

Universal Data Intelligence Report

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Source: healthcare_rcm_profit_leaks_dataset.csv · 8,000 rows

Detected Industry

Field	Value
Industry	Healthcare
Confidence	High
Company Size	—
Reasoning	The dataset contains numerous columns directly related to medical claims processing, patient demographics, insurance payers, CPT codes, DRG codes, and revenue cycle management metrics specific to healthcare providers (e.g., "billed_charge", "contractual_allowed", "denial_reason", "patient_responsibility").

Executive Summary

This healthcare dataset highlights critical areas for revenue cycle optimization. We see significant opportunities to improve cash flow by addressing contractual underpayments, stemming losses from under-coding and missed charges, and expediting collections to reduce Days in AR. Patient responsibility collection and prior authorization processes also present areas for efficiency gains. Proactive management in these areas can lead to substantial reductions in profit erosion.

Top Money Leaks

#1 · Missed Revenue Due to Under-coding and Missed Charges	High
Signal	Opportunities where service provided was either coded at a lower complexity than warranted or not billed at all.
Evidence	Under-coded claims flagged: at least 1 row (CLM-1000002). Missed charge claims flagged: at least 1 row (CLM-1000004).
Benchmark	MGMA reports charge capture issues can result in 1-3% revenue loss for physician practices. Advisory Board estimates hospital charge capture issues can be 1-2% of net patient revenue.
Root Cause	Ineffective charge capture processes, lack of proper coding education, or system deficiencies leading to services not being billed or billed incorrectly at lower rates.
Financial Impact	Directional estimate, potentially 1-3% of gross charges, requires GL validation for precise amount.
Recommended Action	Implement regular audits of coding and charge capture, provide targeted coder and provider education, and review IT systems for charge reconciliation improvements.

#2 · Revenue Erosion from Contractual Underpayments	High
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#2 · Revenue Erosion from Contractual Underpayments High	
Signal	Payments received are less than the agreed-upon contractual allowed amount, even after accounting for patient responsibility.
Evidence	Average underpayment_pct is 4.23% of expected reimbursement; Total contractual underpayment sum is \$242,254.
Benchmark	Black Book Market Research indicates chronic underpayments can account for 3-5% of total revenue for providers. HFMA reports underpayments often range from 2-7% of net patient revenue.
Root Cause	Discrepancies between billed amounts and payer reimbursements, often due to complex contract terms, incorrect application of fee schedules, or payer errors.
Financial Impact	\$242,254 (sum of 'contract_underpayment') represents 4.23% of overall expected reimbursement. For a company with \$21.4M in billed charges, this is a significant leak.
Recommended Action	Implement a contract management system to monitor expected vs. actual payments, conduct regular audits of payer remittances, and proactively appeal underpaid claims based on contract terms.

#3 · Delays in Revenue Realization (High Days in AR) Medium	
Signal	A prolonged period between service date and claim payment, leading to delayed cash flow.
Evidence	Average Days in AR is 74.05 days. Minimum Days in AR is -106, maximum is 358 days.
Benchmark	MGMA 2023: Median Accounts Receivable for primary care 30 days, specialties 35-45 days. Hospitals typically aim for 40-50 days.
Root Cause	Inefficient claims submission, slow payer processing, high denial rates requiring appeals, or delays in patient balance collection.
Financial Impact	Assuming a cost of capital of 8-12%, carrying an average of \$2,065,776.39 (sum of 'patient_balance') and potentially more in payer AR for extended periods significantly impacts working capital. For a claim volume of 8000, 74.05 days in AR suggests substantial deferred cash flow.
Recommended Action	Analyze AR aging by payer and denial reason to pinpoint bottlenecks. Streamline claim submission processes, improve denial management, and enhance patient collection strategies.

#4 · Bad Debt and Uncollected Patient Responsibility Medium	
Signal	Patient balances are not being collected, eventually leading to write-offs as bad debt.
Evidence	Total patient balance is \$2,065,776.39. Total write_off_amount is \$76,845.08. 'Bad_debt_flag' is present, indicating uncollectible amounts.
Benchmark	Healthcare Financial Management Association (HFMA) reports patient bad debt can range from 3-5% of total patient revenue, potentially higher for certain patient populations.
Root Cause	Lack of clear financial communication with patients, insufficient upfront collection efforts, or inadequate follow-up on patient balances.

#4 · Bad Debt and Uncollected Patient Responsibility		Medium
Financial Impact	Direct loss of \$76,845.08 in write-offs. The total patient balance of \$2,065,776.39 suggests a much larger potential bad debt risk if not actively managed.	
Recommended Action	Implement robust patient financial counseling, upfront eligibility and benefit verification, clear payment policies, and consider early-out programs or payment plans for patient balances.	

#5 · Prior Authorization and Eligibility Verification Failures		Low
Signal	Delays or failures in obtaining necessary authorizations or verifying eligibility lead to claim denials or rework.	
Evidence	Prior authorization lag days: min 0, max 12, mean 1.63 days. 'Authorization_required' and 'authorization_obtained' flags present. 'Eligibility_issue' column suggests issues.	
Benchmark	CAQH (Council for Affordable Quality Healthcare) reports that an average manual prior authorization costs \$10.05, while electronic is \$2.01. Denials due to authorization issues alone can represent 1-2% of billed charges. MGMA reports claim denials due to no authorization/referral average 20-30%.	
Root Cause	Manual or inefficient prior authorization workflows, lack of integration between authorization and scheduling systems, or incomplete patient demographic and insurance information at the point of service.	
Financial Impact	An average of 1.63 'prior_auth_lag_days' across 8000 claims suggests delays that can lead to increased administrative costs, denied claims, and delayed revenue. While not directly quantifiable from this snippet, the cost of rework and delayed payment can be substantial.	
Recommended Action	Automate prior authorization processes where possible, implement real-time eligibility checks, and provide staff training on authorization requirements for common procedures and payers.	

Recommended KPIs

KPI	Formula	Why It Matters	Benchmark
Net Collection Rate	Actual Payments / (Billed Charges - Contractual Adjustments)	Measures the effectiveness of revenue cycle management in collecting expected revenue.	Healthcare best practice: 95-99%
Days in Accounts Receivable (DAR)	Total AR / (Average Daily Charges)	Indicates the average number of days it takes for a healthcare provider to collect payments due.	Healthcare best practice: <40 days for hospitals, <30 days for physician practices
Denial Rate	Number of Denied Claims / Total Claims Submitted	Highlights issues in claims submission and coding that lead to payment delays or lost revenue.	Healthcare best practice: <5-10%
Clean Claim Rate	Number of Claims Paid on First Submission / Total Claims Submitted	Measures the efficiency of the billing process and directly impacts cash flow by reducing rework and accelerating payments.	Healthcare best practice: 90-95%
Patient	Patient Paid / Patient	Focuses on the effectiveness of collecting	Healthcare best practice: 70-85%

KPI	Formula	Why It Matters	Benchmark
Responsibility Collection Rate	Responsibility	patient-owned balances, a growing component of healthcare revenue.	for upfront collections
Underpayment Rate	Total Contractual Underpayment / Total Expected Reimbursement	Identifies instances where payers are paying less than the contracted rate, indicating potential revenue leakage from contract terms or billing errors.	Varies by payer and contract, but persistent underpayment above 2-3% of expected reimbursement is a red flag.

Column Mapping

Source Column	Canonical Concept	Data Type
claim_id	claim_id	id
service_date	service_date	date
posted_date	posted_date	date
patient_id	patient_id	id
patient_age	patient_age	numeric
patient_sex	patient_gender	category
department	department	category
provider	provider	category
location	location	category
payer	payer	category
payer_type	payer_type	category
cpt_code	cpt_code	id
cpt_description	cpt_description	text
place_of_service	place_of_service	category
drg_code	drg_code	id
billed_charge	billed_charge	numeric
contractual_allowed	contractual_allowed_amount	numeric
expected_reimbursement	expected_reimbursement	numeric
actual_payment	actual_payment	numeric
patient_responsibility	patient_responsibility	numeric
patient_paid	patient_paid	numeric
patient_balance	patient_balance	numeric
claim_status	claim_status	category
first_submission_date	first_submission_date	date
days_to_submit	days_to_submit_claim	numeric
days_in_AR	days_in_accounts_receivable	numeric
denial_code	denial_code	id
denial_reason	denial_reason	text

Source Column	Canonical Concept	Data Type
denial_category	denial_category	category
appeal_status	appeal_status	category
appeal_outcome	appeal_outcome	category
appeals_count	appeals_count	numeric
authorization_required	authorization_required	boolean
authorization_obtained	authorization_obtained	boolean
auth_number	authorization_number	id
coding_modifier	coding_modifier	id
under_coded_flag	under_coded_flag	boolean
missed_charge_flag	missed_charge_flag	boolean
charge_capture_lag_days	charge_capture_lag_days	numeric
eligibility_verified	eligibility_verified	boolean
eligibility_issue	eligibility_issue	text
prior_auth_lag_days	prior_auth_lag_days	numeric
write_off_amount	write_off_amount	numeric
write_off_reason	write_off_reason	text
bad_debt_flag	bad_debt_flag	boolean
contract_underpayment	contract_underpayment_amount	numeric
underpayment_pct	underpayment_percentage	numeric
payer_contract_id	payer_contract_id	id
collection_agency_referred	collection_agency_referred	boolean
collection_recovery	collection_recovery_amount	numeric

Methodology

This intelligence report provides a risk-sizing estimate, not a forensic audit. It anchors insights to the provided dataset aggregates (e.g., sums, averages, flags) and correlates them with published, credible industry benchmarks. All financial impact estimates are directional and should be validated against your general ledger and internal financial records before implementing any corrective actions.

Recommended Next Step

Schedule a follow-up consultation to deep-dive into specific money leaks, validate findings against your GL, and develop a phased action plan.