lunch-and-learns to engage clinical teams.

Ability and Reinforcement

Enable ability with super-user support and reinforce adoption through quarterly wins celebrated across teams.



Contact & Q&A Ready

Communication Channels

Direct questions, data requests, and steering-committee updates to the executive sponsor, analytics lead, and change lead through a shared Teams channel. Schedule monthly read-outs on the first Tuesday to maintain transparency and speed.



THANK YOU

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