

WHITE PAPER: CIRCLES PLATFORM FOR CJR-X

WHY EPISODE RISK REQUIRES A DIFFERENT KIND OF INFRASTRUCTURE

September 3, 2026

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INTRODUCTION

On January 1, 2028, the Comprehensive Care for Joint Replacement Expanded model — CJR-X — becomes mandatory for every acute care hospital paid under both the Inpatient and Outpatient Prospective Payment Systems, with no opt-out available. That reaches most of the nation's acute care hospitals. For every one of them, a 90-day episode of care built around lower extremity joint replacement — hip, knee, and, for the first time, ankle — becomes a single financial unit, priced in advance, and reconciled against actual spending roughly six months after the fact.

That is not a new reporting requirement. It is a new and significant form of financial exposure, sitting on top of Medicare billing a hospital already does every day. Importantly, the infrastructure most hospitals currently rely on to manage that exposure — the claims systems, the discharge-planning workflows, the quality-reporting portals already in place — was built for a fee-for-service world where an individual claim, not a 90-day episode, was the unit that mattered.

This document lays out what CJR-X actually requires, why that existing infrastructure falls short in specific, identifiable ways, and what a hospital needs to put in place — as both technology and process — to protect its target price, its quality score, and the value available to it and its care partners under this model.

A small number of hospitals are exempt — those participating in TEAM,¹ Maryland hospitals under that state's separate all-payer rate-setting arrangement, hospitals not paid under both IPPS and OPPI, and Critical Access Hospitals or Rural Emergency Hospitals — but for the hospitals CJR-X reaches, there is no voluntary version of this decision. The only choice is how well-prepared a hospital is when the clock starts.

¹ A 30-day episode model covering five surgical categories, running since January 1, 2026. Many of the considerations identified in this paper are relevant to hospitals covered by TEAM as well.

WHAT CJR-X ACTUALLY REQUIRES

CJR-X was finalized July 31, 2026, in the FY 2027 Medicare Inpatient Prospective Payment System (IPPS) Final Rule, and becomes mandatory nationwide on January 1, 2028.

Regulatory Structure In Brief

- A 90-day episode window, running from the triggering admission or outpatient procedure through 90 days post-discharge, spans both Medicare Part A and Part B spending — everything from the initial hospitalization or outpatient procedure through post-acute care, physician services, and any related readmission that falls inside the window.
- That episode is priced prospectively: before the performance year even begins, CMS calculates a risk-adjusted target price using six risk-adjustment factors — three beneficiary-level factors (a five-tier count of CMS-HCC conditions, a four-tier age bracket, and a two-tier economic-status measure), 24 additional binary condition and procedure flags at the beneficiary level (21 of them specific Hierarchical Condition Categories), and two hospital-level factors (bed size and safety-net status). That is a materially more granular methodology than the three-factor, eleven-variable approach the original CJR model used, with no equivalent to the 24-flag layer or the hospital-level adjustment.
- At the close of the performance year, CMS compares actual episode spending against that target price and reconciles the difference: a hospital that comes in under target, and clears its quality gate, receives a shared-savings payment; a hospital that comes in over target owes a repayment, subject to a stop-loss/stop-gain corridor that caps exposure at 20% of the target price for most hospitals. Rural, Sole Community, Medicare-dependent, and safety-net hospitals get a lower 5% stop-loss cap on the downside, while keeping the same 20% stop-gain protection on the upside.

Medical Coding

The episode itself is anchored to specific, well-established billing codes, not a new or

ambiguous definition. CJR-X's lower extremity joint replacement category runs on the same Medicare Severity Diagnosis-Related Groups CMS has used for this population for years: MS-DRG 469 and 470, covering major hip and knee joint replacement (with CJR-X folding total ankle replacement into DRG 469 for the first time), plus DRG 521 and 522, a separate benchmark for hip replacement where the principal diagnosis is a hip fracture.

For episodes that begin outside an inpatient admission, the corresponding outpatient codes are CPT 27130 (total hip arthroplasty) and 27447 (total knee arthroplasty) — outpatient ankle replacement (CPT 27702) is excluded from CJR-X, unlike TEAM, which does include it. Nothing about how that trigger is identified or billed changes under CJR-X; what changes is everything CMS calculates once that trigger fires.

Composite Quality Score

Quality is not a side consideration bolted onto the cost calculation — it gates the payment outright. A hospital's Composite Quality Score, built from five measures including risk-standardized complications, 7-day hospital visits, patient experience (HCAHPS and OAS CAHPS), and patient-reported outcomes, determines whether a shared-savings payment is paid at all, independent of how well the hospital controlled cost.

The mechanism behind the patient-reported outcomes measure is easy to underestimate: a hospital that captures long-term outcomes data on fewer than 50% of its eligible patients does not lose a proportional share of its quality score — it disqualifies its Composite Quality Score entirely and forfeits its full shared-savings payment for the year, regardless of cost performance. A hospital could manage cost perfectly against target all year and still receive nothing back, solely because too many patients fell out of contact before their required follow-up survey.

REGULATED HOSPITAL ACTIVITIES DURING THE 90-DAY EPISODE

CJR-X's target-price mechanics create a constrained question for each accountable hospital: what can we actually do to influence where a patient goes and how an episode unfolds? The answer is defined by the hospital discharge-planning Condition of Participation (42 CFR §482.43) and federal beneficiary-inducement guidance. Within those rules lie several

specific constraints:

The Ceiling Constraints

A hospital:

- must provide every patient a complete list of Medicare-participating post-acute providers serving the patient's area;
- must inform the patient of the freedom to choose among them; and
- must not specify or otherwise limit the qualified providers or suppliers that are available to the patient.

Separately, paying or gifting a beneficiary anything a hospital knows, or should know, is likely to influence their choice of provider risks a Beneficiary Inducements civil penalty. Federal guidance sets the safe-harbor threshold for permissible nominal gifts at \$15 per item and \$75 per patient per year, with no general carve-out for value-based arrangements. In other words, a hospital cannot tell a patient which skilled nursing facility to use, and cannot pay or materially incentivize a particular choice.

Required Activities

Hospitals are required to help patients choose post-discharge options using objective quality and resource-use data — readmission rates, star ratings, the hospital's own network's outcomes — presented alongside the complete list every patient is entitled to see. In other words, a hospital may guide post-discharge through objective information, not restriction.

CJR-X also carries forward a concrete patient-favorable incentive. A skilled nursing facility that has held a CMS star rating of 3 or better for at least 7 of the preceding 12 months can qualify for a waiver of the standard 3-day inpatient-stay requirement before Medicare will cover a SNF admission, giving a hospital a genuine reason to prefer a waiver-eligible partner — faster transition to rehabilitation. Telehealth flexibilities are similar: geographic and originating-site restrictions are relaxed for episode-related follow-up care, making an in-network virtual visit more convenient than an in-person visit to an out-of-network provider, again as a convenience rather than a restriction.

The Influence Of The Operating Surgeon

The single most effective lever, in practice, runs through the clinician rather than the patient. Because surgeons and other physicians can themselves be formally contracted Collaborators receiving gainsharing tied to quality and cost performance, aligning the surgeon's own incentives with the hospital's coordinated network means the recommendation a patient actually acts on — and most patients defer heavily to their own surgeon's specific recommendation — is already pointing toward that network.

This works through the clinician relationship, subject to its own fraud-and-abuse constraints on the physician side, rather than through anything directed at the patient, and it is not reached by the same discharge-planning restrictions that bind the hospital directly.

Therefore, structured pre-operative education — the kind of surgical-readiness class many hospitals already run — reinforces the same effect by walking a patient through the coordinated pathway well before discharge-day time pressure sets in, without ever limiting the choice actually presented at discharge.

In sum, every lawful lever available under CJR-X is indirect — information, convenience, timing, and the alignment of clinicians a patient already trusts. Any technology or process built on the assumption that a hospital can more directly "route" patients to preferred facilities is describing something CJR-X's own legal framework does not permit.

DEFICITS OF CURRENT INFRASTRUCTURE IN THE CONTEXT OF CJR-X

The CJR-X mandate is not merely a bigger version of quality reporting a hospital already does. The gap is structural, and it shows up in several specific areas.

The Data Is Too Late To Act On

Nothing about how an individual Medicare claim gets billed and paid changes under CJR-X — the same electronic claim transactions, the same coding, the same Medicare Administrative Contractor adjudication process a hospital uses today continue unchanged. What CJR-X adds sits entirely after the fact: CMS lets every claim in an episode adjudicate normally, and only afterward — in a retrospective, batch process — aggregates everything that falls inside a

patient's 90-day window and compares it to the target price.

Under the original CJR model, that reconciliation ran roughly six months after the performance year closed. By the time a hospital sees where it landed, the episode is closed, the patient has moved on, and nothing about that specific case can be changed. A hospital's own coordinated network gives it faster, if partial, visibility — but the complete, authoritative picture only arrives on CMS's schedule, not the hospital's.

The Full Episode Is Neither Controllable Nor Visible

Under Medicare's beneficiary Freedom of Choice protections, a hospital cannot restrict where a patient goes for post-acute care, and its own discharge-planning obligations under federal Conditions of Participation affirmatively require presenting the patient a complete list of options, not a narrowed one.

A hospital's visibility into a 90-day episode is consequently layered:

- High-confidence, close-to-real-time knowledge of its own coordinated network of surgeons, skilled nursing facilities, and home health and therapy partners.
- Weaker, later visibility into everything a beneficiary arranges independently; and the complete, reconciled picture only once CMS's own claims data catches up.

Any platform or process that assumes a hospital can fully see, or fully direct, a 90-day episode is describing something that does not exist under current law.

Undocumented Comorbidities Equal Recurring Financial Loss

CJR-X's risk adjusters — the HCC-based flags in particular — are drawn from the same ICD-10-CM diagnosis codes already captured on every claim; CMS did not create a new data element for this. What changed is the consequence. Target prices are set prospectively, from historical claims and HCC assignment, before the performance year starts.

A comorbidity that a patient genuinely has, but that never gets translated from a clinician's note into a coded diagnosis, doesn't just understate that one claim. It understates the target price the hospital is held against for the entire episode, for the entire year, converting a one-

time documentation gap into a durable, recurring loss.

The same dynamic already shows up at the portfolio level in CJR's own performance history: average per-episode repayments across participating hospitals grew from \$78 in Performance Year 6 to \$404 in Performance Year 7 — a nearly six-fold increase in one year, on a mechanism a hospital can materially influence through better point-of-care documentation.

Limits On Selection Of And Negotiation With Episode-Of-Care “Partners”

CJR-X does not create its own claims-processing or appeals infrastructure — it sits entirely on top of the existing Medicare contractor ecosystem, and that ecosystem's own characteristics shape what a hospital should expect. The Medicare Administrative Contractor that adjudicates every claim in an episode is fixed by jurisdiction, not chosen by the hospital, and whatever mechanism CMS ultimately uses to deliver CJR-X-specific episode-spending data back to hospitals will almost certainly ride on this same contractor infrastructure — a reason to expect that feed on CMS's schedule and in CMS's format, not a hospital-friendly one.

For example, CMS's WISeR model — a prior-authorization pilot live in six states (Arizona, New Jersey, Ohio, Oklahoma, Texas, and Washington) — compensates participating technology vendors with 10–20% of the Medicare savings their coverage denials produce, a structure the American Hospital Association has publicly flagged as creating "a perverse incentive to deny care that otherwise may be appropriate."

WISeR's current covered-service list does not include joint replacement or orthopedic surgery directly, but several covered pain-management services are plausible components of post-operative care following an episode in this population, and the model's incentive structure has no analog elsewhere in this ecosystem. It belongs on a hospital's watch list, not because it currently applies, but because it demonstrates a new category of contractor incentive that a hospital bearing two-sided episode risk should track as it evolves.

The Probability Of Financial Loss

The real-world track record of the original CJR model — the empirical basis CMS itself

cites for expanding into CJR-X — shows both the opportunity and the volatility at stake for accountable hospitals.

In Performance Year 6 (2021), CJR generated \$54.2 million in net Medicare savings, roughly \$1,017 per episode; combined with Performance Year 7, the model produced \$112.7 million in net savings, the figure CMS's own model page cites as justification for CJR-X's expansion.

But that blended average conceals real dispersion: in PY6, 146 of 317 hospitals (46%) received reconciliation payments averaging roughly \$201,000, while 161 hospitals (50%) owed repayments averaging roughly \$209,000 — and the average repayment nearly quintupled the following year, from \$78 per episode in PY6 to \$404 per episode in PY7. The upside is real. So is the downside, and it moves substantially from one year to the next.

STRUCTURING EPISODE-OF-CARE PARTNERSHIPS

CJR-X gives a hospital a lawful way to share both the risk and the reward of episode management with the surgeons, skilled nursing facilities, home health agencies, and therapy practices actually touching the episode, through formally contracted sharing arrangements. This is an opportunity, but a tightly bounded one.

“Gainsharing”

Overview

Eligible Collaborators include direct service providers, physician group practices, non-physician practitioner group practices, therapy group practices, and Accountable Care Organizations whose providers demonstrated clinical involvement in the episode. The payment caps are specific: aggregate gainsharing payments across all Collaborators cannot exceed the hospital's own total reconciliation payment for the year, individual non-ACO Collaborators are capped at 25% of that amount, and ACO Collaborators at 50%.

Limited Financial Reward For Participants

Gainsharing was never the primary lever — the hospital, not the Collaborator, bears the real financial risk under CJR-X, through its own stop-loss/stop-gain exposure across its full episode volume. The Collaborator provisions exist so a hospital has a legal way to enlist outside help, not to replicate its own financial pressure in a partner.

Sized against the original CJR model's roughly \$1,000 in net savings per episode — aggregated across a hospital's full annual volume, then split among every named Collaborator — an individual surgeon's or SNF's share is often modest relative to that entity's overall Medicare revenue. That is not a design flaw specific to CJR-X; it's a known feature of every CMS bundled-payment model since the original 2013 pilot, and it is why the audit-ready compliance record described below, and the non-financial value of formal Collaborator status — data visibility, a seat in pathway-redesign conversations, a documented referral relationship in an increasingly narrow post-acute market — often matter to a Collaborator's participation decision as much as the check itself.

Anti-Kickback Statute And Stark Law

Any gainsharing arrangement will operate within the Anti-Kickback Statute and Stark Law, and its specific mechanics are governed by federal regulation: distributions must derive solely from reconciliation payments or documented internal cost savings, must be tied to documented quality-of-care contribution rather than to referral volume or value, must be capped (in aggregate, and per Collaborator), and must be memorialized in a written agreement before care begins. None of this is optional, and none of it is unique to any one hospital's approach — it's the fixed legal architecture every CJR-X hospital operates inside.

That architecture creates a concrete need: a hospital distributing gainsharing payments needs to be able to show, on demand, exactly what quality-related contribution each Collaborator made and when — not as a compliance nicety, but as the evidentiary record its own counsel would want in hand if a distribution were ever questioned by CMS or the Office of Inspector General. A signed, time-stamped, tamper-evident record of that contribution is one of the more valuable things a platform can provide a hospital in this specific context.

THE CIRCLES PLATFORM SOLUTION

Protecting The Target Price And Quality Score

The question for an accountable hospital is what technical and process infrastructure, and at what cost, gives it the best chance to maximize its CJR-X revenue. The five elements below are the ones that matter; the Circles Platform integrates all five into a single system rather than requiring a hospital to stitch together multiple retrospective, heterogeneous data feeds on its own.

Prospective, Point-of-Care Data Capture, Not Retrospective Reconstruction

The single structural advantage available to a hospital is capturing CJR-X-specific clinical status, risk factors, and complications as they happen, rather than reconstructing them afterward from a claim filed weeks later. Done well, this surfaces an adverse trend while there is still time to intervene — a discharge plan that needs adjusting, a documentation gap that needs closing, a patient who needs re-engaging — instead of merely reporting on it after the episode has already closed.

This only delivers real value if it is built to close that loop with defined CJR-X thresholds and an actual clinical workflow that acts on the signal; capturing data sooner is not, by itself, the same thing as catching problems sooner.

Protocols Built For Specific Joints, Not One Generic Form

A knee replacement, a hip replacement, and an ankle replacement — all now inside CJR-X's expanded episode definition — have different failure modes, different recovery trajectories, and different clinically-validated outcome instruments. However, a single, joint-agnostic data-collection form is built to the lowest common denominator across all three: general enough to apply everywhere, specific enough to be clinically actionable nowhere.

Separate, joint- and technique-specific Observational Protocols built on a shared administrative core — patient identifiers, episode dates, the CMS-required risk adjusters and outcome measures captured once — solve this without proliferating redundant data entry, and produce a dataset materially more useful for real quality improvement than an undifferentiated one.

Driving Patient Engagement To Maximize Outcomes Reporting Rates

The single biggest determinant of whether a hospital clears the 50% patient-reported-outcomes capture threshold is not survey sophistication — it's whether the patient is still reachable when the required measurement window arrives, roughly a year after surgery for the flagship measure. A single outreach attempt, cold, after months of silence, is a weak design against ordinary patient attrition.

Conversely, a structured cadence of touchpoints across the recovery arc keeps the relationship warm, so that the one administration that counts is more likely to land — the same engagement infrastructure that, applied consistently across a Circle, is what makes the resulting outcomes data valuable beyond the CJR-X mandate itself (see Other Circle Dataset Opportunities, below).

Timely Capture Of Comorbidities And Other Risk-Adjusters

The most direct financial protection available under CJR-X is closing the gap between what a clinician actually knows about a patient and what gets coded onto the claim that ultimately sets the hospital's target price. A structured, point-of-care comorbidity capture that maps directly to the specific ICD-10-CM codes and HCCs it is meant to support, and routes into pre-bill coding review as a same-day cross-check, closes that gap before it becomes a claim.

This protects target-price accuracy in a way no amount of after-the-fact analytics can, because by the time claims data is available to analyze, the target price for that episode has already been set.

Federated Data Architecture Protects Data And Reduces A Hospital's Risk

A hospital's Collaborator network typically spans multiple, often competing, independent institutions — surgeons, skilled nursing facilities, home health agencies, therapy practices — each with legitimate reasons not to hand raw patient records to a platform run by, or perceived as favoring, any other party in the network.

A technical architecture enabling each participant to retain its own data locally while contributing cryptographically verifiable conclusions to a shared record removes a real adoption barrier that a centralized, single-database design does not.

Implementation

The Circles Platform involves a patented, sophisticated fit-for-purpose technical stack, as well as supporting processes.² Their efficient integration through two separate implementation phases is key to realizing the target-price protection, quality-gate protection, and compliant gainsharing value described above.

IT Integration

Realizing prospective, point-of-care data capture means connecting to systems a hospital already runs, not replacing them. In practice, this means coordinated work against a defined set of existing systems:

- The hospital's EHR, typically through a patient-directed, standards-based data release rather than a heavier custom interface.
- The CMS claims data feed the hospital already receives, routed to support Collaborator attribution and reconciliation calculations.
- The scheduling or OR system that triggers an episode's start.
- The discharge-referral and post-acute coordination platforms most hospitals already use.
- Any regional or commercial admission-discharge-transfer alerting service the hospital subscribes to.
- The hospital's identity and access-management systems, so clinicians authenticate through infrastructure they already use rather than a new, separate credential.

² Three RegenMed patents have been issued for a Method and System for Processing Large Amounts of Real-World Evidence: US 11,720,567 B2 (issued Aug. 8, 2023), US 12,204,544 B2 (issued Jan. 21, 2025), and US 12,705,240 B2 (issued Aug. 11, 2026) — a continuation chain sharing a single July 2020 priority date. Separate applications extending protection to the Platform's federated data architecture, the Circle Health Coin, and the Circle Dataset Exchange are in preparation.

This work is scoped and sequenced in three sub-phases, and is not open-ended:

1. An initial discovery and connectivity phase confirms which systems are in play at a given hospital, establishes the data-sharing and security agreements each connection requires, and stands up the highest-priority connections — typically EHR data release and the episode-trigger source.
2. A pilot phase runs the platform against a single service line or a limited patient population, so both IT teams can validate data flow, escalation rules, and clinician workflow before scaling.
3. A full production phase extends that validated configuration across the hospital's complete CJR-X-relevant episode volume and its full Collaborator network.

A meaningful share of the connectivity work is designed specifically to bypass the heaviest, most expensive category of traditional system-to-system integration — patient-directed data release under existing federal interoperability rights, rather than a custom point-to-point interface built and maintained indefinitely.

Data Governance And Strategic Goal-Setting

Separately from the technical work, a hospital should make a set of deliberate decisions before the Circles Platform can deliver its full value:

- Which episode categories and joint-specific protocols to prioritize first.
- Which Collaborators to onboard formally, in what sequence, and under what (if any) gainsharing distribution philosophy.
- What data-use and business-associate terms govern the arrangement.
- Who inside the hospital owns ongoing oversight of quality-capture performance against the 50% threshold described earlier.

This determines how much of the value described in the previous section the hospital actually captures. A hospital that treats this as an afterthought, and lets its IT team make integration decisions in the absence of clear answers to these questions, will get a technically

functional deployment that fails to protect the target price or the quality score it was meant to protect.

Other Circle Datasets Opportunities

The compliance infrastructure CJR-X requires — prospective, protocol-driven capture of validated outcomes, surgical technique, and risk-adjustment detail — produces a byproduct with value beyond the mandate itself. The real-world evidence market it feeds is real: industry estimates put it at several billion dollars today, growing at a double-digit annual rate through the early 2030s, concentrated exactly where claims data falls short — longitudinal, technique-linked, regulatory-grade outcomes.

Hospitals are extending to that data the same institutional logic they have long applied to intellectual property developed inside their own walls: a patented technique or a licensed protocol has always been treated as an institutional asset, not an incidental byproduct of care. Duke Health's institutional data-licensing policy and Mayo Clinic's licensable content program make that extension explicit, formalizing verified clinical data holdings as a licensable asset class in their own right.

A Circle Dataset, built to the same evidentiary standard, is positioned the same way. A comparably-sized, verified 2,000-patient orthopedic cohort has been valued in the \$3M–\$12M range depending on licensing exclusivity — non-exclusive licenses at the low end, a full exclusive sale with derived predictive models at the high end — against an estimated \$11M+ cost for a manufacturer to build an equivalent dataset internally. And because a single master dataset can be licensed at different tiers to different manufacturers, payers, and researchers at once, its value compounds with use rather than depleting with each sale.

The same federated architecture that lets a hospital's local Collaborator network contribute without exposing raw records extends to any institution anywhere: two hospitals with no operating relationship can pool their contribution to a shared research question while each keeps its own patient records exactly where they are. That capability matters most for rare diseases and other low-incidence conditions, where no single institution sees enough cases to support meaningful research on its own. A federated model turns that limitation into a solved problem — the effective study population becomes global, without any participating hospital taking on the compliance burden or legal exposure of a traditional multi-site data-

pooling arrangement.

The same outcomes data — well correlated to specific clinical factors — lets a hospital define and refine its own standard of care against its own verified results, rather than against literature drawn from someone else's patient population. It also supplies the evidentiary record that Center of Excellence recognition, and direct-to-employer bundled contracts, require. A hospital demonstrating risk-adjusted outcomes for every episode it manages pursues that recognition from a position of proof, not the one-off outcomes study most institutions still need to qualify.

None of this is specific to CJR-X. CMS has already broadened mandatory episode-based accountability along a second, parallel track in TEAM, and has every reason to keep extending it; infrastructure built as protocol-specific modules on a shared core adapts to the next expansion rather than requiring a rebuild. The regulatory direction points the same way — FDA guidance on real-world evidence has moved toward greater reliance on exactly this kind of longitudinal, fit-for-purpose data in regulatory decision-making, not less.

A hospital building this capability now accumulates protocol maturity, dataset depth, and buyer relationships before the next mandatory expansion arrives — a head start a later adopter cannot simply purchase.

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