KNOWLEDGE CENTER | Revenue Cycle Management

Operational Design Patterns

Scalable Frameworks for Revenue Cycle Operations

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1. What Are Operational Design Patterns?

Operational design patterns are repeatable, proven frameworks for structuring revenue cycle workflows. Like software design patterns, they are not rigid prescriptions but adaptable templates that can be applied across organizations of different sizes, specialties, and payer mixes. Using design patterns reduces rework, shortens implementation timelines, and creates a shared language for operations teams.

■ Pattern Principle: A design pattern is only as good as its adoption. Each pattern below includes key success factors and common failure modes to help organizations implement effectively.

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2. Front-End Patterns: Access & Registration

Patient Access Trifecta

Simultaneous verification of (1) eligibility, (2) benefits, and (3) authorization at scheduling — not at registration.

- Reduces registration-related denials by 40–60%
- Enables upfront patient financial counseling
- Requires real-time payer connectivity (270/271 EDI)

Pre-Service Financial Clearance

A dedicated financial clearance team works accounts 5–7 days before scheduled services to resolve coverage, auth, and patient liability issues before the patient arrives.

- Requires workflow integration between scheduling and billing
- Patient contact scripts and consent forms needed
- KPI: % accounts cleared before date of service (target: >85%)

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3. Mid-Cycle Patterns: Coding & Authorization

Concurrent CDI Model

Clinical documentation specialists review inpatient records within 24–48 hours of admission, working concurrently with treating physicians rather than retrospectively.

- Highest impact on MS-DRG assignment accuracy
- Requires physician engagement and query workflow
- Success metric: CDI query response rate (>85%), CC/MCC capture rate

Authorization Centralization Pattern

Centralize all authorization management into a single team or hub, eliminating fragmented auth tracking across departments.

- Eliminates duplicate auth requests and missed renewals
- Enables payer-specific protocol libraries
- Requires EHR auth tracking module or standalone auth management system

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4. Back-End Patterns: Billing & Collections

Clean Claim Rate Optimization Pattern

Focus on achieving a first-pass clean claim rate (CCR) above 95% by implementing a claims scrubbing engine with payer-specific edits, charge capture reconciliation, and a pre-bill audit step for high-dollar accounts.

CCR Range	Performance Level	Priority Action
< 85%	Critical	Immediate workflow audit + staff retraining
85–90%	Below Target	Edit library update + root cause analysis
91–95%	Approaching Target	Targeted payer-specific edit improvement
> 95%	Best Practice	Maintain + monitor for payer policy changes

Aged AR Segmentation Pattern

Segment aged AR by (1) payer, (2) denial reason, (3) dollar amount, and (4) days in AR — then apply differentiated follow-up strategies to each bucket rather than working accounts chronologically.

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5. Denial Management Operating Model

A best-in-class denial management model operates as a closed-loop system with four distinct functions:

Identify: Capture all denials at point of ERA/EOB receipt. Auto-route by CARC/category.

Analyze: Weekly trending by payer, denial type, and root cause. Escalate outliers.

Resolve: Work denials using payer-specific playbooks. Assign owners with due dates.

Prevent: Feed trending data back to front-end teams. Update edits, training, and workflows.

■ Operating Model Tip: The 'Prevent' step is where most organizations under-invest. Without a feedback loop, denial management becomes reactive rather than strategic.

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6. Technology Integration Patterns

Technology	Function	Priority
EHR / Practice Management	Core claims, scheduling, registration	Required baseline
Clearinghouse (837/835)	Claim submission, real-time edits, 835 posting	Required baseline
Eligibility Platform (270/271)	Real-time insurance verification	High impact
Auth Management Tool	PA tracking, payer portals, renewal alerts	High impact
Denial Analytics Platform	Trending, root cause, predictive denial scoring	Strategic
RPA / Automation	Routine follow-up, status checks, posting tasks	Efficiency gain
CDI Platform	Query management, DRG modeling, coder communication	Clinical denials

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7. Staffing & Span-of-Control Models

Staffing ratios vary by setting, payer mix, and technology enablement. Use these benchmarks as a starting framework and adjust based on account complexity and system automation levels.

Function	Productivity Benchmark	Notes
Eligibility / Registration	300–500 accounts/day/FTE	Higher with real-time tools
Authorization	40–60 auths/day/FTE	Varies by specialty complexity
Coding (Inpatient)	15–20 charts/day/FTE	CDI support improves accuracy
Coding (Outpatient/Pro Fee)	60–100 encounters/day/FTE	Template-driven practices higher
Billing / Follow-up	80–120 accounts/day/FTE	With automated dialer/worklists
Denial Management	30–50 appeals/day/FTE	Complex payers = lower volume
AR Follow-up	$150K–$250K AR/FTE/month	Depends on payer mix

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