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Provider Experiences Under the CMS Comprehensive Care for Joint Replacement Model: Case Studies from Three Mandatory Markets

HEALTH CARE AND HUMAN SERVICES POLICY, RESEARCH, AND ANALYTICS — WITH REAL-WORLD PERSPECTIVE.

Prepared for: **Centers for Medicare & Medicaid Services**

Submitted by: **The Lewin Group, Inc. with our partners: Abt Associates, GDIT, and Telligen**

November 2020

Provider Experiences Under the CMS Comprehensive Care for Joint Replacement Model: Case Studies from Three Mandatory Markets

Prepared for:

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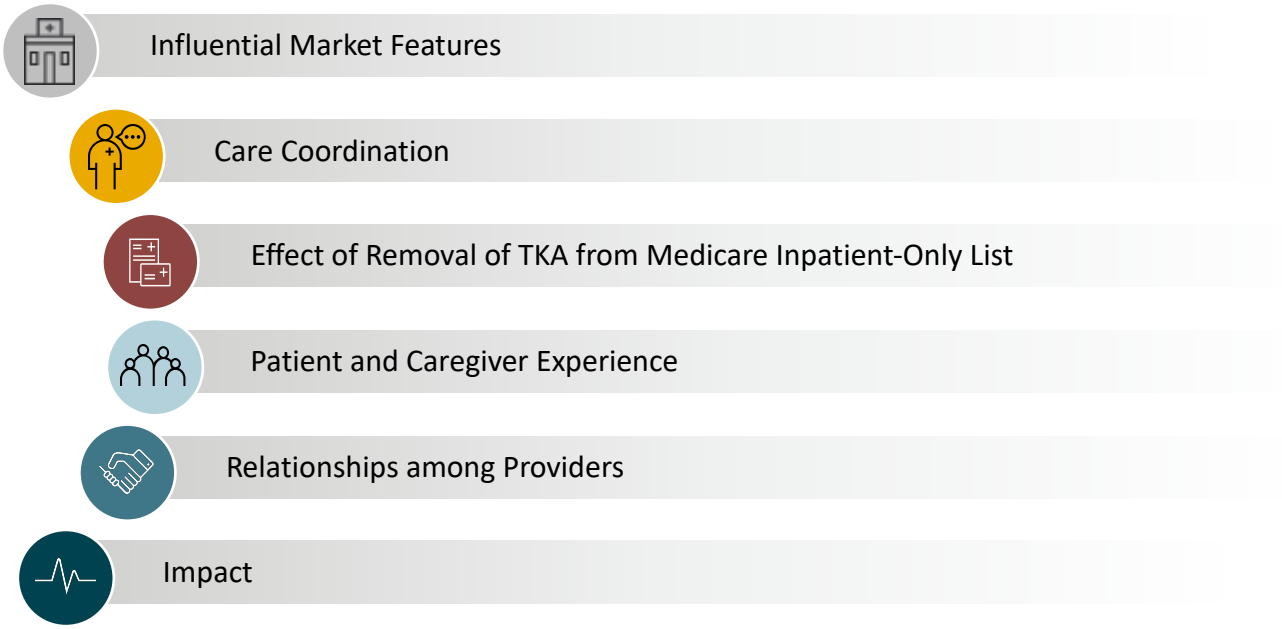
Table of Contents

Provider Experiences Under the CJR Model: Introduction

This report includes three case studies which explore the influence of market factors on hospital and associated provider experiences related to the Comprehensive Care for Joint Replacement (CJR) model at select mandatory CJR metropolitan statistical areas (MSAs). The case studies are based on interview data collected during site visits and supplemented by summary statistics from Medicare claims data. The aim is to describe the MSA-level effects of the CJR model on care coordination strategies, removal of total knee arthroplasty (TKA) from the Medicare Inpatient-Only (IPO) list, patient and caregiver experience, and relationships with associated providers from various perspectives, including CJR and non-CJR hospitals, orthopedic surgical practices, PAC providers, and outpatient physical therapy providers within select markets (Exhibit 1). Non-participant hospitals are included to provide insight into spillover effects and changes in volume due to the CJR model.

Exhibit 1: Performance year 3 topic areas of interest



The case study approach provides an in-depth description of CJR model experiences for each site visit participant hospital, as well as a detailed summary of MSA-level factors that may have influenced a response to the model (e.g., MSA surgeon supply). Claims-based data are used to assess how payments and utilization may have shifted under the CJR model for each hospital. This approach provides a more comprehensive portrait of the effects of the CJR model on hospitals, orthopedic surgery groups, and post-acute care (PAC) providers within the featured markets. Insights from the case studies are included in the performance year three evaluation report to explain key resources and market features that influence response to the CJR model and to provide illustrative examples of findings.

More information regarding the site visit sampling strategy, characteristics of the hospitals, and interview topics is in Appendix E.

MSA 1 Introduction

This case study of the CJR MSA 1 summarizes data gathered from site visit interviews with staff at hospitals, PAC providers, and an orthopedic surgical practice. Interviews were conducted at four CJR participant hospitals, one non-CJR hospital, three skilled nursing facilities (SNFs), and two home health agencies (HHAs).

MSA 1 differs from the average CJR mandatory MSA in several key ways, highlighted in Exhibits 2 and 3. MSA 1 is smaller than the average CJR MSA, with a younger, healthier, and more affluent population. The MSA has a median household income above the CJR MSA average. The MSA has a smaller proportion of dual-eligible beneficiaries than the CJR MSA average. The Herfindahl-Hirschman Index indicates that MSA 1 has a similarly concentrated market for lower extremity joint replacement (LEJR) procedures compared to the CJR MSA average. There are fewer SNF beds and lower discharges to inpatient rehabilitation facilities (IRFs) in the MSA than the CJR MSA average, which could be partially attributed to lower fracture rates than the CJR MSA average.

Exhibit 2: MSA 1 characteristics

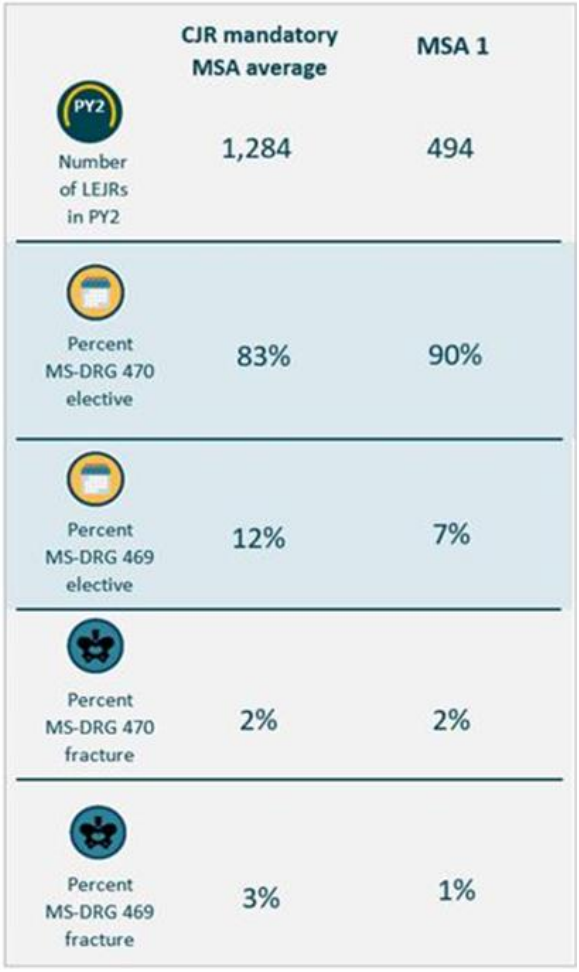
Characteristic	MSA 1	CJR mandatory MSA average
Population size	**550,774**	1,840,635
Population aged 65+	**7%**	15%
Median household income	**$60,647**	$49,179
Medicare Advantage penetration	**39%**	29%
Obesity prevalence	**20%**	25%
Herfindahl-Hirschman Index[a]	**3,484**	3,675
IRF discharges per 10,000 65+ population	**40**	178
Orthopedic surgeons per 10,000 65+ population	**6**	7
SNF beds per 10,000 65+ population	**297**	410

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Notes: FY = fiscal year, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, MSA = metropolitan statistical area, POS = provider of services, PPS = Prospective Payment System, SNF = skilled nursing facility.

[a] The Herfindahl-Hirschman Index is calculated as the sum of the squared LEJR market shares of all ACH providers (CJR and control group), multiplied by 10,000. The HHI values can range from 0 (large number of firms in the market) to 10,000 (a single firm controls the market). Values between 1,500 and 2,500 indicate moderately concentrated markets and values greater than 2,500 are considered highly concentrated

Exhibit 3: MSA 1 fracture rate in PY2 is lower than the CJR MSA average

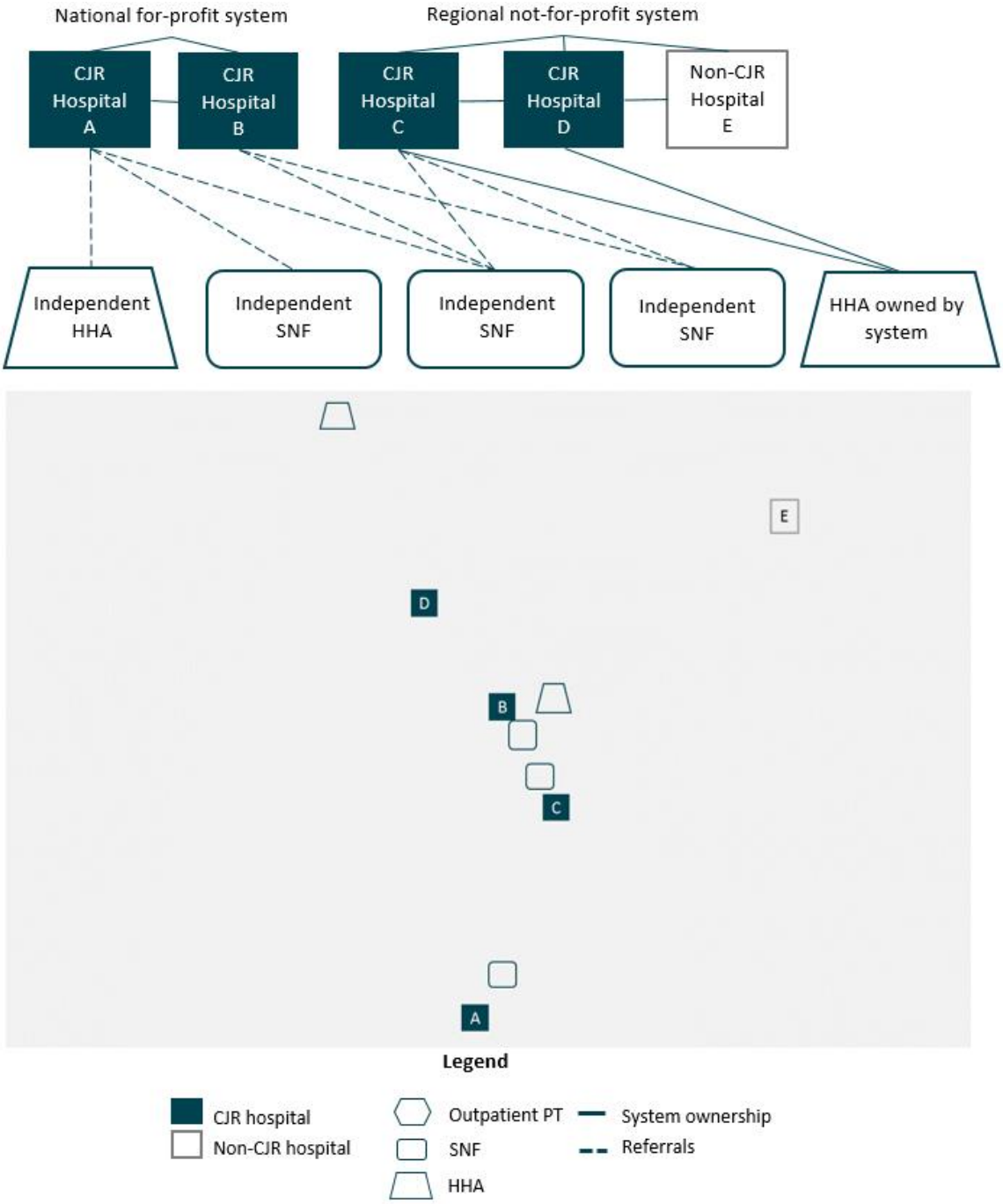


Source: CJR evaluation team analysis of Medicare claims and enrollment data for episodes ending in PY2 (January 2017 through December 2017).

Notes: MS-DRG = Medicare Severity-Diagnosis Related Group, LEJR = lower extremity joint replacement, MSA = metropolitan statistical area.

There are two health systems in the MSA. One is a national for-profit system, and the other is a regional, not-for-profit system. Each health system has two CJR participant hospitals in the MSA, and all four were interviewed on the site visit. CJR Hospitals A and B, and Non-CJR Hospital E, are owned by the for-profit system. CJR Hospitals C and D are owned by the not-for-profit system. CJR Hospital C is the largest LEJR provider in MSA 1, performing an average of 314 Medicare LEJRs annually. CJR Hospitals A, B, and D perform fewer Medicare LEJRs annually than the CJR hospital average of 164. Most surgeons working at the hospitals in the MSA are employed by a large independent physician group, which also participates in an Accountable Care Organization (ACO) (Exhibit 4).

Exhibit 4: Relationships among providers in MSA 1 sample



Source: CJR evaluation team analysis of Medicare claims and enrollment data for episodes initiated from October 1, 2017 to September 30, 2018 and referrals based on site visit interviews.

Note: The gray box is a visual depiction of distances between providers. Distances are approximate and not to scale.
HHA = home health agency, PT = physical therapy, SNF = skilled nursing facility.

In performance year (PY) 1, one of the four CJR participant hospitals earned a reconciliation payment. In PY2, three CJR participant hospitals earned reconciliation payments. In PY3, CJR Hospitals A and B owed repayments, and CJR Hospitals C and D earned reconciliation payments (Exhibit 5). All four hospitals received a quality score of "acceptable" or higher in each performance year. Interviewees from hospitals in both hospital systems indicated that changes in the CJR model quality-adjusted target prices are making it increasingly difficult to financially succeed in the model.

Exhibit 5: MSA 1 hospital CJR model performance, PY1-3

		CJR hospital			
	Hospital performance	**A**	**B**	**C**	**D**
Financial	Earned reconciliation PY1			•	
	Earned reconciliation PY2	•	•	•	
	Earned reconciliation PY3			•	•
Quality	"Acceptable" or higher quality score PY1	•	•	•	•
	"Acceptable" or higher quality score PY2	•	•	•	•
	"Acceptable" or higher quality score PY3	•	•	•	•

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: MSA = metropolitan statistical area, PY = performance year. A "•" indicates that a hospital met reconciliation or quality criteria. A blank space means a hospital did not meet reconciliation or quality criteria. A "-" indicates a hospital did not participate in the CJR model in that PY.

Key Findings

Influential Market Features

MSA 1 is a fast-growing geographic region with a strong economy. Residents in this MSA were described as highly educated and affluent. A notable proportion of residents in the MSA are members of the same religious group. According to interviewees, this leads to large multi-generational families; many residents grow up and remain in the area to be near family. Interviewees frequently described the importance of "word of mouth" communication due to the smaller MSA size and tight-knit community. For example, surgeons noted that most patients know family or friends who have had an LEJR and they have discussed the surgery and post-acute care plans with them. Patients are often well-informed and heavily involved in their care decisions. This strong "word of mouth" culture in the MSA also creates some challenges for care providers in the MSA. For example, changes implemented by hospitals in the MSA in response to the CJR model such as shorter hospital lengths of stay and home discharges were met with some skepticism because the changes differed from what patients expected, based on what they had previously heard or experienced.

Home health is heavily utilized in this MSA. All hospitals in the MSA discharge patients home with home health at rates higher than the CJR MSA average. Strong family caregiver support and a healthier population have contributed to this trend. Surgeon and hospital relationships with providers influence the flow of referrals and resources for patient care. SNFs that are associated with one of the two major health systems have access to an enhanced electronic tracking system and a physiatrist who performs daily rounds on patients. In contrast, another independent, low-volume HHA receives referrals primarily from one surgeon.

Care Coordination

The two hospital systems in the MSA have taken different approaches to care coordination. The for-profit system did not dedicate additional efforts to care coordination or care redesign in response to the CJR model because interviewees felt that their existing standardized care coordination process was sufficient. Interviewees reported that the hospital was not following LEJR patients through the 90-day episode, but instead focused on increased communication and coordination with orthopedic surgeons to change discharge destinations and increase internal costs savings. Interviewees noted the importance of sharing individual surgeon performance data in achieving success in these efforts.

> *"Sharing data was very helpful in showing [the surgeons] inconsistency in care and impacts on cost," which "pushed the conversation with the orthopedic group and helped them to make that happen internally."*
>
> ***– Hospital Interviewee***

The not-for-profit hospital system aimed to improve care coordination by hiring a total joint coordinator and evaluating activities across the entire episode of care. The two CJR participant hospitals in this system share the total joint coordinator, a full-time position created in response to the CJR model. Both hospitals also share a data management team. Similar to the hospitals in the for-profit system, hospitals in the not-for-profit system leveraged data to increase surgeons' awareness of patient events post-discharge. Interviewees noted the hospitals were experiencing difficulty in changing post-acute care expectations with patients, so they showed surgeons data comparing SNF utilization relative to their peers. Interviewees also felt that interdisciplinary communication across the continuum of care was critical for the success of their care coordination efforts. The importance of surgeons communicating patient discharge expectations with floor nurses was important in instilling a culture of discharge to home.

Effect of Removal of TKA from Medicare Inpatient-Only List

The removal of TKA from the Medicare IPO list, effective January 1, 2018, had seemingly little impact on the hospitals in this MSA. Interviewees at the hospitals owned by the for-profit system did not identify any operational impacts of the rule. They stated that surgeons drive decisions regarding length of stay and inpatient status, and that nearly all of the patients receiving TKA at the hospital remain in the inpatient setting with an average length of stay over two days.

Interviewees at the hospitals run by the not-for-profit hospital system perform more outpatient TKAs than the hospitals in the for-profit system; they noted that a source of confusion for them has been the documentation of inpatient versus outpatient on the patient status forms.

Patient and Caregiver Experience

All CJR participant hospitals emphasized that setting patient expectations around hospital length of stay and discharge destination to home was an important part of ensuring success in the CJR model. Interviewees across hospitals described a pre-CJR culture that accepted first discharge to SNF and noted that surgeons often catered to patients' preferences and expectations of SNF use. Interviewees reported that SNF utilization data helped identify first discharge to SNF as a driver of costs, and surgeons began using the data to guide their decision-making. Many interviewees reported having difficult conversations with patients to change expectations; however, most noted that patients ultimately agreed to a home discharge after learning of greater complication and infection rates in the SNF setting.

Family support and reliable caregivers at home reportedly made for an easier shift to home discharge in MSA 1. Hospitals helped change patient expectations through increased discharge destination education in pre-operative joint classes. Caregivers are encouraged to attend classes with the patient, and surgeons were asked to promote class attendance.

Relationships among Providers

Interviewees at all CJR participant hospitals stated the importance of their relationships with the community's independent physician group. This physician group has participated in the Medicare Shared Savings ACO since 2012, and its surgeons have been involved in the transition to the CJR model at both hospital systems. Despite initial conversations around gainsharing, none of the hospitals established gainsharing agreements with orthopedic surgeons, which remains a point of contention for some orthopedic surgeons in the practice.

Interviewees at PAC facilities and CJR participant hospitals reported increased communication since the CJR model began. Two hospitals established medical record sharing with SNF providers, which interviewees reported has improved patient care and decreased readmissions.

CJR Hospital A

The CJR Hospital A summary is based on site visit interviews with the hospital's executive leaders, director of case management, patient care nurse, and directors of the orthopedic service line.

CJR Hospital A is owned by a for-profit health system that also owns CJR Hospital B. The hospital performs an average of 139 Medicare LEJR procedures annually, which is fewer than the average number performed at CJR mandatory hospitals (Exhibit 6).

Exhibit 6: CJR Hospital A is owned by a for-profit health system and located in a town outside the MSA 1 urban center

Characteristic	CJR Hospital A	CJR mandatory average
Annual Medicare LEJR volume	**139**	164
Ownership	**For-profit**	26% for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**25%**	35%
DSH patient percentage	**22%**	32%
Bed count	**124**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital A is in a suburban community approximately 15 miles south of the MSA urban center and 20 miles south of the other hospital in the same hospital system. CJR Hospital A does not currently participate in any other bundled payment models. The community residents are on average younger, healthier, and wealthier than residents of the average CJR MSA. CJR Hospital A serves patients living in a remote, frontier region who may travel up to 200 miles to the hospital.

The hospital did not implement gainsharing with orthopedic surgeons. Interviewees stated that they do not think gainsharing would modify surgeons' behavior. They also indicated concerns about the compliance efforts required of the hospital system and potential auditing complexity associated with gainsharing.

Care Coordination

Interviewees stated that before the CJR model, CJR Hospital A had standard case management and discharge processes, which included a pre-operative joint class. Interviewees said that the case management and discharge processes were adequate before the CJR model, and were mostly unaltered in response to the model. The hospital worked with surgeons to push attendance at the joint class, but did not make it mandatory. Instead, the hospital identified cost savings in the surgical pathway and PAC utilization, in particular, reducing the volume of patients discharged to SNFs. Interviewees felt that the data shared with orthopedic surgeons was transformative and provided hospitals with the needed leverage to change surgeon views on discharge destinations.

Hospital staff performed a full assessment of the patient upon admission using a third-party patient screening tool to help determine discharge destination. Interviewees indicated that there were no cut-offs or pressures for patient optimization from the hospital. In response to the CJR model, the health system implemented a patient-reported outcome (PRO) data collection process.

Effect of Removal of TKA from Medicare Inpatient-Only List

The hospital interviewees noted that surgeons do not perform outpatient TKAs at CJR Hospital A, and view the hospital as their inpatient partner while surgeons perform essentially all their outpatient surgeries at outpatient surgery centers owned by the independent physician group. Claims data for October to December 2018 show that all TKAs performed at the hospital were inpatient procedures.

Patient and Caregiver Experience

> *"Generally there's a support structure with the culture that kind of take care of themselves. The families help take care of their senior members. Perhaps a little more so in this area than some of the other communities."*
>
> ***– Hospital interviewee***

Although CJR Hospital A instituted its joint class prior to the CJR model, interviewees explained that they have modified the content of the classes to support the hospital's response to the CJR model. For example, the patient educator now discusses the benefits of a home recovery to promote patient expectations for a home discharge. Part of the joint class includes physical therapy instructions on exercises to perform before and after surgery and what to expect at home if a home health aide and any equipment are needed. They also discuss the risks of having animals around the home. The patient educator noted that patients who previously had an LEJR procedure and stayed in a SNF have questioned why they would be discharged home. To accommodate the hospital's patient population, especially those in rural areas, the patient educator offers virtual sessions and one-on-

one discussions. The class is not mandatory, but the staff are coordinating with surgeons to increase participation.

> *"With the physicians, I think the thing that CJR brought about the most was an awareness of where we're discharging to. And I think we always were looking at length of stay and we were looking somewhat at where we were discharging to and we were looking at the performance of the SNFs that we were discharging to and the home health agencies and so on."*
>
> ***– Hospital Interviewee***

Relationships among Providers

CJR Hospital A does not have a formal preferred provider network, but it works more closely with five or six SNFs. The hospital sets expectations for length of stay and that these SNFs should share patient readmission data. These SNFs receive quarterly data electronically from the hospital. Since the CJR model began, the hospital has decreased SNF utilization (Exhibit 7).

Interviewees stated that the hospital works with approximately 12 HHAs and is in "constant" communication with them.

Exhibit 7: CJR Hospital A's discharges to SNF decreased after PY1

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	0%	61%	31%	8%
PY2	0%	42%	51%	8%
PY3	0%	42%	52%	6%

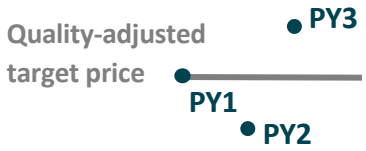
Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

Exhibit 8 displays the hospital's financial performance across the first three years of the model. The average costs for LEJR cases at CJR Hospital A exceeded its quality-adjusted target price in PY1, so it did not receive a reconciliation payment. In PY2, it earned an average reconciliation payment of $645 per episode. In PY3, the hospital owed an average repayment of $1,342 per episode. CJR Hospital A had "acceptable" quality in PY1 and "good" quality in PY2 and PY3.

Exhibit 8: CJR Hospital A earned a reconciliation payment in PY2, but not in PY1 or PY3



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Acceptable	Good	Good
Average reconciliation or repayment per episode	$0	$645	-$1,342

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Interviewees at the hospital stated that when the hospital exceeded the quality-adjusted target price in PY1, the hospital assessed its activities and identified PAC spending as an area for improvement. The hospital then worked with surgeons to change discharge destination from SNFs to home. Interviewees attributed the shift in discharge destination in PY2 as the primary driver for improved performance. For PY3, interviewees expressed concerns that the hospital lost money due to the shift in the quality-adjusted target price toward regional pricing, stating that some hospitals in the system, including CJR Hospital A, "are having trouble keeping pace with that so the financial returns are getting smaller as the program advances."

> *"I think the challenges that our hospitals, and this one would definitely be included, is as the target price falls … it's harder and harder to keep pace with that falling target price."*
>
> ***– Hospital Interviewee***

CJR Hospital B

The CJR Hospital B summary is based on site visit interviews with hospital executives, administrators, the director of case management, and orthopedic service line leaders.

CJR Hospital B is owned by a for-profit health system that also owns CJR Hospital A. The hospital performs an average of 92 Medicare LEJR procedures annually, which is fewer than the average number performed at CJR mandatory hospitals (Exhibit 9).

Exhibit 9: CJR Hospital B is owned by a for-profit system and located near the MSA 1 urban center

Characteristic	CJR Hospital B	CJR mandatory average
Annual Medicare LEJR volume	**92**	164
Ownership	**For-profit**	26% for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**10%**	35%
DSH patient percentage	**20%**	32%
Bed count	**117**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital B's catchment area encompasses a 30-mile radius around the MSA's urban core. The hospital performs mainly elective LEJRs; higher-level trauma centers in the area receive fracture cases. The hospital currently does not participate in any other bundled payment models. Interviewees reported that the hospital receives data and analytic support for the CJR model from the health system's corporate level, but coordinates patient care responses to the CJR model locally.

Care Coordination

According to interviewees, a main challenge in care coordination at CJR Hospital B is the lack of standardized care protocols that surgeons apply to LEJR episodes of care. Interviewees said that surgeons have individual preferences in patient care approaches. For example, some surgeons

required attendance at the joint class, while others did not. Interviewees described how sharing CJR model data with surgeons was an impetus for addressing the lack of standardization. They said that the hospital provided individual surgeon data, such as implant costs and patient outcomes, with the independent physician group. Sharing data proved a successful strategy for engaging surgeons in efforts to change post-discharge destinations and standardize care protocols.

Within the past three years, CJR Hospital B hired a full-time person to lead the joint class as well as a care navigator who is responsible for patient education, communication, discharge planning, and tracking. The navigator follows up with patients one-week post-surgery. Interviewees did not attribute the introduction of the joint class or the hiring of the patient navigator to the CJR model. Participation in the class is not mandatory and support for participation varies by surgeon. Interviewees estimate that about 50% of LEJR patients attend. Interviewees reported that the joint class successfully educates patients and has yielded more prepared LEJR patients.

Interviewees stated that strategies implemented in the orthopedic service line, such as working with providers to change discharge destinations, apply to all LEJR patients. According to interviewees, the surgeons dictate the pre-surgical patient optimization efforts rather than the hospital. The hospital allows surgeons to use the strategy they feel is best for each individual patient, rather than suggesting or requiring any specific cutoffs, protocols or optimization strategies. Interviewees reported, however, that the hospital did implement physical therapy protocols, such as set timeframes for sitting in a chair and eating meals, and standardized medication choices, though they did not attribute these changes to the CJR model.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital B performed 18% of TKAs as an outpatient status from October to December 2018, a percentage slightly below the average for CJR mandatory hospitals (19%). Interviewees stated that the volume of outpatient TKA is driven by a single surgeon who does all his surgeries outpatient and only operates on healthy patients. Interviewees stated that no other surgeons are performing outpatient TKA because they are apprehensive about discharging patients from the hospital too soon after surgery.

Patient and Caregiver Experience

The joint class that CJR Hospital B introduced three years ago provides patient education about and preparedness for a home discharge. Interviewees said that the joint class has successfully improved patient experience and satisfaction with care. Hospital interviewees frequently discussed the strong family

> *"Because the patients are more prepared for what's going to happen, I think [the joint class] contributes to a better outcome. They're more set up to know what to deal with when they go home. They do better. Our patient experience data is higher in our orthopedic patients than in our medical or general surgical."*
>
> ***– Hospital Interviewee***

and community relationships in the region, noting receptivity to home discharge. Interviewees reported that very few patients lack caregiver support.

Relationships among Providers

CJR Hospital B does not own any PAC providers or employ any physicians. The hospital does not have a formal preferred PAC provider network, but it does collaborate with a select group of 3- to 5-star rated SNFs. Most physicians are contracted through one large physician group with a small portion contracted independently or through primary care groups. Several years before the CJR model began, the large physician group implemented an ACO and "began to focus on the whole episode of care from that perspective." Interviewees reported difficulty engaging orthopedic surgeons in the CJR model because they are not financially accountable as they do not participate in gainsharing. However, CJR Hospital B utilized CJR model data to initiate peer comparison discussions with surgeons on cost and utilization measures. Such discussions led to changes in surgeons' discharge destination orders and choice of medical supplier (Exhibit 10).

Exhibit 10: CJR Hospital B discharges most patients home with home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	0%	40%	53%	8%
PY2	0%	32%	64%	3%
PY3	0%	30%	63%	8%

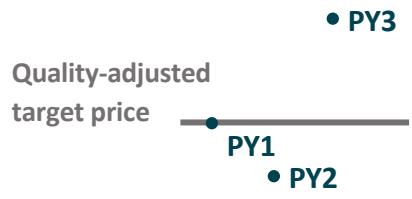
Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

As shown in Exhibit 11, CJR Hospital B exceeded its quality-adjusted target price in PY1 and did not receive a reconciliation payment. In PY2, the hospital earned an average reconciliation payment of $785 per episode. In PY3, the hospital owed an average repayment amount of $1,096 per episode. CJR Hospital B quality scores increased from "good" in PY1 to "excellent" in PY2 and PY3.

Exhibit 11: CJR Hospital B earned a reconciliation payment in PY2, but not in PY1 or PY3



Measure	PY1 final reconciliation results	PY2 final reconciliation results	PY3 initial reconciliation results
Quality category	Good	Excellent	Excellent
Average reconciliation or repayment per episode	$0	$785	-$1,096

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Performance improvement between PY1 and PY2 was attributed to the hospital's efforts working with surgeons to change discharge destination. Interviewees noted that this shift happened within one year, and one interviewee noted a 50% decrease in SNF use since 2015. Still, interviewees were hesitant to attribute this reduction to the CJR model and instead stated that it was a combination of factors, including strong evidence supporting discharge destination changes and the physician group's ACO participation. Interviewees reiterated that CJR data was a critical tool for surgeon engagement and behavior change. One interviewee stated that the radical change in discharge destination was likely due to surgeons' anticipation of gainsharing, which never materialized.

CJR Hospital C

The CJR Hospital C summary is based on site visit interviews with health system administrators, hospital administrators and executives, direct care clinical staff, hospital data managers and analysts, and two orthopedic surgeons, one employed by the hospital and the other by a large local physician group.

CJR Hospital C is a not-for-profit hospital owned by the regional health system that also owns CJR Hospital D and Non-CJR Hospital E. The hospital is located approximately 12 miles south of CJR Hospital D and 30 miles southwest of Non-CJR Hospital E. The hospital is one of two of the system's hospitals participating in the CJR model. CJR Hospital C is considered the MSA's market leader; around half of all LEJR episodes in the MSA are performed at the hospital (Exhibit 12).

Exhibit 12: CJR Hospital C is a large teaching hospital that owns an IRF and HHA

Characteristic	CJR Hospital C	CJR mandatory average
Annual Medicare LEJR volume	**314**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**HHA and IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**21%**	35%
DSH patient percentage	**29%**	32%
Bed count	**327**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital C interviewees reported that the health system that owns the hospital chose not to gainshare with surgeons due to the perceived legal and compliance risk to the hospital. An interviewee from the physician group reported that, while surgeons initially expected gainsharing and were disappointed that the hospital decided against it, the surgeons understood the hospital's position.

The hospital is currently participating in Bundled Payments for Care Improvement (BPCI) Advanced. Interviewees reported that the hospital participates in multiple episodes covering approximately 600 episodes per month.

Care Coordination

In July 2016, CJR Hospital C hired a total joint coordinator to identify efficiencies and implement orthopedic service line best practices. The total joint coordinator was asked to drive changes that would improve performance under the CJR model, particularly around decreasing length of hospital stay and SNF utilization. Efforts were targeted to elective knee and hip cases, as the hospital felt little could be improved for fracture patients.

The total joint coordinator began by meeting with physical therapy, care management, and nursing departments to identify their roles in care coordination and how they could improve the process. Under the direction of the total joint coordinator, the hospital developed a new joint class. The class covers the entire care pathway from pre-surgical patient optimization to pain management to recovery expectations. Patients are strongly encouraged to attend class prior to surgery.

CJR Hospital C also developed a "transition screening tool" that standardizes the appropriate level of care following surgery. The tool provides the hospital with the appropriate level of care for the patient based on the patient characteristics entered. The tool is first used when patients meet with physical therapy after surgery, but is updated several times as the patient progresses throughout the stay.

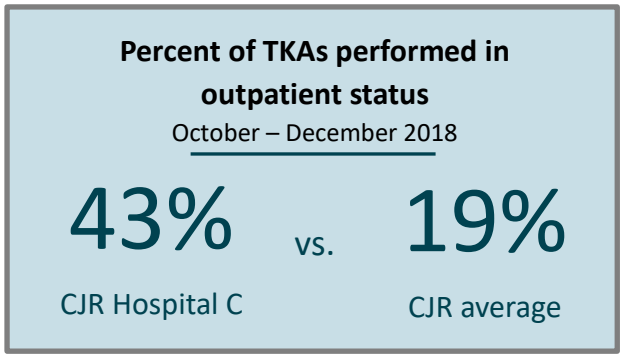
> *"[The] transition screening tool is used as a way to make clinical decisions. So we use it multiple times during a hospital encounter… it helps us standardize what we believe to be the appropriate level of care."*
>
> ***– Total Joint Coordinator***

The total joint coordinator reported increased communication with joint patients following surgery. The total joint coordinator is available to patients anytime within the 90-day episode, but most follow-up occurs in the first 30 days. With the intention of reducing readmissions by addressing questions and complications post-discharge, the total joint coordinator provides her direct number to patients and instructs patients to call her if issues arise.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital C interviewees reported 50% of TKAs in outpatient status. From October to December 2018, claims data indicate that the hospital performed 43% outpatient TKA. Interviewees indicated that outpatient TKA adoption has been higher at CJR participant hospitals than non-CJR hospitals in the system. Interviewees also considered CJR participant hospitals to be more advanced in patient education and care coordination than non-CJR hospitals.

The data management team noted that the shift to performing TKA in outpatient status has decreased the number of CJR LEJR episodes by about half (from 314 in the baseline period to 133 in PY3). Consequently, CJR has become a less important focus for the team. For example, the data management team noted that their resources are better spent on BPCI Advanced, which covers about 600 episodes per month, compared to an annual CJR volume of 314 (Exhibit 12).



Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Surgeons and other patient care staff noted difficulty determining what outpatient classification meant and how to record the stay in the electronic medical record (EMR). One surgeon noted that the process for registering a patient for outpatient TKA was different between the two hospital systems where they performed LEJRs, so there was additional confusion for them in learning both ways.

Nursing staff noted an increased workload for outpatient TKA procedures. Interviewees stated that because the patient is in the hospital for a shorter time, the timeline to complete activities is compressed. Activities include ambulating the patient six to eight times before discharge, removing the catheter, dressing the patient, fostering a sense of independence in the patient, and providing caregiver education.

Patient and Caregiver Experience

Interviewees at CJR Hospital C emphasized that setting patient expectations around shortened length of stay and discharge destination was an important part of ensuring success in the model. Prior to the beginning of the CJR model, hospitals in MSA 1 typically discharged patients to a SNF, so removing this option was difficult for many patients to accept. The hospital included length of stay and discharge destination in their pre-operative joint education class to set patient expectations early. Surgeons also reported having these conversations with patients. One surgeon noted that while patients were sometimes adamant about staying longer or going to a SNF, communicating that infection rates are tied to longer hospital and SNF stays usually convinced the patient that the home was best for recovery.

Interviewees at the hospital felt that home recovery success varied depending on caregiver or family support. MSA 1 has a strong culture around caring for family, but some patients still lack a reliable caregiver. A member of the patient care team said, “If you have a family that’s at the bedside that’s saying, ‘get up, let’s start moving, let’s get you ready and we’re going to be ready for you to come home,’ it makes a big difference.” At the same time, interviewees at CJR Hospital C felt that the pressure for home discharge has increased expectations of families and caregivers.

They noted that there is often a considerable time commitment required of caregivers, but no interviewees noted worse outcomes for patient. Overall, they thought patients' outcomes are better today than before the inception of the CJR model.

> *"I think we do have pretty good data to say that our readmission rates have decreased and that our complication rates have decreased. I don't think the skilled nursing facility piece has been missed at all."*
>
> ***– Hospital Interviewee***

Relationships among Providers

CJR Hospital C interviewees reported a collaborative relationship with the physician group that employs most of their surgeons, and interviewees at Hospital C indicated that the CJR model improved the relationship between the surgeons and the hospital. The hospital created a "musculoskeletal team" partly in response to the CJR model, an implementation that improved communication between the hospital and surgeons.

CJR Hospital C made changes in its approach to discharge planning that have affected their relationship with PAC providers. Interviewees reported that CJR data opened their eyes to events post-discharge, something they previously were not involved in. Exposure resulted in decreased discharges to SNFs, and hospitals began following up with home health providers to understand the reasons for readmission. The percent of patients first discharged to SNFs consistently decreased from PY1-3, and most patients are now first discharged home with home health (Exhibit 13).

Exhibit 13: CJR Hospital C's discharges to IRF and SNF decreased from PY1-3

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	2%	45%	41%	12%
PY2	1%	35%	55%	9%
PY3	0%	29%	47%	23%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Interviewees also reported that communication improved between the hospital and SNFs; they now have monthly meetings with the largest SNFs that they use and quarterly meetings with others. Data shared during these meetings include average patient length of stay and readmissions. Hospital interviewees noted that PAC providers now communicate directly with the hospital and surgeon if issues during the recovery are encountered.

The interviewees noted difficulty using the SNF three-day rule waiver. One interviewee said, "We now have roughly six nursing homes that will bill it out. What's tricky with this is you'll talk about it at your SNF collaborative meetings with the administrators and everybody will shake their head and say 'Yeah, we're fine, we'll do this.' But when rubber hits the road and you actually try to move a patient, their business office won't be familiar with it. They don't know how to apply the billing code. There's not a lot of confidence that they'll get reimbursed on it."

Impact

As shown in Exhibit 14, CJR Hospital C earned a reconciliation payment in all three performance years. In PY1 and PY2 the hospital earned an average reconciliation payment of $1,351 and $1,322 per episode, respectively. In PY3 the average reconciliation payment dropped to $394 per episode. Each year, quality has been "acceptable".

The hospital indicated that this drop was partially due to changes in the quality-adjusted target price and removal of TKA from the IPO list. One interviewee said that the health system as a whole has "done extremely well in lowering our complication and readmission rates across the system for all patients, not just CJR patients."

Exhibit 14: CJR Hospital C earned reconciliation payments in all three PYs

Measure	PY1 final reconciliation results	PY2 final reconciliation results	PY3 initial reconciliation results
Quality category	Acceptable	Acceptable	Acceptable
Average reconciliation or repayment per episode	$1,351	$1,322	$394

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Executive leaders at CJR Hospital C reported that the health system used knowledge gained from CJR model participation in other bundled payment models like BPCI Advanced. The hospital leaders reported comfort joining other bundled payment models because of their CJR model experience.

The data management and population health team reported difficulty in reporting PRO data to CMS. The team reported never receiving credit for their PRO data submission, even though they describe doing everything correctly. The team has not been able to identify the issue with their

submission, and stated they have to file an appeal with CMS to obtain the reasoning. Further, they found the appeal process time consuming and frustrating. They want to communicate directly with someone at CMS to resolve the problem.

CJR Hospital D

The CJR Hospital D summary is based on site visit interviews with a health system administrator, hospital administrators and executives, hospital data managers and analysts, and direct care clinical staff.

CJR Hospital D is a not-for-profit hospital owned by a regional health system that also owns CJR Hospital C and Non-CJR Hospital E. CJR Hospital D is approximately 12 miles north of CJR Hospital C and approximately 32 miles southwest of Non-CJR Hospital E. The hospital performs an average of 69 Medicare LEJRs annually, which is fewer than the average number performed at CJR mandatory hospitals (Exhibit 15).

Exhibit 15: CJR Hospital D is a not-for-profit hospital that performs fewer LEJRs annually than the CJR hospital average

Characteristic	CJR Hospital D	CJR mandatory average
Annual Medicare LEJR volume	**69**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**HHA**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**15%**	35%
DSH patient percentage	**19%**	32%
Bed count	**90**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital D's executive leaders described the local LEJR market as competitive; several other hospitals within 20 miles offer LEJR. The volume at CJR Hospital D comes from elective surgeries; trauma patients go to larger hospitals. The hospital stated that they have a strong place in the market. The executives stated the MSA has grown in recent years, which has created more demand. The Medicare Fee-for-Service (FFS) population in the MSA has grown recently as a result of more baby boomers and longer life expectancies. The executives felt that supply of surgeons has not kept up with demand for services and that there is enough demand in the MSA for three to four new surgeons.

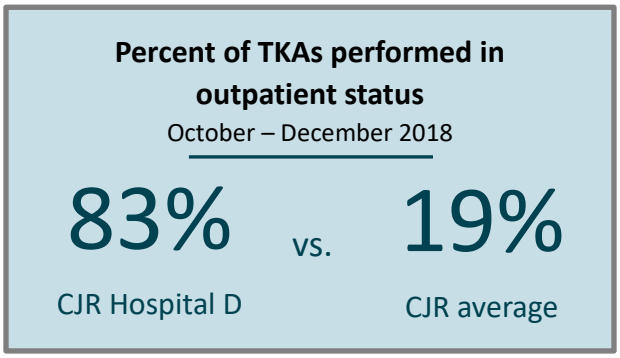
Care Coordination

CJR Hospital D shares their total joint coordinator with CJR Hospital C. The total joint coordinator position was created in response to the CJR model to decrease hospital length of stay and SNF utilization. CJR Hospital D has a specified nurse navigator who works with the total joint coordinator to be the point of contact at the hospital. The joint coordinator developed a new joint class that covers the entire care pathway from pre-operative optimization to pain management and recovery expectations.

Interviewees at CJR Hospital D stated that training of staff at the hospital has improved since the CJR model started. When new staff are on-boarded they are trained in the new care protocols, such as same-day ambulation and next-day discharge, so they expect to treat all patients that way. This has helped the hospital improve its communication with patients and get all staff delivering the same message around discharge and hospital stay expectations.

Effect of Removal of TKA from Medicare Inpatient-Only List

Interviewees at CJR Hospital D reported that the majority of their knees are being done outpatient since TKA came off the IPO list. From October to December 2018, the hospital performed 83% of TKAs in outpatient status. The transition was not a difficult one for the hospital, and interviewees reported that they were prepared because they had focused on reducing lengths of stay in the musculoskeletal line. One executive stated, "I didn't lose any sleep. I think we understand the market is changing." Since the rule change, the hospital codes all TKAs as outpatient status upon patient check-in. The patient will only be switched to inpatient if the surgeon indicates so ahead of time. There is additional utilization review of inpatient TKAs to ensure correct documentation and justification in the medical record.



Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Patient and Caregiver Experience

Interviewees at CJR Hospital D reported the importance of the joint class in setting patient and caregiver expectations and improving patient experience. Interviewees perceived that patients and their caregivers are better prepared for surgery and recovery than they were before the CJR model. The total joint coordinator stated that patients who are having their second LEJR are often

skeptical of a shorter hospital stay and home discharge. After surgery, however, many report feeling comfortable going home because of the improved education.

Patient care staff reported that care protocols do not differ for CJR patients and non-CJR patients. Staff indicated that patients do not generally know what it means to participate in the model, even though they receive the letter informing them their surgery is part of the CJR model.

Relationships among Providers

CJR Hospital D interviewees indicated more communication between the hospitals, surgeons, and post-acute care providers since the start of CJR model. The hospital has set up quarterly meetings with all of the SNFs they use to discuss any cases that had complications or readmissions. The hospital data team communicates with SNFs the average cost per case and how they compare to other facilities. The hospital has also assembled a list of SNFs who are preferred for joint care. Interviewees at the hospital reported that incentivizing the facilities through the strategies above has worked and they have not needed to stop referrals for poor performance. The hospital decreased first discharge to SNF from 31% in PY1 to 16% in PY3. Additionally, the hospital increased first discharge home without home health over the past three performance years (Exhibit 16).

Exhibit 16: CJR Hospital D decreased SNF utilization from PY1

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	0%	31%	69%	0%
PY2	0%	29%	66%	5%
PY3	0%	16%	77%	7%

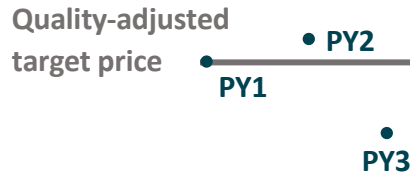
Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

CJR Hospital D improved their performance every year under the model, as demonstrated in Exhibit 17. In PY1, the hospital exceeded its quality-adjusted target price and did not receive a reconciliation payment. In PY2, the hospital owed an average repayment of $166 per episode, and in PY3, CJR Hospital D earned an average reconciliation payment of $2,308 per episode. Quality has been "acceptable" every year.

Exhibit 17: CJR Hospital D came below its quality-adjusted target price in PY3



Measure	PY1 final reconciliation results	PY2 final reconciliation results	PY3 initial reconciliation results
Quality category	Acceptable	Acceptable	Acceptable
Average reconciliation or repayment per episode	$0	-$166	$2,308

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Interviewees at the hospital felt that more experience under the model, as well as increased discharge to home, were responsible for the performance improvement over the course of the CJR model. As the hospital adjusted to the model, their care coordination process improved and their staff became more familiar with the new process.

Non-CJR Hospital Summary

Introduction

The non-CJR hospital summary is based on site visit interviews with Non-CJR Hospital E. Interviewees include two members of the executive leadership team and two members of the orthopedic service line leadership team.

Non-CJR Hospital E is owned by the same not-for-profit regional hospital system that owns CJR Hospitals C and D. The hospital is a critical-access hospital located in a residential suburb about a 45-minute drive from the MSA's urban center. The non-CJR hospital is separated from the MSA by a mountain range. The hospital has a total of 19 beds and performed 36 Medicare LEJR in 2017. The community's population is slightly older and more affluent than the anchoring MSA (Exhibit 18).

Exhibit 18: Non-CJR Hospital E is a critical-access hospital outside of MSA 1

Characteristic	Non-CJR Hospital E	CJR mandatory average
Annual Medicare LEJR volume	**36 in 2017 (no baseline data)**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage		35%
DSH patient percentage		32%
Bed count	**19**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes or discharges initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Notes: Fields with a "-" indicate that this information is unavailable due to the hospital's critical-access status.
DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Non-CJR Hospital E: Arrival of new orthopedic surgeon and membership of a system with CJR participant hospitals results in changes to LEJR protocols

Interviewees reported that the Non-CJR Hospital E does not experience much competition in their geographic area because of their distance from the MSA urban center. Interviewees noted that the nearest hospital is CJR Hospital D, which is about a 15-minute drive away, is owned by the same health system. An interviewee commented that the goal of both facilities is to "coordinate the services and the work that we're doing together." Interviewees shared that their weekly meetings with CJR participant hospitals in the same system has helped them improve their focus on population health and cost reduction.

Last year, the hospital hired a well-reputed, fellowship-trained surgeon who has bolstered the hospital's LEJR service line and contributed to quality through modern care protocols such as improved patient education and improved care coordination. The LEJR service line is a major source of revenue and underlies the hospital's good reputation in the community. Medicare FFS cases comprise approximately 30% of LEJR surgeries performed at the hospital.

The hospital does not have a designated total joint coordinator, therefore interviewees reported that changes to the LEJR service line occur at the corporate level and are applied to their facility through their patient care nurses and discharge staff. For example, an interviewee stated that the corporate leadership of the hospital system promoted a more concerted effort on decreasing the length of stay and changing discharge destination to home across all hospitals in the system.

Interviewees reported that the hospital's LEJR service line participates in a system-wide weekly meeting that includes physicians and patient care staff from both CJR participant and non-CJR participant hospitals. Changes the hospital made as a result of system-wide implementation include the standardization of infection prevention protocol, venous thromboembolism prophylaxis protocol, pre-operative patient education, timely dosage for tranexamic acid, and same-day ambulation protocol. The hospital currently does not perform outpatient TKA, but hospital leadership has held discussions about offering it.

> *"I think having hospitals that are part of the same system that are participating [in the CJR model] has had a much bigger impact than being close to a market that's doing it."*
>
> ***– Executive Leader***

Interviewees from the Non-CJR Hospital E attributed recent changes in their LEJR program to their participation in the larger health system and not due to market changes resulting from the CJR model. The hospital system that owns the non-CJR hospital implemented cost standardization strategies across all its facilities and convenes a weekly system-wide meeting to standardize care; these meetings include both CJR participant and non-CJR participant hospitals. An

> *"Given that we meet with the surgeons every week, we're constantly looking for opportunities to standardize care based on evidence based medicine and reduced variation … We don't focus on CJR facilities or not CJR facilities."*
>
> ***– Orthopedic Service Line Lead***

example of a cost standardization effort included a consolidation of bone cement suppliers from which surgeons could choose their medical supplies on a case-by-case basis. An interviewee described how they "meet with surgeons every week" and are "constantly looking for opportunities to standardize care based on evidence-based medicine and reduced variation," and that they "don't focus on CJR facilities or non-CJR facilities."

Interviewees commented that additional changes at the hospital in recent years are due to the preferences of a new surgeon rather than the CJR model. The interviewees stated that the surgeon updated hospital practices around care coordination somewhat independently of the system. For example, members of the orthopedic service line noted that the surgeon preferred to send patients home with outpatient physical therapy rather than home with home health. This practice differed from many of the surgeons' preferences at the larger flagship hospital in the MSA. The number of Non-CJR Hospital E's patients discharged to a SNF dropped from 50% in PY1 to 11% in PY3. Simultaneously, the number of patients discharged home increased between PY1 and PY3 (Exhibit 19).

Exhibit 19: Non-CJR Hospital E's discharges to SNF decreased between PY1 and PY3

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	0%	50%	50%	0%
PY2	0%	16%	68%	16%
PY3	0%	11%	78%	11%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: LEJR episodes at Non-CJR Hospital E are identified applying CJR eligibility criteria except the IPPS hospital criterion to discharges.
IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, PY = performance year, SNF = skilled nursing facility.

Associated Provider Summary

Introduction

The associated provider summary is based on interviews with 3 SNFs and 2 HHAs.

MSA 1 is home to 1 IRF, 16 SNFs, and 13 HHAs. MSA 1 has 40 IRF discharges per 10,000 people aged 65 and older, much less than the CJR MSA average of 178. The supply of SNF beds per 10,000 people aged 65 and older is 297, which is lower than the CJR MSA average of 410.

All CJR participant hospitals in the MSA have rates of patients being first discharged home with home health that are higher than the averages among CJR mandatory hospitals, and the home health market was described by an HHA executive as saturated. Interviewees reported that there are few regulations for opening a new HHA.

Two SNFs are associated with a health system network and one is not associated with any hospital or health system. One home health agency interviewed is owned by the regional not-for-profit health system that owns CJR Hospitals C and D and Non-CJR Hospital E. The second HHA is an independent agency.

Key Findings

Shifts in Patient Complexity

Interviewees from each SNF and HHA described an increase in the complexity of their patient mix, particularly LEJR patients with comorbidities, bariatric issues, or non-weight bearing diabetes. In response to this increased complexity, one SNF hired additional certified nursing assistants. Another SNF interviewee reported that the increased intensity of care needs required additional nursing staff education, stating, "sometimes I feel like we're a med[ical]-surg[ical] instead of a post-acute care [facility]."

The HHA owned by the not-for-profit health system reported that patients are seen more quickly post-discharge, but noted that the increased intensity of care has been manageable. The agency has engaged in conversations with hospital physicians about providing appropriate care after pain blocks, knee blocks, and anesthesia, which is "a little bit new, [something] that we have not dealt with before." Although all PAC providers noted an increase in patient complexity, none of them noted increased pressure from hospitals to reduce length of stay.

Patient and Caregiver Experience

Two SNF interviewees noted an increase in reliance on caregivers and a greater need for patient education in the SNF setting. A SNF director of nursing stated that the facility's role in patient education has increased greatly. One SNF stated that communicating appropriate discharge

expectations to prospective patients who expect a SNF stay following surgery has been a challenge. In response to the challenge, the SNF requests that patients who are intent on a SNF stay after surgery discuss discharge plans with their surgeon prior to surgery. Additionally, interviewees from the HHA owned by the not-for-profit health system see prehabilitation as a conduit for improving patient and caregiver expectation, but do not feel the model financially supports prehabilitation efforts. While prehabilitiation is happening at some PAC providers, interviewees suggested CMS consider reimbursement for prehabilitation to increase the number of PAC providers offering it. They explained that prehabilitation is an important "opportunity for families [and] patients to get a little bit of support and a little bit of education on expectation setting."

Executive financial leadership at the HHA owned by the not-for-profit health system indicated that the CJR model has improved the overall quality of the patient experience by shifting from institutional PAC to the home health setting. The interviewee reported that "SNFs can sometimes be difficult places for patients to get well. I think home for appropriate patients is an awesome place for patients to get well, get their knee services, [and] skip those 20 magical days in the skilled nursing facility."

Care Coordination and Relationships with Hospitals

HHA interviewees reported a competitive and shifting PAC market and that referrals are based on existing relationships between surgeons and PAC providers. The independent HHA receives referrals from primarily two surgeons who have privileges at multiple hospitals in the MSA.

Interviewees from SNFs indicated that hospitals often have minimal patient follow-up with CJR patients once discharged to the SNF; most communication with hospitals is SNF-driven. The director of one SNF described intense coordination with the hospitals at the start of the CJR model, but noted that this coordination tapered off quickly and many of the initial activities discussed never materialized. The SNF director and director of nursing both stated that they do not meet with the hospitals specifically about CJR or LEJR patients. Instead, they meet quarterly to discuss all issues related to skilled nursing. They also stated that they have not received CJR-specific care pathway directives from the hospital as a result of the meetings. A second SNF interviewed also meets quarterly with the hospital to discuss efficiency improvements or patient-related issues across the entire facility, not CJR or LEJR specifically. Communication about patient care in the post-discharge setting at the unassociated SNF is also driven by the facility. If concerns arise about a patient, the director of nursing will call the hospital case managers or orthopedic floor nurses.

Two SNFs are part of a post-acute care team health system network that provides an enhanced patient tracking system and daily rounds from the health system's physiatrist and physician assistants. Patients discharged from network hospitals are tracked in the system throughout the episode, allowing the physiatrist and physician assistants to "continue to see them and

A hospital system post-acute care team provides enhanced patient tracking and daily rounds from the system's physiatrist and physician assistants. These on-site providers can order in-house diagnostic tests, resulting in a decreased readmission rate.

treat them [at the SNF].” Prior to the patient tracking system and rounds, the SNF experienced difficulty with incomplete or inaccurate discharge orders, which often resulted in readmissions to the hospital. Now, on-site providers can determine the need for a hospital readmission by conducting in-house diagnostic testing, such as x-rays, labs, and electrocardiograms. Furthermore, the in-house diagnostic results are communicated to the associated hospital prior to admission.

The other major health system in the market utilizes a hospitalist group for in-house rounds on patients discharged to the SNF from their system. Rather than a health-system-operated patient tracking system, they contract with a convener who tracks patients throughout their episode of care.

Impact

The director of nursing at one of the network-associated SNFs stated that there has been an increase in communication with the orthopedic surgeon office in the past three years. An HHA interviewee reported an increase in communication with the surgeon if complications arise, which has been a key solution to providing care for more complex patients.

Interviewees from both SNFs and HHAs noticed a shift in volume and patient complexity. The director of another network-associated SNF noticed a simultaneous increase in patient complexity and decrease in the volume of LEJR patients, mentioning that one of their biggest challenges is staying full. In response to this challenge, the director thought an increase in staff education about trends in volume and an emphasis on high-quality outcomes would be a first step to attracting more patients. An executive of the HHA owned by the not-for-profit health system observed that total hip replacement patients are “getting more comfortable skipping SNF and home health all together and going directly to outpatient. We started seeing that even before the CJR [model began].” The executive reported that CJR further facilitated conversations the system had held regarding PAC setting utilization.

> *“[Hip replacement patients are] getting more comfortable skipping SNF and home health all together and going directly to outpatient.”*
>
> ***– HHA Executive***

Finally, executive leadership of the HHA owned by the not-for-profit health system pointed to confusion about the CJR model when it was announced and where the HHAs would fit in. It was clear that hospitals and physicians “had a strong investment to make sure they were successful,” but repayment for therapy in the home was unclear at the model’s outset. Executive interviewees thought that the CJR model and other payment models leave out PAC providers, and miss the opportunity to involve PAC providers in cost savings and savings sharing:

“The one thing I would say in all the pilots, from ACOs to reimagining care, to CJR, I think the concepts are wonderful, but they have a tendency to stop short. They don’t go to the post-acute world really well…They don’t recognize there’s a whole other world that is out there that you can try…I think we get couched as a post-acute service, and really we should be a community service, period.”

MSA 2 Introduction

This case study of CJR MSA 2 summarizes data gathered from site visit interviews with staff at hospitals, PAC providers, and orthopedic surgeons. Interviews were conducted at eight CJR participant hospitals, three non-CJR hospitals, three SNFs, three HHAs, and three outpatient (OP) physical therapy (PT) clinics.

As noted in Exhibit 20, MSA 2 is similar to the CJR mandatory MSA average on most characteristics including population over age 65, median household income, and obesity prevalence. The Herfindahl-Hirschman Index indicates MSA 2 is less concentrated for LEJR procedures than the CJR MSA average. There are more SNF beds and slightly higher IRF discharge rates in the MSA than the CJR mandatory MSA average. Hospitals in the MSA provide care for patients from a large catchment area with some patients driving several hours for procedures.

Exhibit 20: MSA 2 characteristics

Characteristic	MSA 2	CJR mandatory MSA average
Population size	**1,297,998**	1,840,635
Population aged 65+	**12%**	15%
Median household income	**$50,967**	$49,179
Medicare Advantage penetration	**20%**	29%
Obesity prevalence	**24%**	25%
Herfindahl-Hirschman Index[a]	**1,606**	3,675
IRF discharges per 10,000 65+ population	**185**	178
Orthopedic surgeons per 10,000 65+ population	**9**	7
SNF beds per 10,000 65+ population	**441**	410

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Notes: FY = fiscal year, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, MSA = metropolitan statistical area, POS = provider of services, PPS = Prospective Payment System, SNF = skilled nursing facility.

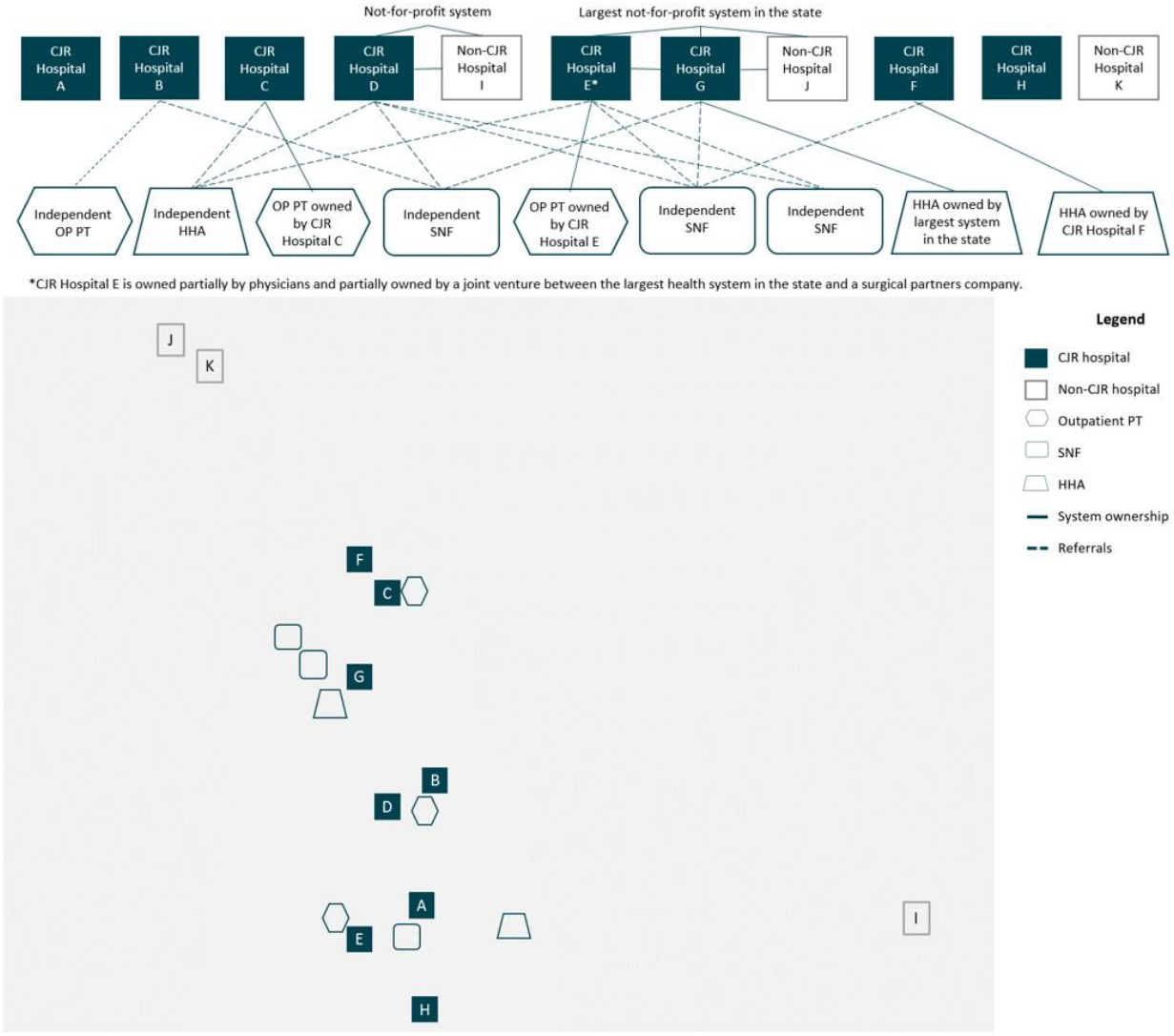
[a] The Herfindahl-Hirschman Index is calculated as the sum of the squared LEJR market shares of all ACH providers (CJR and control group), multiplied by 10,000. The HHI values can range from 0 (large number of firms in the market) to 10,000 (a single firm controls the market). Values between 1,500 and 2,500 indicate moderately concentrated markets and values greater than 2,500 are considered highly concentrated

MSA 2 includes many health systems operating hospitals. We interviewed CJR hospitals representing three not-for-profit health systems, one public trust health system, and three for-profit independent hospitals, two which were physician-owned specialty hospitals and one which was an academic hospital. We also interviewed non-CJR hospitals outside of the MSA but in the hospital referral region.[1] Two of these non-CJR hospital were affiliated with a hospital system that had a

[1] Hospital referral regions represent regional health care markets for tertiary medical care. More can be read about hospital referral regions here: https://www.dartmouthatlas.org/faq/

CJR participant hospital in the MSA. One was an independent hospital owned by a national healthcare management company with no hospitals participating in the CJR model. The relationships among the hospitals and associated providers is illustrated in Exhibit 21.

Exhibit 21: Relationships among providers in MSA 2 sample



Source: CJR evaluation team analysis of Medicare claims and enrollment data for episodes initiated from October 1, 2017 to December to September 30, 2018 and referrals based on site visit interviews.

Note: The gray box is a visual depiction of distances between providers. Distances are approximate and not to scale. HHA = home health agency, OP = outpatient, PT = physical therapy, SNF = skilled nursing facility.

Exhibit 22 shows the quality and financial performance of the eight CJR participant hospitals in this case study. In PY3, all CJR hospitals in the MSA 2 sample had "acceptable" or higher quality scores and six of eight earned reconciliation payments.

Exhibit 22: MSA 2 hospital CJR model performance, PY1-3

	Hospital performance	CJR hospital A	B	C	D	E	F	G	H
Financial	Earned reconciliation PY1			-		•		•	•
	Earned reconciliation PY2	•		•	•	•			•
	Earned reconciliation PY3	•		•	•	•		•	•
Quality	"Acceptable" or higher quality score PY1	•	•	-	•	•	•	•	•
	"Acceptable" or higher quality score PY2	•	•	•	•	•			•
	"Acceptable" or higher quality score PY3	•	•	•	•	•	•	•	•

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes January through December 2018).

Note: MSA = metropolitan statistical area, PY = performance year. A "•" indicates that a hospital met reconciliation or quality criteria. A blank space means a hospital did not meet reconciliation or quality criteria. A "-" indicates a hospital did not participate in the CJR model in that PY.

Key Findings

Influential Market Features

Interviewees indicated that the MSA is highly competitive for LEJR surgeries. The MSA has 17 participating CJR hospitals offering LEJR, including several that are physician-owned or surgical centers. Interviewees reported a high supply of orthopedic surgeons in MSA 2, partially attributed to the orthopedic residency program at CJR Hospital B.

Surgeons in the MSA value their independence. Interviewees noted that many prefer the control, ownership, and decision-making abilities that physician-owned facilities allow. Even surgeons working at the larger traditional hospitals prefer to be independent. Consequently, the MSA has been moving toward fewer employed surgeons and more contractors.

Based on our interviews, the use of general anesthesia for LEJR surgeries in MSA 2 is higher than MSA 1 and MSA 3. Half of the CJR participant hospitals interviewed in MSA 2 reported the use of general anesthesia for LEJR. Interviewees attributed the ongoing use of general anesthesia to surgeons' training and historical use in the MSA.

Interviewees reported hospitals had past or present involvement in other bundled payment models, such as Bundled Payments for Care Improvement (BPCI) Classic and BPCI Advanced. Several hospitals joined BPCI Advanced (non-LEJR clinical episodes) in part due to their positive experience with the CJR model and the belief they could apply the experience gained from the CJR model beat BPCI Advanced target prices in other service lines.

Care Coordination

Interviewees across the MSA reported an increased focus on pre-operative education in response to the CJR model. Most hospitals created or improved their pre-surgical education classes and encouraged patients to attend, but did not make it mandatory. Even though they found the classes valuable, some surgeons expressed reluctance in making attendance mandatory because they were concerned their patients would view the classes as an additional burden.

One hospital in the MSA incorporated occupational therapy into the care coordination process by having occupational therapists work with patients before they were discharged, as well as assist in evaluating patients for appropriate discharge setting. The hospital reported having so much success with the occupational therapists involved in the process that occupational therapy is now offered daily for all LEJR patients.

Effect of Removal of TKA from Medicare Inpatient-Only (IPO) List

Responses to the removal of TKA from the Medicare IPO list varied. Adoption of outpatient TKA in the MSA was generally low with most hospitals performing less than 10% of their TKAs in the outpatient setting between October and December 2018. The low-volume of TKAs performed outpatient was attributed to surgeon preference and historical practice. Many hospitals noted that they felt that the inpatient setting continued to be the most appropriate "safe" location for the procedure for their Medicare FFS population, however, some hospitals mentioned that because they were required to do outpatient TKA for some commercial insurance plans that they were slowly moving to offer it for their healthiest Medicare FFS patients.

Patient and Caregiver Experience

Some surgeons reported feeling that the CJR model asked more of patients and caregivers, which made their job more difficult. Surgeons in the MSA reported feeling pressure to keep patients satisfied in responding to changes created by the CJR model. For example, some surgeons reported feeling uncomfortable telling their patients they had to go to prehabilitation or joint class for concern of putting an additional burden on the patient prior to surgery.

Patient care and coordination staff at several hospitals reported that education and expectation setting improved in response to the CJR model, and that this overall made patients more comfortable with the process. Some noted that even with the increased caregiver responsibilities and shorter length of stay (LOS) that patients were more confident and less anxious going into surgery. Interviewees felt that patients had the tools and resources needed for the surgery and recovery.

Relationships among Providers

Interviewees reported a high-volume of low quality SNFs in the MSA which motivated hospitals to create preferred provider networks with higher quality SNFs in the market and work closely with those providers to improve performance in the model. Low quality of PAC providers was noted especially in rural settings. Some hospital interviewees stated that SNFs or HHAs often did not partner with hospitals to reduce care costs given the low-volume of patients. In response, CJR Hospital B is considering the development of SNF and HHA preferred provider networks in the rural areas of the state.

Multiple hospitals in the MSA reached out to SNFs and communicated LOS expectations for CJR patients. Interviewees from two SNFs reported a seven to 10 day LOS cap for CJR patients that was implemented shortly after the CJR model began. The Director of Physical Therapy at one of the SNFs noted that hospitals have relaxed the LOS expectations to 15 - 20 days for fracture patients after observing that they were not ready to be discharged home at 10 days.

Interviewees described the high-volume of surgeons in the market as highly influential to hospitals' response to the CJR model. Interviewees indicated that the selection and implementation of changes in response to the CJR model was dictated by surgeons' interests and support. For example, use of prehabilitation and patient optimization varied by surgeon and depended on their personal interest in encouraging patients to participate. Some interviewees reported feeling that the high number of surgeons gave the hospitals some bargaining power with operating room space, as many surgeons sought privileges at more than one hospital to create flexibility in their operating schedule.

CJR Hospital A

The CJR Hospital A summary is based on site visit interviews with executive and financial leadership, two orthopedic surgeons, the chief nursing officer, the post-surgical unit manager, and a physician assistant (PA) hospitalist.

CJR Hospital A is a small multispecialty hospital that is managed by a healthcare development and management company that provides specialized management of small, physician-owned surgical hospitals. The management company owns 60% of the hospital, while 40% remains physician-owned. CJR Hospital A performs an average of 30 Medicare LEJR procedures annually, less than one-fifth the average volume among CJR mandatory hospitals (Exhibit 23).

Exhibit 23: CJR Hospital A is a small, partially-physician-owned, specialty hospital

Characteristic	CJR Hospital A	CJR mandatory average
Annual Medicare LEJR volume	**30**	164
Ownership	**For-profit**	26% for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**43%**	35%
DSH patient percentage	**17%**	32%
Bed count	**12**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital A has undergone multiple ownership changes since July 2003. As of April 2018, CJR Hospital A has been affiliated with the healthcare development and management company that provides specialized management of small, physician-owned, surgical hospitals.

CJR Hospital A is considered a "boutique" hospital according to interviewees. Patients at the hospital enjoy amenities not available at large hospitals. CJR Hospital A prides itself in offering quick and easy scheduling for patients and surgeons; easy parking; a high nurse-to-patient ratio; quiet rooms; prompt in-person communication; and ownership of a robotic device used for LEJR. Surgeons are reportedly attracted to the hospital because of operating room availability and access to the robotic device.

The patient mix was described as increasingly younger, with more people seeking joint replacements at a younger age. Because the hospital does not have an intensive care unit, higher-risk patients may be referred to another hospital in MSA 2.

The hospital draws surgeons mainly from three physician group practices. Interviewees reported that the number of surgeons performing LEJR at CJR Hospital A is in the "double digits." No surgeons are employed, and surgeons additionally operate at other hospitals. The hospital is not engaged in gainsharing with orthopedic surgeons, although some orthopedic surgeons who practice at CJR Hospital A gainshare with other hospitals.

The hospital has not implemented a formal approach to the CJR model, and reportedly has not "spent as much time as some of the other facilities that have a huge volume." The hospital responded to the CJR model by developing a pre-operative educational booklet and increasing communication with patients and caregivers, particularly around post-discharge education and discharge planning during the inpatient stay. In addition, hospital leadership is currently monitoring trends in individual surgeons' outcomes and cost. Data are not formally shared with the surgeons. CJR Hospital A does not own any post-acute care facilities or agencies and is not participating in any other alternative payment models.

Care Coordination

Interviewees reported that care coordination decisions are driven by individual surgeon's preference at CJR Hospital A. At the beginning of the model, the hospital created patient education booklets, but the use of the booklets was not adopted by many surgeons, so the hospital stopped making them. Pre-operative education also varies by surgeon; there are no joint classes at the hospital so some surgeons at the hospital do little pre-operative education, while other surgeons prefer to conduct one-on-one pre-operative education where they communicate hospital LOS expectations and inquire about the patient's home environment. Patients are instructed to visit their primary care provider for pre-operative optimization and clearance. Surgeons are also responsible for discussing discharge destination during pre-operative visits. The hospital is in the beginning stages of developing a standardized pre-operative joint class.

Key staff involved in care coordination include a post-surgical unit manager, inpatient nurses and physical therapists, and a PA hospitalist. The post-surgical unit manager is involved in some case management tasks such as communicating with the patients and caregivers post-operatively, ensuring that post-discharge needs are met, faxing order sets to PAC providers, and collecting CJR PRO data. Inpatient nurses provide education to patients by reviewing educational documents with the patients and answering their questions.

The PA hospitalist works on a consultant basis for an estimated six to seven orthopedic surgeons at CJR Hospital A and is responsible for inpatient medical management. The role involves management of medication regimens, complications as a result of anesthesia, and comorbidities. On the day of surgery, the hospitalist reviews the patient's pre-operative notes and communicates

with the patient and caregiver immediately after surgery. Surgeons have individualized order set preferences that the hospitalist personally tracks; there are no efforts being made to standardize order sets. The hospitalist communicates with the surgeon and post-surgical unit manager to determine appropriate discharge setting. The hospitalist does not typically communicate with PAC providers.

Post-discharge, the post-surgical unit manager or surgeon are the designated points of contact. Since the CJR model began, one surgeon now requests patients and primary or post-acute care providers to contact him prior to referring a patient to the emergency department (ED). There is currently no formal method for tracking a patient who has been admitted to the ED.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital A performed 11% of TKAs as an outpatient status from January to September 2018, but did not perform any outpatient TKA from October to December 2018. The two orthopedic surgeons interviewed do not contribute to the hospital's volume of outpatient TKA, one of whom thinks it is "safer for patients to spend the night in the hospital." Hospital leadership reported a difference between inpatient and outpatient payments of approximately $4,000, but noted that the cost of care does not change for outpatient TKA.[2] An interviewee stated, "The revenue payment is reduced, but our costs aren't subsequently reduced as well."

Two surgeons at CJR Hospital A reported an average length of stay around 2 days for their Medicare FFS TKA patients. One of the surgeons considers an overnight stay to be a safer option than an outpatient procedure, but will order a 23-hour observation stay for "young and healthy" LEJR patients. The hospitalist expressed concern with same-day discharges for TKA patients, especially when considering the effect of nerve blocks and pain medication.

> *"I don't think it's a good idea. Especially since they're doing a lot more nerve blocks [the patient's] fall risk is huge. So you're going to send them home and then you're going to have people falling and then you're going to have all kinds of new problems."*
>
> ***– Hospitalist***

Patient and Caregiver Experience

A surgeon at CJR Hospital A observed an increased expectation of patient engagement in their LEJR recovery as a result of the CJR model, which he considers to be a positive change. The surgeon communicates with the patient about expected length of stay and ambulation, and

[2] Per CMS final rule comments on 42 CFR Parts 416 and 419 estimated difference in reimbursement per case between Median inpatient procedure and outpatient TKA is $1,153. Source: Federal Register Vol.83, No. 225 November 21, 2018. Accessed: https://www.govinfo.gov/content/pkg/FR-2018-11-21/pdf/FR-2018-11-21.pdf

encourages his patients to identify a caregiver. The surgeon expressed that pre-operative education and expectation setting decreases anxiety and empowers the patient.

The hospitalist reported an increased reliance on caregivers, stating, "There's a huge stress on a caregiver who feels like 'if I don't do it right there's going to be a worse outcome and it's going to be my fault.' That's a horrible feeling for them."

Relationships among Providers

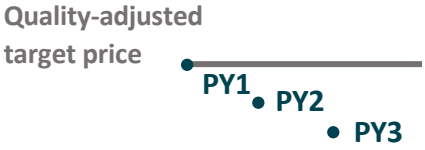
CJR Hospital A does not have preferred provider networks. SNF quality in the market was described as poor, resulting in heavy use of HHAs. A surgeon observed a decrease in SNF quality with the arrival of alternative payment models because SNFs were no longer part of the standard discharge routine. As the volume of post-surgical patients discharged to SNFs decreased, the surgeon opined that the SNF staffs' understanding of post-surgical patient care decreased. Furthermore, the surgeon felt that lower volume of surgical cases contributed to the reduction in overall SNF and HHA quality.

Similar to pre- and intra-operative protocols, surgeons drive post-acute care use and communicate with PAC providers directly. Each surgeon has their own HHA preference and utilize preferred agencies heavily. One surgeon reported that he uses HHAs that "willing to adapt" to patients' need for a visit within 24 hours of discharge and that can frontload visits. The surgeon does not send patients to agencies that cannot accommodate these expectations.

Impact

Exhibit 24 shows CJR Hospital A's quality and financial performance. CJR Hospital A did not receive a reconciliation payment in PY1.The hospital earned a reconciliation payment in PY2, an average of $1,440 per episode, and nearly doubled that amount in PY3. The hospital also improved its quality rating from "acceptable" in PY1, to "good" in performance years 2 and 3.

Exhibit 24: CJR Hospital A nearly doubled its reconciliation payment from PY2 in PY3



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Acceptable	Good	Good
Average reconciliation or repayment per episode	$0	$1,440	$2,583

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

CJR Hospital A interviewees considered their participation in the CJR model to be a financial success, but noted that additional investment in the model would be difficult to justify due to low LEJR volume. The hospitals financial success in the CJR model is attributed to a decrease in IRF and SNF utilization and an increase in patient expectation setting and discharge planning. Interviewees responsible for data management expressed frustration with the accessibility and readability of the CMS CJR claims data; interviewees reported that PRO data for PY2 was successfully submitted to CMS.

CJR Hospital B

The CJR Hospital B summary is based on site visit interviews with the hospital's president and other financial and executive leaders, leaders of the orthopedic service line including the orthopedic surgeon who identified as the physician champion, anesthesiologist, and the PA for the orthopedic program who oversees and coordinates the CJR program. The executive director and CJR coordinator of the hospital's post-acute care partner company were also interviewed.

For two decades, CJR Hospital B was owned by a national health system, but recently became an independent, not-for-profit, locally-owned academic hospital. The hospital performs an average of 104 Medicare LEJR procedures annually, which is fewer than the average number performed at CJR mandatory hospitals (Exhibit 25).

Exhibit 25: CJR Hospital B is an academic hospital and the only Level I trauma center in the state

Characteristic	CJR Hospital B	CJR mandatory average
Annual Medicare LEJR volume	**104**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**18%**	35%
DSH patient percentage	**53%**	32%
Bed count	**659**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital B is located in the urban center of the MSA and is the only Level I trauma center in the state. The hospital is a safety net hospital and serves a wide catchment area. The patient mix was described as unhealthy with high rates of tobacco use and obesity. The hospital also performs LEJR procedures at another building about 20 miles away from the main campus, both facilities bill under the same CCN and share staff and resources.

The for-profit national health system that previously owned CJR Hospital B dictated care practices from the system level and surveyed the hospital's physicians and post-acute care settings to help

identify areas for improvement. Hospital interviewees reported that, under this ownership, communication was a challenge and the hospital had difficulty accessing system provided resources. In 2016, CJR Hospital B became an independent, not-for-profit, locally-owned hospital. Interviewees noted that post-acute care, relationships among providers, and care redesign have greatly evolved since the transition.

Though its Medicare FFS joint volume is lower than the average volume among CJR mandatory hospitals, the hospital reported that it holds market dominance in orthopedic oncology and its second largest surgical volume is orthopedic trauma. Interviewees attributed the low Medicare FFS volume at the hospital to the high number of specialty hospitals in the MSA. Interviewees reported that bundled payment models are an integral component of the hospital's strategic plan and noted that the hospital participates in 22 clinical episodes in Bundled Payments for Care Improvement Initiative (BPCI) Advanced.

Approximately 95% of physicians are employed through the university college of medicine, which is state-funded. When the CJR model began, gainsharing with surgeons was discussed but not pursued due to tense relationships between the physicians and the previous health system ownership and the upcoming ownership transition. Interviewees reported that an orthopedic surgeon has taken on the role of physician champion and his engagement has helped gain buy-in from other surgeons and standardize process development. Under independent ownership, the hospital has developed a multi-disciplinary CJR quality committee that is responsible for leading value analysis, standardization, optimization, and cost reduction efforts. For example, the hospital is considering setting a price cap for implant vendors. Members of the committee include the chief operations officer, orthopedic surgeons, rehab, case management, anesthesia, and OR leaders.

CJR Hospital B owns 40% of an IRF that is part of a rehabilitation service company. The hospital contracts with five full-time employees through the rehabilitation company to help manage post-acute care for the CJR model and BPCI Advanced, including relationships with the PAC provider network of 32 IRFs, SNFs, and HHAs. One of the full-time positions is a dedicated CJR coordinator. The development of the relationship was part of the hospital's larger approach to bundled payment models and post-acute care management, and the CJR coordinator role was created because of the hospital's participation in the CJR model.

Care Coordination

CJR Hospital B has worked to develop a standardized approach to CJR. A PA and CJR coordinator work together to oversee and coordinate LEJR processes at the main hospital and the other building. The PA was hired around the same time the CJR model began, but reportedly not as a result of the model. Interviewees reported that care coordination in the inpatient setting was identified as an opportunity for improvement, and in September 2016, members of the patient care staff and surgeons developed protocols, order sets for pre-operative medication, and a standardized approach to pre-operative joint class.

In response to the CJR model, the hospital created its pre-operative joint class curriculum, including additional information for patients around surgery expectations and goals for recovery. The class is offered two weeks prior to surgery. During the joint class, patients go through a pre-operative clinic visit and pre-admission testing. The class is also an opportunity to identify and address patients with comorbidities. The hospital considered mandating joint class attendance, but did not want to create a barrier for patients who travel long distances to the hospital.

CJR Hospital B's anesthesiologist reported using mostly general anesthesia with nerve blocks for pain control. The surgeon noted that because complex surgeries can last over two hours, they are concerned a spinal anesthetic might wear off.

In the inpatient setting, patients receive physical therapy twice a day, as well as visits from occupational therapy, a dietician, pain management, and a case manager who uses an in-house risk assessment tool to help determine discharge destination. As a result of the CJR model, the hospital shifted one of the physical therapist's schedule to provide early ambulation for patients who receive surgery later in the day.

The CJR coordinator, who works at the second building, is employed through a contractual relationship with the hospital's post-acute care partner, communicates with the physical therapist and case manager to determine discharge destination. After discharge, the coordinator tracks patients' progress by visiting PAC facilities within the preferred provider network once a week and records patient status, using an in-house electronic system, based on communication with SNF or HHA administrators, the director of physical therapy, or the director of nursing. PAC providers outside of the preferred provider network are contacted via phone. PAC providers are encouraged to contact the CJR coordinator if they have questions and are required to contact the coordinator prior to sending a patient to the ED.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital B does not perform outpatient TKA. The physician champion reported that the hospital does not have the staffing resources to provide pain control, physical therapy, and discharge orders that would be required if the hospital performed outpatient TKA.

> *"This place is a lot spread geographically. People travel long distances and come here for their surgeries, it would be a nightmare to send them [home as an outpatient procedure]."*
>
> ***– Orthopedic Surgeon and Physician Champion***

Prior to the CJR model, interviewees reported a length of stay of 4 days for patients receiving a TKA at the hospital. Since the model began, the length of stay has decreased to approximately 2.5 days. As a result of the shorter LOS, the hospital is revisiting outpatient TKA as they believe they can now perform the procedure as an outpatient procedure.

Patient and Caregiver Experience

Caregivers are encouraged to attend pre-operative joint class and physical therapy sessions. The care navigator estimated that one in 10 patients does not have a caregiver and that fracture patients are less likely than elective patients to have a caregiver. Prior to the CJR model, patients without a caregiver would likely be discharged to a SNF. Since the CJR model began, interviewees reported that the hospital communicates the need for a caregiver more clearly and insistently during the joint class, which has improved caregiver attendance in the class.

The care navigator commented that the caregiver expectations following LEJR can be overwhelming and the hospital is "asking a lot, but it's not unreasonable." For this reason, the care navigator noted that the presence of a caregiver is important, particularly for older patients with dementia.

Relationships among Providers

> *"We kind of act like case manager[s] outside the hospital… When our patients leave the hospital we kind of follow through and make sure they don't get lost in the system out there."*
>
> ***– Executive Director of CJR Hospital B's post-acute care partner***

At the beginning of the CJR model, interviewees stated that they considered starting a preferred PAC network with several PAC providers that expressed interest, but under previous ownership, all potential preferred provider PAC networks had to be approved, so the preferred provider network never materialized. As soon as its ownership changed, the hospital more aggressively pursued preferred provider networks. The criteria to become a preferred provider include a willingness to work with high-complexity patients, sharing of quality and outcome data, and provision of therapy on the weekends. PAC providers are required to submit length of stay data, readmission rates, pressure ulcer rates, staffing ratios, drug utilization rates, CMS quality star ratings, and any state-level quality citations. In return, the PAC providers have access to data and resource metrics provided by the post-acute care partner. The hospital hosts a monthly meeting with preferred PAC providers where data are shared and reviewed.

The hospital does not own any SNFs or HHAs. Interviewees reported that HHAs in the MSA provided higher quality care than SNFs, and orthopedic surgeons prefer to send patients home with home health (Exhibit 26). CJR Hospital B has a contract with a mobile urgent care company that employs physician assistants and nurse practitioners who visit patients in the PAC and home settings. Interviewees reported that use of the company has reduced readmissions.

Interviewees reported that patients discharged to SNFs in rural areas may have longer lengths of stay than those discharged to a SNFs in the preferred provider network. In response, CJR Hospital

B is considering the development of SNF and HHA preferred provider networks in the rural areas of the state.

Exhibit 26: In each PY CJR Hospital B increased first discharges of patients to SNFs and decreased first discharges of patients home without home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	15%	24%	32%	29%
PY2	12%	32%	46%	10%
PY3	16%	35%	41%	8%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

CJR Hospital B did not receive a reconciliation payment in PY1, and made repayments in PY2 and PY3. In PY1, the hospital earned a quality rating of "acceptable," which improved to "good" in PY2 and PY3 (Exhibit 27). Interviewees pointed to their readmission rate as the primary reason they had a repayment in PY2 and PY3. Hospital leaders stated that reducing the readmission rate has been a primary focus for the orthopedic service line and that they have recently reduced the readmission rate by improving communication between PAC providers and care coordinators. Additionally, the hospital has started recommending patients use home health agencies that contract with a local group of PAs and NPs that provide advanced care in the home.

Exhibit 27: CJR Hospital B was responsible for repayments in PY2 and PY3

Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Acceptable	Good	Good
Average reconciliation or repayment per episode	$0	-$1,371	-$1,271

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Interviewees identified PRO data collection as a challenge in the model, stating, "We are not completing the post-assessment component at all to the extent that we need to. That is an easy point that we need to get to. An easy gap to close." CJR Hospital B's Chief Quality Officer expressed that real-time data, such as readmissions data from patients in rural areas that are more difficult to follow, from CMS would improve the hospital's responsiveness to the model.

As a result of the CJR model, the hospital created its pre-operative joint class curriculum, emphasized the importance of a caregiver, and decreased its length of stay. Through a contractual relationship with the hospital's post-acute care partner, the hospital also employed a CJR coordinator as part of the hospital's strategic plan to manage post-acute care. Interviewees also reported a decrease in the rate of readmissions as a result of the CJR model. Although the CJR LEJR volume is relatively small compared to its overall orthopedic service line, one interviewee stressed the financial impact of the repayment amounts, stating, "When you look at the reconciliation payments… every dollar counts... No matter how small in the greater scheme of it all."

CJR Hospital C

The CJR Hospital C summary is based on site visit interviews with hospital administrators and chiefs of finance and nursing, directors of quality and surgical services, inpatient and outpatient physical therapy, and one orthopedic surgeon.

CJR Hospital C is a physician-owned, for-profit orthopedic hospital that provides outpatient PT services. CJR Hospital C is considered the MSA's market leader in LEJR, performing an average of 1,125 Medicare LEJRs annually (Exhibit 28).

Exhibit 28: CJR Hospital C is the highest LEJR volume hospital in MSA 2

Characteristic	CJR Hospital C	CJR mandatory average
Annual Medicare LEJR volume	**1,125**	164
Ownership	**For-profit**	26% for-profit
Health system membership	**No**	13% non-membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**51%**	35%
DSH patient percentage	**3%**	32%
Bed count	**68**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital C is a physician-owned hospital, and interviewees reported that 98% of the surgeons operate solely at this hospital. The hospital has an outpatient physical therapy department but cannot own an IRF, SNF, or HHA due to its ownership structure. The hospital has an affiliation with a local medical school residency program, and the training program helps the hospital identify surgeons. The hospital is not gainsharing with surgeons in the CJR model. The hospital recently built an outpatient surgery center on the campus.

Hospital interviewees perceived that the Medicare population has "gotten heavier and more unhealthy" over the last three years. Physical therapist interviewees commented that the population in the market is "rural, very unhealthy, [and with] a lot of comorbidities." Interviewees consider

the market to be "very competitive" or "too competitive to cherry pick, meaning most hospitals take both easy and difficult cases to ensure they have sufficient volume.

CJR Hospital C is a former Bundled Payments for Care Improvement (BPCI)Classic participant and participates in BPCI Advanced for spine. CJR Hospital C left BPCI Classic to join the CJR model on January 1, 2017. Interviewees indicated that "BPCI [Classic] was great" but they did not favor retrospective and quarterly changes to the quality-adjusted target price. The hospital thought that it could better compete with the regional pricing in the CJR model and moved from BPCI Classic because "we couldn't compete with ourselves because we were doing so well." Interviewees noted that the movement from the BPCI [Classic] initiative to the CJR model was not a tough strategic decision, nor was it "a big transition."

The hospital capped implant pricing; the price cap was in place during their BPCI Classic participation, and surgeons pay out of their "own pocket" for an implant that is above the cap. The hospital engaged a contractor to process the CJR monthly data feeds and develop dashboards and physician report cards. Physicians receive individualized data on an annual basis.

CJR Hospital C does not have an ICU. Anesthesia providers screen patients pre-operatively to be sure they are safe to have procedures at this hospital. If the patient is likely to require an intensive care unit stay after surgery, they will have the surgery at a different hospital. Interviewees noted there is an ambulatory surgery center "next door" that sends cases with complications to this hospital's ED.

Care Coordination

The hospital added two care navigators and patient tracking system in response to participation in BPCI Classic. The navigators and the tracking software are now used for the CJR model patients. Navigators log into the web-based software to track phone calls to patients and this information can be reviewed by physicians. The software does not interface with the EMR.

Care navigators make the first phone call to patients two weeks prior to surgery to begin care coordination. During the phone call, the navigator administers a pre-operative risk assessment tool (part of their approach under BPCI Classic) and explains that their role is to "follow along with them for 90 days after their surgery" and to serve as "their point of contact." Navigators review pre-admission screens for high-risk medications, such as anti-seizure or blood pressure medications. Pre-operative phone calls set discharge expectations, review education regarding the CJR model, and verify the receipt of CJR model notification letter. These calls set caregiver expectations, address transportation issues, assess potential fall risks, and discuss acquiring durable medical equipment (DME). Navigators noted the value of surgeons' conversations with patients during office visits regarding setting expectations.

Based on the pre-operative phone call, the care navigator fills out a "green sheet" that identifies CJR patients on their chart, describes their discharge plan, and lists the post-operative appointment. Navigators share a summary of the risk assessment with physical therapists.

Patients with higher risk assessment scores might need more services (e.g., phone calls) after surgery, and the tool – along with caregiver availability - helps predict discharge setting. Patients receive the green sheet upon discharge, which includes contact information for the care navigators, physician, and hospital ED.

CJR Hospital C does not offer prehabilitation due to physician concerns about beneficiaries' physical therapy visit limits. The hospital has a pre-operative joint class that helps set patient expectations. The joint class is not specific to the CJR model and is not mandatory. The hospital noted that patients who attended the joint class were less likely to have a fall in the hospital, so they developed a video version of the class for patients who

could not attend in-person. Interviewees noted that about 25% of CJR patients attend the pre-operative class, and floor nurses "can tell a huge difference" when they talk to patients who attended class because patients are familiar with "the continuous passive motion machine, icing, elevating, home exercise program…[or] getting up and walking every hour while they're awake to decrease stiffness." Patients are educated on the type of support they will need from a caregiver for the first 72 hours after surgery; patients who anticipate being home alone without a caregiver are steered toward SNF care.

A discharge planner takes over coordination during the inpatient stay. Patients with higher risk assessment scores or surgery late in the week will have an initial discharge planning session in the hospital to confirm that the discharge plan is maintained. Physical therapist interviewees noted that the green sheet flagging CJR patients on their chart indicates "the discharge plan may be less flexible" and "you're not going to have a discussion about changing the discharge plan until we talk to the case manager and the physician."

The hospital shares the risk assessment information and discharge plan with SNFs, and the SNF completes an admission assessment with the anticipated LOS and provides the hospital with progress and discharge reports. Hospital interviewees commented that "we need the update so we can justify why they're staying longer." In one instance, a patient from a rural area was discharged to a swing bed because they required daily intravenous (IV) antibiotics and could not be discharged to an HHA.

After discharge, care navigators verify the discharge date and plan and add this information to the tracker before starting their follow up phone calls. If home health is visiting the patient, care navigators will not call during the first week and instead communicate with the HHA for an admission assessment, progress report, and discharge. Patients discharged home with outpatient physical therapy receive care navigator calls within the first three weeks. During follow up calls, care navigators ask patients if they are icing, elevating, doing home exercises, about their pain level, and re-educating patients if needed.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital C does not perform TKA in an outpatient status for Medicare FFS patients. Interviewees discussed documentation of medical necessity for a LOS greater than one day, and favor keeping patients in the hospital where there are "resources to deal with complications." Interviewees noted that because some commercial insurers will not pay "for an overnight stay or… for observation" the hospital recently began doing outpatient TKA procedures for these patients. The outpatient TKA procedures provide these patients with a different type of anesthesia to allow for better function and participation in same-day physical therapy.

Hospital executives and surgeons employed by the hospital opined that surgeons owning surgical centers and possible financial gains motivated the shift of TKA to outpatient departments or ambulatory surgical centers, and that this is "not good care." The surgeon interviewee commented that patients may return to the hospital after outpatient TKA if caregivers cannot manage the patient's pain.

Patient and Caregiver Experience

Interviewees noted that the expectations for caregivers are reasonable, and that payers "don't pay for convenience anymore" as there is an "expectation" for discharge to home with the presence of a caregiver. Instead, the hospital expects to discharge patients home with an exercise program, and patients need a caregiver to help with activities such as meal preparation.

The hospital supports physicians telling patients to find another surgeon if they want to deviate from the discharge plan and go to a SNF, citing medical necessity for discharge to SNF. The surgeon interviewee has cancelled elective surgery due to last minute insistence by a patient's family for discharge to a setting other than home. The interviewee explains to families that the surgery is elective, and noted that families then quickly find a caregiver for the patient post-discharge.

During the inpatient stay, patients receive PT twice a day every day. Prior to discharge, patients' first outpatient PT appointment and follow-up appointment are scheduled. The outpatient PT department calls new patients the day prior to their first visit. PT interviewees commented that physicians regularly order outpatient PT three times per week for four weeks, and in the outpatient clinic they did not note a difference between CJR and non-CJR patients. Outpatient PT interviewees also commented that patients do not look different from the start of CJR due to shorter LOS or less inpatient therapy. Interviewees did not note an increased reliance on caregivers for transporting patients to outpatient PT. If patients do not have transportation, navigators will coordinate with a transportation service.

Relationships among Providers

The hospital developed a preferred provider network during their BPCI Classic participation. When developing the network, the hospital met with the high-volume providers to discuss BPCI Classic and expectations for patients. The network includes three SNFs and six preferred HHAs.

HHAs and SNFs submit patient-specific worksheets to the hospital indicating the date of admission and discharge, patient progress, concerns, and the anticipated discharge date. The hospital merges the data submitted by HHAs and SNFs with the data from CMS to better understand readmissions. Interviewees noted that one of the preferred providers makes follow-up calls and sends a weekly report to the hospital of patients they have talked to and their discussion. The hospital does not share data with PAC providers.

The surgeon interviewee noted that "Most people don't need a nursing home. Most people do not need inpatient rehab. Most people can do extremely well with outpatient therapy." CJR Hospital C first discharges most patients home, either with home health or outpatient therapy (Exhibit 29). They indicated that "we just had to change the culture a little bit." Navigators are connected to the HHAs, SNFs, and outpatient PT providers and will know if the patient has a change in their post-acute care setting or an ED visit.

Exhibit 29: CJR Hospital C discharges most patients home from the hospital without home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	-	-	-	-
PY2	1%	12%	30%	57%
PY3	0%	11%	27%	62%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Notes: Fields with a "-" indicate that data is not available. PY1 first PAC utilization data is not available because the hospital participated in Bundled Payments for Care Improvement (BPCI) Classic.

IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Interviewees discussed challenges discharging to swing beds in rural areas. Interviewees noted that one challenge in rural areas is that physicians are unfamiliar with the CJR model and sometimes serve as the primary care provider (PCP) or medical director for the SNF and the HHA. One interviewee noted that PCPs do not know that patients are in the CJR model or its impact on the hospital, so will order home health care for the patient even if they may not need it. In addition, interviewees reported instances of patients circumventing the hospital's post-discharge protocols by working through their PCP (e.g., for admittance to a SNF or additional

HH visits). For example, one HHA called the hospital to note that a patient went to their PCP to get additional HH visits. When discharging patients outside of the market, care navigators will send guidelines to the PAC provider and note that the hospital is the CJR model and request information "to monitor the patient."

Impact

CJR Hospital C earned a reconciliation payment in PY2 and PY3, average of $1,159 and $2,276 per episode, respectively. In both performance years, the hospital's quality rating was "good" (Exhibit 30). The hospital was a BPCI Classic participant in the first performance year of the CJR model, thus there are no data for PY1. One interviewee noted that they are "proud of the fact that we managed to do this so well." They indicated that the surgeons made the decision to enter BPCI Classic and then CJR, and the hospital would look for more opportunities to do bundled payments for LEJR.

Exhibit 30: CJR Hospital C's episode payments were less than the quality adjusted target-price in PY2 and PY3

Quality- adjusted target price
- PY2
- PY3

Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	-	Good	Good
Average reconciliation or repayment per episode	-	$1,159	$2,276

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. Fields with a "-" indicate that data is not available. PY1 NPRA data is not available because the hospital participated in Bundled Payments for Care Improvement (BPCI) Classic.
PY = performance year.

The hospital does not collect PRO data, citing the level of effort required. The hospital reviews its composite quality score data for the CJR model and interviewees said they saw a change in quality from "excellent" to "good" and determined that readmissions or complications caused the change. The hospital's discharge plan asks patients to avoid other surgeries in the three months following their LEJR, and interviewees noted that the hospital selected the three-month interval to align with the CJR model. The surgeon interviewee noted that "every patient has different needs. You try to figure out ahead of time, this person is really going to need help, or this person doesn't need as much help as she thinks she's going to need, which is usually the case." Interviewees indicated they have not seen an increase in manipulation under anesthesia to treat post-operative knee

stiffness. Interviewees noted that the hospitals use reconciliation payments to cover the cost of the care navigators, computer systems, and other additional costs. The remaining funds are distributed to the physician owners.

CJR Hospital D

The CJR Hospital D summary is based on site visit interviews with executive and financial leadership, data management staff, and members of the orthopedic service line and care redesign team, including an inpatient nurse manager and pre-operative joint class educator.

CJR Hospital D is owned by a not-for-profit health system that also owns Non-CJR Hospital I. Interviewees reported that CJR Hospital D is the only hospital in its health system that is operating in a mandatory CJR MSA. CJR Hospital D performs the second-highest number of Medicare LEJR procedures in MSA 2, with an average of 577 annually (Exhibit 31).

Exhibit 31: CJR Hospital D performs the second-highest number of LEJRs in MSA 2

Characteristic	CJR Hospital D	CJR mandatory average
Annual Medicare LEJR volume	**577**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**28%**	35%
DSH patient percentage	**35%**	32%
Bed count	**364**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital D shares medical resources with another hospital location under the same Medicare provider number, which is in the same hospital system and has an ED. Both hospitals are connected via an underground tunnel. In addition, CJR Hospital D serves as a Level II trauma center on a rotating basis with other hospitals in the MSA. CJR Hospital D also owns an IRF, but interviewees noted that the volume is declining to a point that the hospital may need to evaluate alternative means to provide IRF care.

The orthopedic service line is operated by a co-management group of hospital board members and physicians, including the director of orthopedic services. Approximately 80% of orthopedic surgeons are involved in the co-management group that is responsible for the management of the

orthopedic service line. The hospital does not engage in gainsharing with orthopedic surgeons or PAC providers.

CJR Hospital D leveraged a pre-existing relationship with a data vendor to analyze CJR data. The vendor provides the hospital with dashboards stratified by Medicare Severity-Diagnosis Related Group (MS-DRG), fracture and elective procedures, as well as episodes of care. A subcommittee of orthopedic joint surgeons delve into hospital data to identify improvement opportunities across the service line. As a result of the co-management group's oversight and data-driven insights, the hospital focused on reducing readmissions to SNFs for non-medical reasons and managing length of stay and communication in the PAC setting.

Interviewees reported that the payer mix for its LEJR patients is about 46% Medicare, which includes FFS and Medicare Advantage. Although the hospital participates in Bundled Payments for Care Improvement (BPCI) Advanced and a "small, inactive" ACO, interviewees shared that the CJR model has had the greatest impact on their inpatient care services because it has "interwoven" many components of the inpatient process.

At the onset of the model, the hospital chose to decrease episode costs by keeping a patient in the hospital for an extra one to two days, rather than discharging a patient to a SNF that could result in an extended SNF length of stay. As a result, average inpatient length of stay increased at the beginning of the CJR model, but has since decreased to approximately 2.4 days. Percent of CJR patients first discharged to a SNF decreased from 23%in PY1 to 16% in PY3.

Care Coordination

In 2010, before the CJR model, CJR Hospital D began offering a pre-operative joint class that addresses setting patient expectations for a home discharge and invites caregivers to participate. Two floors of CJR Hospital D are used for LEJR patients. Interviewees described how the second floor incorporates "a wellness approach to total hips and total knees," and the majority of patients on that floor attend the pre-operative class and do pre-admission testing. The pre-operative class, which lasts 45 minutes to one hour, usually includes anywhere from ten to almost 30 patients at a time. Topics such as home preparation, what to bring to the hospital, what the process of the day of surgery will be, where the patient will likely be discharged, and physical therapy exercises are included in the class. Currently, patients travel to the hospital for class, but an online or rural satellite format are being explored due to the hospital's large catchment area of rural communities.

In May 2017, CJR Hospital D hired a part-time CJR navigator to organize multidisciplinary meetings, establish a SNF preferred provider network, educate PAC providers about the CJR model, and routinely communicate with SNFs and HHAs. The hospital also invested in a patient tracking software in direct response to the model. The hospital's preferred SNF providers and some home health providers use the tool to document progress notes, which the hospital coordinator can view. The tool also allows the hospital to risk stratify patients by anticipated hospital length of stay, view post-acute care progress notes, and receive alerts. For example, if a patient exceeds the

expected length of stay that is determined prior to discharge from the hospital, the tool alerts the coordinator, who then connects with the patient's PAC provider via phone call.

> *"It used to be where all the patients, if they just said, 'Oh, I want to go to skilled or I want to go to rehab, or I want to do…' you just did it because that's what the patient wanted to do. Now we are more specific about why you can't go there. Not just okay, you said you wanted to go, you went last time… It's kind of narrowed down now to we're going to tell you why we feel like you're going to do this at home."*
>
> ***– Hospital Interviewee***

Other care coordination staff include case managers and social workers, who work together to assemble patients' information from the charge of nurses, hospitalists, physicians, and the infectious disease doctor. The case manager "forms a picture" of the patient's overall health and situation and assesses the patients' discharge options. The case manager noted that CJR patients receive extra communication and support for being discharged home, but that safe discharge is their priority for every patient. Another aspect of the discharge decision-making process that the CJR model impacted is that hospital staff and orthopedic surgeons provide more justification and reasoning in patient charts for discharging patients home rather than giving deference to patients' preferences for discharge location.

The general expectation at CJR Hospital D for patients discharged to the home health setting is for them to receive physical therapy three times a week for three weeks. Sometimes, the physical therapist may indicate that a patient needs physical therapy every day for one to two weeks. Orthopedic surgeons at CJR Hospital D have preferences of which home health agency to use and surgeons make the final decision on whether patients will be discharged home with home health or home with outpatient therapy. Interviewees reported that the CJR model has contributed to surgeons' decision-making process on performing anesthesia nerve blocks, noting that surgeons are "more receptive in the way that they do their block to make sure the patients are more mobile, and they can perform therapy right after surgery."

While CJR Hospital D collects and analyzes patient-level data including infections, complications, readmissions, pulmonary embolism and deep vein thrombosis, and fall rates, it does not collect PRO data as part of the hospital's participation in the model. According to interviewees, the benefit of collecting PRO data did not outweigh the costs, and that the CJR reconciliation payment would not have covered the additional costs of PRO data collection.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital D performed less than 1% of TKAs in an outpatient status from January to September 2018, and 0.0% from October to December 2018. Interviewees reported that hospital staff members were confused about documentation requirements as a result of the removal of TKA from the Medicare IPO list, stating, "There's a lot of confusion with where we're headed. I think the biggest concern for us isn't so much how well they're going to do, but what's CMS' expectation in regard to documentation and payment and denials down the line. That's where

things are so vague and scary right now." The CJR data analyst expressed concern that the rule change will negatively affect the hospital's ability to come below the quality-adjusted target price in the future because the patient mix for CJR episodes will change compared to prior years, while the quality-adjusted target prices remain based on historic costs. Patients whose procedures are performed inpatient, and remain in the CJR model, will likely have more complex medical needs, on average, and higher costs.

Patient and Caregiver Experience

Interviewees reported that the CJR model helped CJR Hospital D staff recognize the importance of managing patient expectations in the pre-operative joint class and assessing what type of medically necessary post-acute care they need. Interviewees shared that education and encouragement have helped patients realize they are capable of ambulating early and discharging home after two nights. A physical therapist noted that providing physical therapy within hours following surgery "gives the patient more control…and responsibility in their care," and that emphasizing to the patients they are not "sick, [they] had a joint replacement" changes their mindset to encourage them to work on recovery. Interviewees noted that fracture patients typically have medical needs that require different care.

> *"The focus really is that there's no reason medically for you to need to go to a skilled nursing facility. You and your coach are perfectly able to take care of you with home health right now… it's a focus on you can do this at home and you'll be so much better. Your outcomes will be better."*
>
> ***– Hospital Interviewee***

Relationships among Providers

Patient care staff described a saturated SNF market with "large variation in quality." An interviewee reported that HHAs in MSA 2 "did a great job of managing themselves and reducing the variation in cost" at the beginning of the CJR model. The hospital discharges the majority of its CJR patients home with home health (Exhibit 32).

Exhibit 32: CJR Hospital D first discharges a majority of patients home with home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	6%	23%	67%	5%
PY2	5%	15%	74%	6%
PY3	3%	16%	76%	5%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

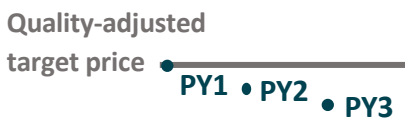
Hospital interviewees noted that they saw an opportunity early on in the CJR model to leverage their SNF preferred provider network to reduce costs. Criteria for the preferred provider network are based on volume, complication rates, readmissions, willingness to cooperate and partner, availability of physical therapy seven days a week twice a day, and joining of the electronic tracking system. Communication with preferred SNFs has "grown tremendously" as a result of the CJR model, but managing rural SNFs outside the preferred provider network is still a challenge. Prior to the model, communication did not occur post-discharge unless there was a readmission. Now, the hospital talks weekly with the SNFs in its network. In addition, hospital interviewees reported that the CJR model spurred SNFs to offer more physical therapy and shorten patients' length of stay.

The hospital does not have a home health preferred network; surgeons determine HHA use and communication. Often, HHAs visit patients in the hospital to establish expectations in the home. On some occasions, the hospital has asked HHAs to conduct a pre-operative home visit to assess the home environment and reinforce patient expectations.

Impact

As noted in Exhibit 33, CJR Hospital D did not receive a reconciliation payment in PY1. The hospital did receive an average reconciliation payment of $521 per episode in PY2, which nearly doubled to an average reconciliation payment of $923 per episode in PY3. In performance years 1 and 2, the hospital earned a quality rating of "good"; in PY3, the quality rating improved to "excellent".

Exhibit 33: CJR Hospital D nearly doubled its reconciliation payment from PY2 to PY3



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Good	Good	Excellent
Average reconciliation or repayment per episode	$0	$521	$923

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Even though the hospital earned reconciliation payments in performance years 2 and 3, executive leadership reported that the payment left a "small amount" after the costs of the post-acute electronic tracking tool and part-time CJR navigator were taken into account.

Hospital leadership considered that most changes made in response to the CJR model involved management of post-acute care protocols and providers; the pre-existing co-management group was identified as a key resource for implementing changes at CJR Hospital D. Executive interviewees reported that a seeming lack of accountability around SNF length of stay and physical therapy services is the "biggest pain point" and "biggest driver of cost." The hospital has worked to respond to this challenge by dedicating resources to tracking patients post-discharge, involving physicians in the decision-making process for first discharge destination, and by creating a preferred provider network, but noted that outlier cases incur notable costs.

CJR Hospital E

The CJR Hospital E summary is based on site visit interviews with the chief financial and quality officers, the director of the total joint program, the director of surgical services and medical/surgical, an orthopedic surgeon, the chief anesthesiologist, the pre-admission testing manager, the medical surgical house supervisor, and the assistant director of patient access. The director of the outpatient physical therapy clinic owned by the hospital was also interviewed.

CJR Hospital E partially owned by largest not-for-profit health system in the state, and partially owned by the physicians who work at the hospital. CJR Hospital E performs an average of 80 Medicare LEJR procedures annually, approximately half the average volume of CJR mandatory hospitals (Exhibit 34).

Exhibit 34: CJR Hospital E is partially physician-owned and performs fewer LEJR than the mandatory CJR hospital average

Characteristic	CJR Hospital E	CJR mandatory average
Annual Medicare LEJR volume	**80**	164
Ownership	**For-profit**	26% for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**No**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**35%**	35%
DSH patient percentage	**10%**	32%
Bed count	**50**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

Nine orthopedic LEJR surgeons practice at CJR Hospital E, two of whom perform a bulk of their LEJR surgeries at CJR Hospital E. All surgeons are independently contracted and some have privileges at other hospitals in the MSA. The hospital owns a robotic device used for LEJR, a machine that reportedly attracts surgeons to practice at CJR Hospital E. At the time the CJR model began, the hospital hired new surgeons including one of whom became the medical director and physician champion. This surgeon played a pivotal role in the improvement and standardization of the LEJR care pathway.

The hospital participates in gainsharing with orthopedic surgeons. Gainsharing parameters are "heavily" predicated on quality metrics, such as infection rates, SNF utilization rates, and outcomes of CJR patients. The director of the total joint program and the physician champion review CJR data to identify trends that can be built into the gainsharing quality metrics.

Since 2013, the hospital has been awarded a center of excellence distinction for LEJR from a commercial insurer. The director of the total joint program stated that the distinction requirements had "a lot of qualitative points… that just fell in line with CJR." The arrival of the physician champion and the alignment of the award requirements with the CJR model were identified as factors contributing to the hospital's success in the CJR model.

Care Coordination

Care protocols are strongly influenced by surgeon preference at CJR Hospital E. The pre-operative joint class is encouraged by the hospital for patients and their families, however, three surgeons choose to make it mandatory for their patients. For rural patients, not able to physically attend the class, the director of the total joint program conducts a one-on-one class via phone or emails the class video to patients with internet access. The joint class occurs approximately 30 days prior to surgery. Content includes home preparation instructions, such as meal preparation, removing trip hazards, and importance of identification of a caregiver; surgical site care; an educational handbook; communication from a physical therapist; a tour of the medical surgical department and a hospital room; communication from the hospital; and how to prevent post-surgical complications.

The hospital's pre-admission testing manager is responsible for conducting or coordinating pre-admission testing for all LEJR patients, which includes anesthesia clearance, blood work, and documentation of medications and health history. Patients are also assessed for nausea sensitivity so the surgeon or anesthesiologist can "pre-medicate a patient… so it's not an issue [post-operatively]." Additionally, the anesthesiologist reported that all LEJR patients at CJR Hospital E receive general anesthesia and sensory nerve blocks, which reportedly allow for greater physiological control. The obesity and elderly rate of the patient mix also influences the anesthesiologist's choice to use general rather than spinal anesthesia. Each surgeon maintains a "preference card" indicating preferred instructions, supplies, and equipment for both THA and TKA procedures.

In response to the CJR model, the hospital hired an additional nurse navigator with case management experience to help with pre-operative classes, case management, post-discharge follow-up phone calls, PRO data collection, and patient documentation. All LEJR patients receive follow-up phone calls from the director of the total joint program or the nurse navigator three to seven days after surgery, and then at 30 days, 60 days, and 90 days post-surgery, regardless of first discharge destination. CJR patients receive an additional check-up phone call six months post-surgery, as well as calls at nine and twelve months post-surgery, to verbally complete the PRO assessment.

Effect of Removal of TKA from Medicare Inpatient-Only List

Even though CJR Hospital E's typical length of stay is 1.7-1.8 days, in 2018 only 1% of TKAs were performed in an outpatient status. Interviewees at the hospital stated that the hospital already had strict criteria for doing a TKA outpatient for commercial payers, including a body mass index (BMI) below 30 and limited comorbidities. They chose to apply that criteria for Medicare FFS patients when TKA was removed from the IPO list. Because of the strictness of the standards, the hospital rarely does outpatient TKA because so few patients meet their criteria.

The hospital responded to the removal of TKA from the IPO list by ramping up documentation of inpatient criteria. The hospital applied a pre-existing inpatient criteria list used for commercial payers to the Medicare FFS population. Criteria include "minimal comorbidities" and a BMI under 30. The additional nurse navigator who was hired to assist in follow-up phone calls and PRO data collection also assists in managing TKA documentation. Nurse management staff, the director of the total joint program, and the physicians all work closely to ensure that proper documentation occurs. The surgeon makes the decision of outpatient or inpatient status when the patient arrives for surgery according to a set of pre-surgical guidelines.

Patient and Caregiver Experience

The director of the total joint program noted that patients who go through the pre-operative joint class are better prepared for surgery and have expectations set for post-discharge setting. Additionally, the director of the physical therapy clinic owned by CJR Hospital E reported that surgeons are doing a better job of preparing patients for the level of pain they can anticipate and that recovery will take time and effort. Interviewees reported that caregivers are most concerned about patient safety and infections. The hospital responded to these concerns by teaching patients and caregivers in the pre-operative joint class about home preparation strategies and how to identify potential safety and infection issues.

> *"[The software] shows me [the patient is] up to speed. It gives [the patients] weekly activity cards. So, if they're doing those weekly cards, it tells me they're up to speed. It will turn red if they're not doing them. It will say they're falling behind. So, CJR or not CJR, it doesn't matter to me. If they start falling behind, those patients get more touchpoints because, to me, that's a patient who's not engaged in their recovery."*
>
> ***– Director of Total Joint Program***

In an effort to provide more targeted care to patients who may require extra recovery support, CJR Hospital E is implementing an online patient engagement and monitoring software to supplement post-acute care for all LEJR patients. The online software provides patients with "weekly activity cards" and provides direct access for them to email the surgeon or director of the total joint program. The director of the total joint program monitors patient progress via the software, and will initiate a phone call to patients who are not completing their activity cards. The director hopes

that this software will help with efficiency in post-discharge follow-up for all LEJR patients by focusing more attention on patients who require more assistance and giving positive reinforcement for patients who are doing well with their recovery journey.

Relationships among Providers

CJR Hospital E owns an outpatient therapy clinic, but does not own an IRF, SNF, or HHA. Interviewees felt that statewide home health quality is considerably better than SNF quality. Patients typically receive one to two weeks of home health care with physical therapy prior to transitioning to outpatient therapy (Exhibit 35). The hospital has established the expectation that home health agencies visit the patient within 48 hours of discharge from the hospital, and expects HHAs to have physical therapists on staff and operate on Saturdays. Interviewees reported that surgeons drive referral patterns and are largely responsible for communicating with PAC providers. Home health agencies submit a weekly patient progress report to the surgeons, and SNFs submit a weekly patient status report to the surgeon and director of the total joint program. The director of the physical therapy clinic owned by CJR Hospital E described communication between the clinic and surgeons as "excellent," noting that she often speaks directly with a surgeon about a patient's care.

Exhibit 35: A majority of CJR Hospital E's patients are first discharged home with home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	9%	12%	73%	6%
PY2	6%	9%	78%	8%
PY3	3%	7%	79%	11%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

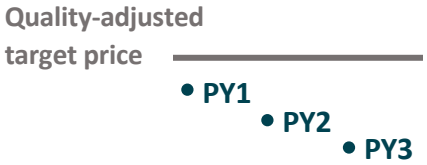
Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

The director of the total joint program expressed challenges with managing the post-discharge setting in rural areas. For example, she reported that some patients are discharged to a swing bed in a critical access hospital because there are no available SNFs in close proximity to the patient's home. In an effort to avoid this scenario, CJR Hospital E may choose to keep the patient at its hospital an extra day and the patient can then be discharged home with home health.

Impact

CJR Hospital E earned reconciliation payments all three performance years, nearly doubling the amount each year. In PY1-2, the hospital received a quality rating of "good," which improved to "excellent" in PY3 (Exhibit 36).

Exhibit 36: CJR Hospital E nearly doubled their reconciliation payment each PY



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Good	Good	Excellent
Average reconciliation or repayment per episode	$631	$1,228	$2,334

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Investments made as a result of the CJR model include the hiring of a third-party data vendor and a nurse navigator, as well as implant registry fees. Interviewees also partially attributed a "decision support department" and legal fees for monitoring gainsharing to the hospital's participation in the CJR model. The hospital chief financial officer considers the CJR model "financially favorable" and reported that the hospital's small size and physician buy-in contribute to performance. Success in the model is attributed to the "protocols of excellence" developed by the physician champion and an increase in volume brought by recently hired surgeons.

CJR Hospital F

The CJR Hospital F summary is based on site visit interviews with executive and financial leadership; orthopedic service line and care redesign leadership, including the vice president of post-acute services; managers of orthopedics and quality; the director of peri-operative services; and the nurse navigator. The director of sports medicine, managers of therapy services and physical medicine; the quality management director; and staff from the hospital's home health and rehabilitation hospital were also interviewed.

CJR Hospital F is owned by a not-for-profit health system. The hospital is designated as a Level III trauma center and performs an average of 320 Medicare LEJR procedures annually, which is about twice the average number performed at CJR mandatory hospitals (Exhibit 37).

Exhibit 37: CJR Hospital F is owned by a not-for-profit health system and performs nearly twice the volume of LEJRs annually than the CJR average

Characteristic	CJR Hospital F	CJR mandatory average
Annual Medicare LEJR volume	**320**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**HHA**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**33%**	35%
DSH patient percentage	**23%**	32%
Bed count	**308**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

According to interviewees, 12-13 surgeons perform LEJRs at CJR Hospital F with three or four performing the majority of LEJRs. Interviewees said that there is a fairly even split between physicians who are employed at CJR Hospital F and private practitioners who are not employed by CJR Hospital F but are affiliated with the not-for-profit health system and have operating privileges at CJR Hospital F. Interviewees noted that the hospital created medical specialty councils with its employed physicians, and tried to increase engagement with its non-employed

physicians. The orthopedic specialty council includes representatives from all the major facilities within the not-for-profit health system, and members regularly meet to discuss issues, such as the CJR model.

CJR Hospital F has increased volume since the beginning of the CJR model due to the hiring of an orthopedic surgeon group, which interviewees partially attributed to the CJR model. Interviewees reported that the LEJR service line has become increasingly important to CJR Hospital F's overall business. CJR Hospital F is not gainsharing with its orthopedic surgeons, and the hospital required surgeons to cancel all gainsharing agreements with other hospitals upon entering into employment under CJR Hospital F. Interviewees reported that some surgeons have expressed dissatisfaction with the hospital's lack of gainsharing.

Care Coordination

The nurse navigator at CJR Hospital F is responsible for overseeing care coordination activities including the weekly pre-operative joint class, daily scheduling reports, contacting patients and scheduling them for class, and following patients throughout the 90-day episode.

The nurse navigator is alerted to patients scheduled for LEJR through the daily report produced by the hospital operating room scheduling department. The nurse navigator then initiates a phone call to enroll the patient in the pre-operative joint class, coordinate pre-operative screenings and laboratory testing, and answer any questions about preparing for hospitalization and surgery.

The pre-operative joint class is not mandatory, but patient and caregiver attendance is strongly encouraged. The joint class has existed for approximately six years and includes laboratory testing, a 90-minute lecture, and preliminary discharge planning. Upon arrival, patients undergo laboratory and diagnostic examinations, chest x-rays, and electrocardiograms. Patients fill out self-assessment tools and complete a disability index form, the Hip Disability and Osteoarthritis Outcome (HOOS) Jr. or Knee Disability and Osteoarthritis Outcome Score (KOOS) Jr. assessment, the Veterans RAND 12-Item Survey, and a home evaluation. In addition, the therapist will perform a pre-operative therapy session, the patient will complete the Risk Assessment and Prediction Tool (RAPT), and a member of the care management team will perform a discharge screening. CJR Hospital F interviewees reported that discharge planning begins "the moment the surgery is scheduled" and patients are prompted to consider post-discharge needs, such as availability of a caregiver and access to DME. Sometimes, the nurse navigator may suggest that patients postpone surgery until a caregiver is available to assist them. For patients who live far away, the nurse navigator

> *"Because it's such a competitive market and there's a fear, the physicians, they fear that their patients will go find a physician that can do it next week. There's actually a huge time crunch where in other markets you might have seen and I'm accustomed to a two to three month wait period. When these patients come in to these appointments, they expect the procedure to happen in two weeks or less."*
>
> ***– Vice President of Post-Acute Services***

contacts them by phone to ensure that they get the laboratory testing done at their local facilities, and the nurse navigator sends them an educational packet.

On the day of admission, the inpatient care managers perform an "initial discharge screening," which is used to confirm the information gathered prior to admission.

The nurse navigator at CJR Hospital F follows patients throughout the 90-day episode via phone, calling at 30 and 90 days. PRO data is collected at the 90-day phone call, and post-operative HOOS and KOOS responses are compared to pre-operative responses. If a patient is discharged to a SNF, the nurse navigator will contact the facility within 24 hours of admission and again every three days until discharge. The nurse navigator reported that the hospital is trying to reduce SNF length of stay and thus encourages SNFs to discharge patients who have met baseline function so they can transition to outpatient therapy.

Effect of Removal of TKA from Medicare Inpatient-Only List

The hospital performed 7% of TKA as an outpatient status from October to December of 2018. The vice president of post-acute services explained that changing the hospital's current system to outpatient TKA required "retraining at every level and having integration of multiple services or departments," but noted that staff have been working on the transition and were discussing how to transition to performing even more outpatient TKA.

Percent of TKAs performed in outpatient status
October – December 2018

7%	vs.	19%
CJR Hospital F		CJR average

Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Patient and Caregiver Experience

Interviewees said that the CJR model has resulted in changes in caregiver expectations. CJR Hospital F asks caregivers to be more engaged in the LEJR process. The hospital places an emphasis on patient and caregiver education, particularly during inpatient physical therapy sessions. Interviewees reported that the increased expectations are not unreasonable.

Relationships among Providers

Interviewees noted that there is a sufficient supply of quality HHAs but fewer high quality SNFs. As a result of the CJR model, interviewees reported that they became more aware of PAC quality and cost and started decreasing the number of LEJR patients being discharged to SNFs. CJR Hospital F has a relationship with some SNFs. Interviewees reported that CJR Hospital F is in the process of creating a preferred provider network and accepting applications from SNFs.

The proportion of patients first discharged to SNFs increased slightly from PY1 to PY3, and the proportion first discharged home with home health decreased slightly (Exhibit 38).

Exhibit 38: CJR Hospital F's proportion first discharged to SNFs slightly increased and first discharged to home with home health slightly decreased

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	13%	29%	55%	3%
PY2	12%	32%	54%	3%
PY3	13%	36%	48%	2%

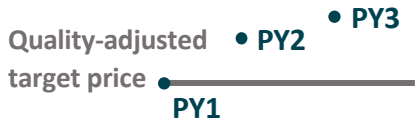
Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

Exhibit 39 summarizes CJR Hospital F's quality and financial performance. CJR Hospital F exceeded its quality-adjusted target price in PY1 and did not receive a reconciliation payment. In PY2, it had an average repayment of $766 per episode. In PY3, the hospital had an average repayment of $1,088 per episode. CJR Hospital F's quality has varied, with "good" quality in PY1, dropping to "below acceptable" quality in PY2, and climbing back to "good" quality in PY3.

Exhibit 39: CJR Hospital F did not receive a reconciliation payment in PY1 and had repayments in PY2 and PY3



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Good	Below acceptable	Good
Average reconciliation or repayment per episode	$0	-$766	-$1,088

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Interviewees attributed the drop in quality rating to an increase in the hospital's LEJR complication rate, but reported that the complication rate has returned to its previous levels. CJR Hospital F has chief quality officers for the hospital's east, central, and west regions, who take action based on quality data insights. Interviewees reported that in the past, the quality team has shared the data with orthopedic surgeons, and interviewees said that the quality data have been helpful for identifying opportunities for improvement and for responding to the CJR model. For example, the data are useful for evaluating SNF quality and deciding the appropriate discharge destination.

CJR Hospital G

The CJR Hospital G summary is based on site visit interviews with the president, vice president, and chief financial officer of the hospital; a consultant hired to assist with the hospital's response to the CJR model; a member of the hospital's legal team who aided in establishing gainsharing agreements; several administrative directors; and a clinical nurse manager, acute therapy manager, and care navigator.

CJR Hospital G is the flagship hospital in the largest not-for-profit health system in the state, which owns five hospitals in the MSA that perform LEJR. Interviewees noted CJR Hospital G has the highest CJR LEJR volume of all the hospitals owned by the health system, performing an average of 236 Medicare LEJR procedures annually (Exhibit 40). The hospital owns an IRF and HHA.

Exhibit 40: CJR Hospital G is a high-volume hospital owned by the largest not-for-profit health system in the state

Characteristic	CJR Hospital G	CJR mandatory average
Annual Medicare LEJR volume	**236**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**HHA, IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**28%**	35%
DSH patient percentage	**43%**	32%
Bed count	**531**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital G has five "very engaged" orthopedic surgeons, with whom the hospital has gainsharing agreements. Some of the surgeons are employed by the hospital, while others are not. The hospital allows the surgeons to have privileges at other hospitals in the region if they wish. Interviewees reported the hospital could perform more LEJRs if the hospital had more surgeons, but attracting surgeons in the market is difficult because the hospital has a highly complex patient mix and higher call volume than other nearby hospitals. Although interviewees noted not observing any cherry-picking or case mix changes due to the CJR model, they described that healthier patients tend to go to private, for-profit orthopedic hospitals in the MSA, while less

healthy patients tend to come to CJR Hospital G. Interviewees observed that the hospital's ability to provide a higher level of care after the surgery, especially if there are any complications, was likely the main reason for their more acute patient mix.

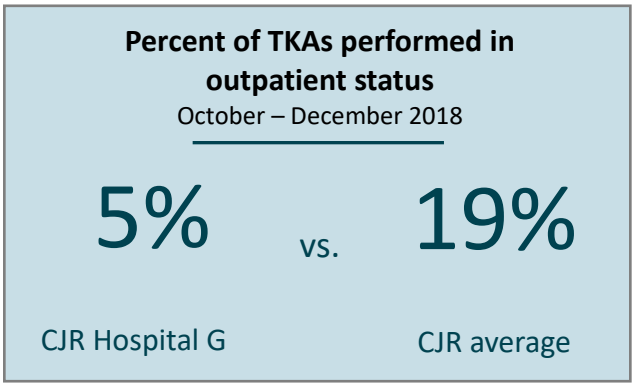
Care Coordination

As a result of the CJR model, the hospital hired a full-time care navigator devoted fully to CJR patients. Prior to surgery, patients participate in a phone call, during which the care navigator explains the surgery, sets expectations, and determines discharge setting using the RAPT. One week prior to surgery, patients also attend a joint class, meet with a hospitalist, participate in pre-admission testing, and receive an educational joint book. The hospital established the joint class about a decade prior to implementing the CJR model.

Interviewees noted the majority of surgeons use general anesthesia for LEJR procedures. Following surgery, patients receive same-day PT if the surgery was in the morning; if the surgery was in the afternoon, patients receive PT the next morning. The care navigators conduct weekly follow-up calls for the four weeks post-surgery, and then every three weeks throughout the 90-day episode.

Effect of Removal of TKA from Medicare Inpatient-Only List

Although claims data indicate the hospital performs some outpatient TKA procedures, interviewees reported that outpatient TKA was generally not a part of their practice. Hospital leadership stated there is "not a desire in surgical staff to do outpatient knee here." Interviewees attributed surgeons' stance to either surgeon preference or complexity of the hospital's patient population.



Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Patient and Caregiver Experience

Caregivers are encouraged to participate in pre-operative education discussions and therapy sessions. Interviewees described setting patient expectations in the care navigator's pre-operative call, the joint class, and the physicians' offices. For example, staff prepare patients to go home with home health rather than discharging to a SNF or IRF. Interviewees noted the CJR model provided impetus for physicians to have these conversations with patients prior to surgery, but physicians report taking substantial amounts of extra time discussing post-discharge destination and

convincing patients they can go directly home with home health. Interviewees also cited physician fears that patients will select alternative surgeons who will do what the patients want them to do, given "the market is competitive for patients."

Relationships among Providers

Interviewees shared that the CJR claims data revealed long SNF LOS and use of one-star SNFs. To address these issues, the hospital developed a preferred provider network. Care navigators share information about the network with patients when discussing discharge destination. To develop the network, the health system requested that SNFs submit information including level and type of care provided, the care pathway for joints, and infection rates. The hospital evaluated the SNFs and selected 10 or 11 for the preferred provider network; interviewees noted working closely with three or four of the providers. According to interviewees, the hospital has considerable influence over PAC providers because of the importance of the hospital's referrals from other service lines.

The hospital team meets quarterly with preferred SNFs and shares un-blinded, facility-specific data, such as number of readmissions and patient LOS. The hospital also sends an information sheet to the SNF notifying them that the patient is in the CJR model and includes LOS expectations. Interviewees described a partnership where the hospital team works with SNFs to troubleshoot situations for particular patients who stay beyond the 14-day care pathway. The hospital also has goals for HHAs and expects about six visits per patient. Interviewees discussed the benefit of increased information sharing when working with the hospital's own IRF or HHA.

Hospital leadership noted that previously many patients were discharged to settings unnecessary for the level of care the patients required. For example, the hospital sent more patients than necessary to its IRF, which was preferred or expected by many patients. Now, physicians have established relationships with home health providers and discharge most patients home with home health. However, interviewees reported that the hospital often discharges fracture patients to its IRF, a practice it has found cost-effective due to fracture patients' higher level of need, the high quality of the hospital's IRF care, and the resultant reduction in patients' post-discharge complications. The hospital's patient mix has grown in complexity between PY1 and PY3, with higher HCC scores and fracture rates. This rise in complexity explains the increase in initial discharges to SNFs and the decrease in initial discharges home with home health (Exhibit 41). Between PY1 and PY3, however, the hospital decreased its percentage of *elective* LEJR patients first discharged to an IRF and increased its percentage of elective LEJR patients first discharged home with home health.

Exhibit 41: CJR Hospital G sends most of its patients home with home health following discharge

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	18%	15%	60%	7%
PY2	15%	30%	52%	3%
PY3	18%	25%	49%	9%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: HH = home health, IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Impact

Due to its size and LEJR volume, CJR Hospital G led much of the health system's response to the CJR model. With the assistance of a consultant, the health system established committees to help govern the CJR model response rollout, focusing on internal cost savings, care redesign, and oversight and gainsharing. For example, prior to CJR, each hospital in the health system had its own educational joint book; following implementation of the CJR model, the hospitals developed a standardized joint book for use across the system. The book is given to patients during the joint class but is also referenced by care navigators throughout the episode, and patients are instructed to bring the book to PT appointments.

CJR Hospital G earned an average reconciliation payment of $463 per episode in PY1, but did not receive a reconciliation payment in PY2 due to a "below acceptable" quality score. Interviewees believe their lack of PY2 reconciliation payment was due to the hospital's low Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) score and the historical measurement period used for quality measures, which includes the pre-CJR time period. The interviewees believe the revised quality measure scale used to determine their quality category put the hospital at a disadvantage. In PY3, the hospital had "good" quality and earned an average reconciliation payment of $1,419 per episode, over three times its episode payment in PY1 (Exhibit 42).

Exhibit 42: CJR Hospital G earned reconciliation payments in PY1 and PY3

Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Good	Below acceptable	Good
Average reconciliation or repayment per episode	$463	$0	$1,419

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Hospital leadership attributed CJR Hospital G's reconciliation payment to a shift in discharge setting following implementation of the CJR model. As a result of the CJR model, a consultant was hired to analyze the CJR Medicare claims data, provide hospital-specific reports, and assist with other aspects of the model, such as setting up gainsharing agreements. Interviewees emphasized that an external consultant was crucial for data analysis and highlighted the value of the claims data in both providing insight into the entire episode of care and gaining trust of physicians.

> *"It was the greatest ah-ha [moment] - we can finally see real time claims data! [The data allows us to] look across the continuum of care, and then [we] can make much better decisions."*
>
> ***– Hospital Interviewee***

CJR Hospital H

The CJR Hospital H summary is based on site visit interviews with hospital executives and financial leaders, leaders of the population health department, data managers and analysts, direct care clinical staff, and orthopedic service line leaders including the director of patient care services and the nurse navigator for the CJR model.

CJR Hospital H is a public trust hospital that is part of a regional health system. CJR Hospital H performs an average of 387 LEJR cases annually, more than double the CJR mandatory hospital average of 164 (Exhibit 43).

Exhibit 43: CJR Hospital H is a public trust hospital that performs a high volume of LEJR

Characteristic	CJR Hospital H	CJR mandatory average
Annual Medicare LEJR volume	**387**	164
Ownership	**Government**	13% government
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**42%**	35%
DSH patient percentage	**24%**	32%
Bed count	**279**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital H is a public trust hospital that is part of a regional health system. The hospital is comprised of three facilities, one main campus hospital, one specialty hospital which houses the orthopedics department and another regional hospital. Interviewees at CJR Hospital H described the hospital system as "independent" with no interest in joining a larger system.

The hospital contracts with two orthopedic surgical practices whose surgeons also practice at other hospitals within the MSA. Ten surgeons have privileges at the hospital but four surgeons perform most of the LEJR procedures. Interviewees reported that the saturated market benefited the

hospitals in the area as surgeons seek to have operating privileges at multiple hospitals, allowing them more flexible schedules. CJR Hospital H is not gainsharing with orthopedic surgeons in the CJR model.

The hospital is a certified center of excellence for total hip, total knee, and hip fracture. The hospital is participating in 22 clinical episodes in Bundled Payments for Care Improvement (BPCI) Advanced. Interviewees stated the hospital's success under the CJR model was a contributing factor in deciding to enter many clinical episodes with BPCI Advanced.

Care Coordination

Interviewees at CJR Hospital H described a new focus on multidisciplinary involvement in discharge planning. Every day the case managers, along with physical therapy and the other ancillary departments, have brief multidisciplinary rounds to discuss the status and progress of each patient. The discussion is charted on a status board and reviewed by the nurse navigator who monitors anticipated discharge date and anticipated discharge destination.

The new focus on interdisciplinary involvement has included an increased role from occupational therapy in the last four years. Interviewees stated that there is a team of occupational therapists that are used in interdisciplinary rounding. Occupational therapists at the hospital also help in assessing the patients' potential discharge needs and appropriate discharge destination. Occupational therapy is now offered daily for all LEJR patients.

Interviewees at the hospital noted the spillover effect of the CJR model, indicating that all initiatives that were created in response to the CJR model were eventually rolled out to all LEJR patients. One interviewee stated, "We never, ever, ever implemented something just for CJR patients. Unless we were testing it. Once we proved it worked, it went everywhere."

Effect of Removal of TKA from Medicare Inpatient-Only List

Interviewees at CJR Hospital H expressed confusion over inpatient versus outpatient status determination and documentation requirements when TKA was removed from the Medicare IPO list. Physician advisors from a health services company assisted in the interpretation of the rule change. Interviewees explained how the advisor's guidance on status determination and documentation evolved based on denials.

Hospital interviewees described frustration from hospital staff who did not understand CMS' intent with removing TKA from the IPO list. One executive noted, "There was anger, and [questioning] why is CMS doing this, and I…certainly see why they were so upset, because although it became a not an inpatient-only procedure, it was not allowed to be done in a freestanding ambulatory care same-day surgery-type situation. If it's not safe enough to do there, then how can you take it off the inpatient list? Just didn't feel right or fair to them."

Claims data show the hospital performed 4% of TKAs in an outpatient status, compared to the CJR average of 19%. Hospital leaders felt that the shift to outpatient TKA was not good for their hospital financially, but that patient outcomes have not been impacted. Interviewees stated that the care for patients at the hospital is largely unchanged and the hospital is just absorbing the reimbursement difference.

Percent of TKAs performed in outpatient status
October – December 2018

4%	vs.	19%
CJR Hospital H		CJR average

Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Patient and Caregiver Experience

Interviewees at the hospital noted that they focused on the importance of expectation setting with patients and caregivers in response to the CJR model. Specifically, interviewees noted the importance of expectation setting and education around patients discharging home. Case managers noted they always assess the caregiver support at home before recommending home discharge.

Interviewees felt that the shift to shorter LOS and home discharges under the CJR model has been well-received by most patients. They noted some difficulty with patients who had an LEJR in the past and expected the same SNF discharge protocol.

> *"If they've ever had anything done in the past, they're kind of shocked. They're like 'oh, really? Two days. I don't get to go to rehab and spend two weeks?'"*
>
> ***– Hospital Interviewee***

Relationships among Providers

Interviewees at CJR Hospital H stated that orthopedic surgeons were already familiar with general expectations of the CJR model due to experience with previous payment initiatives, however, interviewees described how data sharing increased surgeon support for hospital changes related to the CJR model. One interviewee said, "I can distinctly remember the meeting…where I showed them their financial performance by physician, and [one surgeon], who had most of the patients who went to swing beds went 'what is that?' So, he was super shocked, and I think he's had maybe one…I think they've all had maybe one or two, a handful of patients go to swing beds after that."[3]

Interviewees stated that surgeons were reluctant to support prehabilitation and patient education efforts. The interviewees noted that although surgeons may feel these programs are useful, that patients find them onerous and time consuming, and surgeons do not want to take the responsibility of forcing the patients to go. Interviewees stated that one surgeon has told them that

[3] Swing beds are units within acute care hospitals where patients receive the same skilled level of care that is available at SNFs. Swing beds typically cost more per day than an inpatient or traditional SNF bed.

if the hospital makes it a requirement, then he will gladly tell his patients they have to, but not until then. Telling patients that the hospital requires the prehabilitation and education classes makes it easier for the surgeons to maintain relationships with their patients.

Interviewees at CJR Hospital H described how the hospital invested resources into developing preferred post-acute care networks in response to the CJR model. The interviewees described the process for developing PAC networks and the initial challenges including getting PAC providers on board even though they would be asking them to reduce length of stay. One interviewee stated, they approached the SNFs to ask for collaboration, "What we had to do was say if we can build this relationship with you, that we can trust you with our patients to ensure that they get the best quality in the shortest period of time and discharging them to a preferred provider home health and continuing this on an outpatient basis… then we will send you more patients who we know that you'll give quality care to in an appropriate amount of time and send to the appropriate setting after they leave you. And so we identified three in our community. And we're lucky in that we have a close knit community."

Interviewees described challenges in working with PACs that were not in their preferred network, particularly rural PACs. Challenges result from both not having as much of a working relationship with those PACs and those PACs not being familiar with the CJR model.

Impact

CJR Hospital H earned a reconciliation payment in all three performance years. The reconciliation payment has increased in each performance year. In PY1 the hospital earned an average reconciliation payment of $1,151 per episode, in PY2 the average payment increased to $1,253 per episode, and in PY3 it increased again to $1,659 per episode (Exhibit 44). The hospital's quality rating has been "good" in all three PYs. Interviewees reported that reducing LOS has been a large factor helping the hospital come below the quality-adjusted target price.

Exhibit 44: CJR Hospital H earned reconciliation payments in all three PYs

Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Good	Good	Good
Average reconciliation or repayment per episode	$1,151	$1,253	$1,659

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Interviewees at CJR Hospital H attributed their overall success in the CJR model to engagement from hospital staff, investments in population health, and improving care coordination between nursing, physical therapy, and case management. Involvement from the hospital board was especially important to the success of the model. One interviewee stated, "Our board is super engaged. I don't know how many times we've gone to the board, more than once a year, with updates on how…joint is going, and they want to know more about value-based purchasing. It's just exciting to see how this all goes together, because now our board actually understands the risk adjustment factor."

Executive leaders at CJR Hospital H reported that they are using knowledge gained from the CJR model participation in BPCI Advanced. The hospital leaders reported comfort joining other bundled payment models because of their CJR model experience, "The support that we've gotten from [hospital] administration started with CJR, and has rolled out [to other bundled payment models], because they saw how successful we were…it was so perfect."

Non-CJR Hospitals Summary

Introduction

The non-CJR hospitals summary is based on site visit interviews with three non-CJR hospitals. Each hospital was included because it was located outside of the MSA, but within the hospital referral region.

Non-CJR Hospital I is a not-for-profit hospital owned by the same regional not-for-profit health system as CJR Hospital D and lies about 35 miles outside of the MSA center. Non-CJR Hospital J is a not-for-profit hospital owned by the same not-for-profit health system that owns CJR Hospital G and lies about 100 miles outside of the MSA center. Non-CJR Hospital K is a for-profit hospital owned by a national healthcare management company and lies about 100 miles outside of the MSA center (Exhibit 45).

Exhibit 45: Non-CJR hospital characteristics

Characteristic	Non-CJR Hospital I	Non-CJR Hospital J	Non-CJR Hospital K	CJR mandatory average
Annual Medicare LEJR volume	42	42	181	164
Ownership	Not-for-profit	Not-for-profit	For-profit	61% non-for-profit
Health system membership	Yes	Yes	Yes	87% membership
IRF, SNF, or HHA ownership	No	SNF and HHA	No	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	42%	21%	60%	35%
DSH patient percentage	39%	70%	15%	32%
Bed count	98	155	127	287
Teaching status	No	Yes	No	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, Medicare claims and enrollment data for episodes or discharges initiated in 2012 through 2014 that ended between April 2012 and March 2015, and site visit interviews.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Non-CJR Hospital I: No Outpatient TKAs and High SNF Usage

Non-CJR Hospital I is a low-volume LEJR hospital, averaging 42 LEJRs a year. At the time of the interview, the hospital employed a single orthopedic surgeon after the recent loss of three surgeons to relocation or retirement. The hospital is attempting to recruit a new surgeon for the orthopedics department, but noted difficulty recruiting surgeons to the rural community.

Despite being part of a system that has a CJR participant hospital in MSA 2, hospital leadership reported very little effect of the CJR model on their hospital practices. The hospital president noted, "for us, not being a participant, quite frankly…is just not on my radar. I think the drivers of what goes on in orthopedics in this market is not related as much to CJR." Instead, he noted that changes in surgical practices and pain management drive changes in LOS and discharge destination.

Interviewees stated that the hospital does not perform outpatient TKA procedures due to the surgeon's preference and did not anticipate any movement to outpatient as the surgeon is near retirement and resistant to change.

SNF use at Hospital I increased in PY2 and PY3 while HHA use decreased (Exhibit 46). The low volume hospital sends more than half of their LEJR patients to SNFs. Interviewees noted a partial reason for this was that HHAs in the area lacked strong physical therapy capabilities for rehabilitating LEJR patients. They reported their surgeon is very adamant about the patient receiving quality physical therapy and rehabilitation, which helped drive up SNF use.

Exhibit 46: Non-CJR Hospital I's SNF use increased and home health use decreased in PY2 and PY3

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	0%	33%	67%	0%
PY2	0%	53%	38%	9%
PY3	0%	54%	39%	7%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Non-CJR Hospital J: Little Effect from the CJR Model Despite Being in a Health System with a CJR Participant Hospital

Non-CJR Hospital J is a low-volume LEJR facility, performing 42 LEJRs per year on average, and currently has one employed surgeon who operates at the hospital, Interviewees noted a recent loss

in LEJR volume to competing hospitals including specialty hospitals in the nearby MSA. Interviewees partially attributed this loss to patient perception of a higher level of care at specialty hospitals. Interviewees felt, however, that their market position was strong due to older local residents who prefer to have their surgery closer to home.

Despite being part of a system with a hospital participating in the CJR model, the staff at Non-CJR Hospital J said that they did not have much interaction with the model. One executive noted, "The CJR stuff happens on an island. … When CJR did roll out, I really expected a broader range of information to hit us because we are not that far from it and we are part of a system that participates. I am surprised by the lack of information that we have received."

Percent of TKAs performed in outpatient status
October – December 2018

60%	vs.	19%
Non-CJR Hospital J		CJR average

Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Non-CJR Hospital J performs 60% of TKAs as an outpatient procedure. Interviewees at the hospital reported that the rule change has not really influenced patient care, but has added some additional administrative work to properly document and bill the outpatient TKAs.

Interviewees at Non-CJR Hospital J reported that their care coordination has not changed in recent years. The hospital does not typically follow the patient post-surgery unless there are comorbidities. The hospital does get a notification if there are any readmissions at their own hospital and performs a root-cause analysis to determine why the readmission occurred.

Non-CJR Hospital K: Moderate Volume Rural Hospital with Advanced Care Coordination Practices that Participates in Bundled Payments for Care Improvement (BPCI) Advanced

Non-CJR Hospital K is a medium-volume LEJR facility performing 181 LEJR procedures annually. The hospital has four surgeons, one of whom they employ while the other three are members of a local surgical group. The hospital reported that their joint program operates independently of the hospital system and all decisions are made locally. The hospital has their own outpatient rehabilitation center and described the physical and occupational therapists as highly engaged. The hospital has experience with bundled payment models and is participating in BPCI Advanced for nine

Percent of TKAs performed in outpatient status
October – December 2018

57%	vs.	19%
Non-CJR Hospital K		CJR average

Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

clinical episodes, however, the hospital did not select major joint because hospital leaders felt "there was very little savings opportunity" with their already efficient orthopedic service line.

Non-CJR Hospital K performs 57% of TKAs as outpatient procedures. The hospital reported that when the procedure came off the IPO list, individual surgeons decided which TKAs to shift to OP. Many surgeons shifted a majority of their procedures to outpatient after the rule change, however, hospital leadership made the decision not to mandate all TKAs be performed in the outpatient setting because hospital leadership "didn't want to have to tell patients that they could not stay an extra night." Interviewees said that, especially for repeat customers who were inpatient the first time and outpatient the second time, patients are not happy. Interviewees commented that there is an additional out-of-pocket expense for the patient with outpatient TKA, noting that patients complained about costs associated with self-administered drugs would be covered by Medicare if the surgery was done as an inpatient procedure.

The hospital discharges a majority of LEJR patients home with outpatient PT (Exhibit 47). Interviewees stated that the hospital prefers outpatient PT to home health because it requires the patient to get out of the house to attend appointments, which supports patient recovery, "We want everyone to go home immediately upon discharge. Home is our expectation and goal." Hospital interviewees reported that the hospital collects patient outcome data on every patient discharged, and pays extra attention to any patients who are readmitted. Interviewees described care coordination activities including patient follow up one week post-discharge and weekly staff meetings to discuss discharged patients. If there are any patients who report difficulties in recovery, care transition nurses follow up with them to prevent ED visits or hospital readmissions.

Exhibit 47: Non-CJR Hospital K discharges a majority of patients home without home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	7%	16%	13%	64%
PY2	10%	13%	15%	63%
PY3	16%	9%	11%	65%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018).

Note: IRF = inpatient rehabilitation facility, PY = performance year, SNF = skilled nursing facility.

Orthopedic surgeons interviewed at Non-CJR Hospital K reported that the CJR model does not change their practices nor have they felt an impact since the start of the model. Their case volume has not changed and patient mix has remained the same. One orthopedic surgeon reported that other bundled payment models allowing hospitals to opt-in have had a greater impact on the hospital than the CJR program. The surgeon said, "Commercial bundles have more

of an impact on my practice than the CJR [model] since [Non-CJR Hospital K] is outside the [mandatory] CJR market."

Hospital interviewees felt it is difficult for rural hospitals to participate in bundled payments because of low PAC supply and inability to improve PAC outcomes. "[Rural] hospitals do not have a lot of PAC options. Until CMS holds PACs responsible for their actions, it is difficult for hospitals to absorb the cost. There is a very limited number of providers for the hospital to choose from. Bundled payment models that hold the hospital accountable put the hospital in a difficult position. It penalizes the hospital when the SNFs haven't been penalized for their behavior [keeping patients for long LOS]. The SNFs need to be held accountable."

Associated Providers Summary

Introduction

The associated provider summary is based on interviews with three SNFs, three HHAs, and three outpatient PT clinics. All three SNFs are independent; one HHA is independent, one HHA is owned by the largest health system in the state, and one is owned by CJR Hospital F. One outpatient PT clinic is independent, one outpatient PT clinic is owned by CJR Hospital C, and one outpatient PT clinic is owned by CJR Hospital E (Exhibit 21).

MSA 2 is home to six IRFs, 71 SNFs, and 73 HHAs. The supply of SNF beds per 10,000 people aged 65 and older is 441, which is higher than the CJR mandatory MSA average of 410.

Key Findings

Shifts in Patient Complexity

PAC providers described an increase in patient complexity at both SNFs and HHAs. The Director of Transitional Care at an independent SNF reported that it could accommodate high complexity patients because the facility had anticipated the impact of the CJR model on patient complexity prior to the beginning of the model. In an effort to position itself as an attractive partner for hospitals, the facility educated staff and nurses on how to care for complex acute patients. As a result, interviewees reported that the SNF receives a greater share of acute patients than other, less-equipped facilities in the MSA and they believe caring for a greater proportion of acute patients leads to lower quality ratings because of their higher readmission rates. An interviewee at the HHA owned by the largest health system in the state reported that because the agency is a "hospital-based home care, [the HHA] can accommodate a higher complexity of patient," which establishes their competitive advantage in the market.

> *"I go in and fight directly with the hospitals, and I use the word fight, because it is. And you go in and say, I can't take every one of them, though. And I'll be at a table with all the other [SNFs] going, you all have to step up and you all, you're the biggest ones in town. You all have to be able to take X amount of these. Let's find out what the number is on a par level almost every month and see where they are, and you need to take your share, and you're not taking them. You're taking all the others and sending all the rest to me, and I'm dealing with them, with my readmission rates going up."*
>
> ***– Director of Transitional Care Unit, Independent SNF***

Patient and Caregiver Experience

> *"I think one of the biggest differences I see is the expectations. They know right upfront we're going to be seeing them for this many visits, and then the expectation is for them to go to outpatient therapy after that if they need more therapy... They know what's expected and so they are better prepared to work with us to meet those expectations. I think that's the biggest difference I've seen with patients who are in the program."*
>
> ***– Physical therapist from the HHA owned by the largest health system in the state***

Interviewees from HHAs and outpatient PT clinics expressed that patient education has improved as a result of the CJR model, positively impacting patients' post-discharge experiences. An interviewee from the HHA owned by the largest health system in the state reported that CJR patients are more prepared for therapy and have a better understanding of expectations than non-CJR LEJR patients. Although HHA and outpatient PT clinic interviewees reported that patients are well-educated, an interviewee from an independent HHA did report that the patient population in the MSA has low motivation and that the agency struggles with non-compliance and they have "to constantly reinforce and really, really, hold people's hands through therapy."

In contrast, SNFs expressed concern regarding patients' and caregivers' understanding of length of stay expectations. An interviewee from an independent SNF stated that "a lot of [patients and caregivers] are not well-informed" about the length of stay expectations in the SNF setting.

Care Coordination and Relationships with Hospitals

Interviewees from both outpatient PT clinics and two HHAs reported that they communicate primarily about patients with the orthopedic surgeons. The director of therapy at the clinic owned by CJR Hospital E has access to the surgeon's notes in the hospital's EMR, but noted that this access was not granted as a result of the CJR model. The independent outpatient PT clinic has a relationship with CJR Hospital B, as the clinic is part of the rehabilitation hospital that partially owns the IRF with CJR Hospital B. An interviewee at the outpatient PT clinic reported that the clinic has several well-seasoned therapists who leverage long-term relationships with the surgeons.

Each of the three SNFs in MSA 2 is involved in preferred provider networks with hospitals in MSA 2, and interviewees reported that there are varying levels of expectations, communication, and care coordination approaches across networks. Some hospitals require monthly or quarterly meetings with all preferred providers and data sharing, while others simply communicate via email. SNFs that are in preferred provider networks for multiple hospitals, reported that it can be difficult to manage the unique care coordination approaches that each hospital establishes. Although expectations vary across networks, an interviewee reported that the establishment of preferred provider networks in the MSA is a positive result of the CJR model.

Interviewees from one SNF said that hospitals withheld referrals as punishment for keeping patients too long in the SNF, resulting in the SNF feeling "stuck between a rock and a hard place"

trying to tend to the needs of both the hospital and the patient. Multiple hospitals in the MSA reached out to the SNF and communicated LOS expectations for CJR patients. Interviewees from two SNFs reported a seven to 10 day LOS cap for CJR patients that was implemented shortly after the CJR model was implemented. The Director of Physical Therapy at one of the SNFs noted that hospitals have relaxed the LOS expectations to 15 - 20 days for fracture patients after observing that they were not ready to be discharged home at 10 days. Though, interviewees reported that most patients come to the SNF with comorbidities such as obesity or diabetes and require a longer stay. In response to a long LOS, hospitals reportedly refrain from referring patients to that particular facility. Another independent SNF also reported that hospitals communicated a LOS of seven to ten days at the beginning of the CJR model. Interviewees from both an independent SNF and an independent HHA reported that some patients express frustration with feeling that they are being discharged too soon, but this is not exclusive to the CJR population.

Impact

Interviewees from two independent SNFs reported a decrease in the volume of LEJR patients as a result of the CJR model. One interviewee reported that CJR patients are not revenue-generating, but the facility chooses to take CJR patients in order to maintain relationships with the hospitals. An interviewee from one HHA owned by the largest health system in the state noted that the CJR model has helped orthopedic surgeons better evaluate post-discharge destination. For the other HHA, the CJR model prompted a mindset change because the agency had to consider which hospitals it was willing to work with. For example, the agency chose to stop taking Medicare patients from one hospital that limited the number of HH visits. Overall, SNFs experienced challenges with managing the varying expectations of different hospitals' preferred provider networks.

> *"Initially we were getting a lot from several different hospitals. And they each had their own set of guidelines they want us to follow. Some are on a computer program where they wanted us to go upload information. Some wanted a sheet faxed over. Some wanted an email. Some wanted a phone call every week. And we just had to keep up. Some wanted day one eval, twice a day physical therapy, and weekend physical therapy. So just trying to accommodate all of that. … It was definitely stressful."*
>
> ***– SNF Interviewee***

MSA 3 Introduction

This case study of the CJR MSA 3 summarizes data gathered from site visit interviews with staff at hospitals, PAC providers, and orthopedic surgeons. Interviews were conducted at two CJR participant hospitals, three non-CJR hospitals, one SNF, one HHA, and two outpatient PT clinics.

MSA 3 differs from the average CJR MSA in several key ways, summarized in Exhibit 48. It is smaller than the average CJR mandatory MSA, with a less healthy and less affluent population. The MSA has a surgeon supply that is lower than the CJR MSA average and according to the Herfindahl-Hirschman Index has a highly concentrated LEJR market. The MSA also has a high IRF discharge rate compared to the CJR MSA average. The Medicare Advantage penetration rate is lower than the CJR mandatory MSA average.

Exhibit 48: MSA 3 characteristics

Characteristics	MSA 3	CJR mandatory MSA average
Population size	**206,219**	1,840,635
Population aged 65+	**14%**	15%
Median household income	**$40,673**	$49,179
Medicare Advantage penetration	**11%**	29%
Obesity prevalence	**28%**	25%
Herfindahl-Hirschman Index[a]	**5,063**	3,675
IRF discharges per 10,000 65+ population	**420**	178
Orthopedic surgeons per 10,000 65+ population	**4**	7
SNF beds per 10,000 65+ population	**399**	410

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

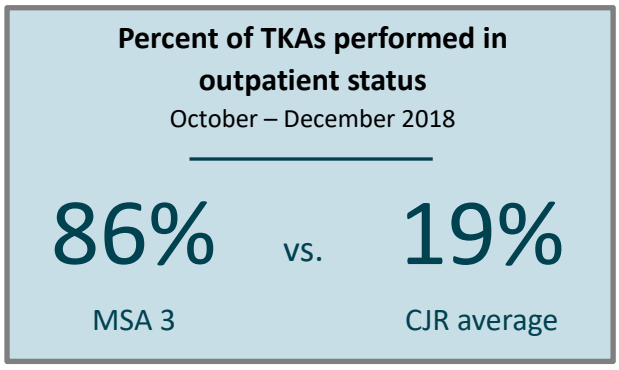
Notes: FY = fiscal year, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, MSA = metropolitan statistical area, POS = provider of services, PPS = Prospective Payment System, SNF = skilled nursing facility.

[a] The Herfindahl-Hirschman Index is calculated as the sum of the squared LEJR market shares of all ACH providers (CJR and control group), multiplied by 10,000. The HHI values can range from 0 (large number of firms in the market) to 10,000 (a single firm controls the market). Values between 1,500 and 2,500 indicate moderately concentrated markets and values greater than 2,500 are considered highly concentrated

Hospitals in MSA 3 performed a higher percent of outpatient TKA procedures on average than other CJR mandatory MSAs. From October to December of 2018, 86% of TKAs at CJR participant hospitals in MSA 3 were performed in an outpatient status compared to 19% of TKAs done outpatient on average in CJR mandatory MSAs.

MSA 3 CASE STUDY

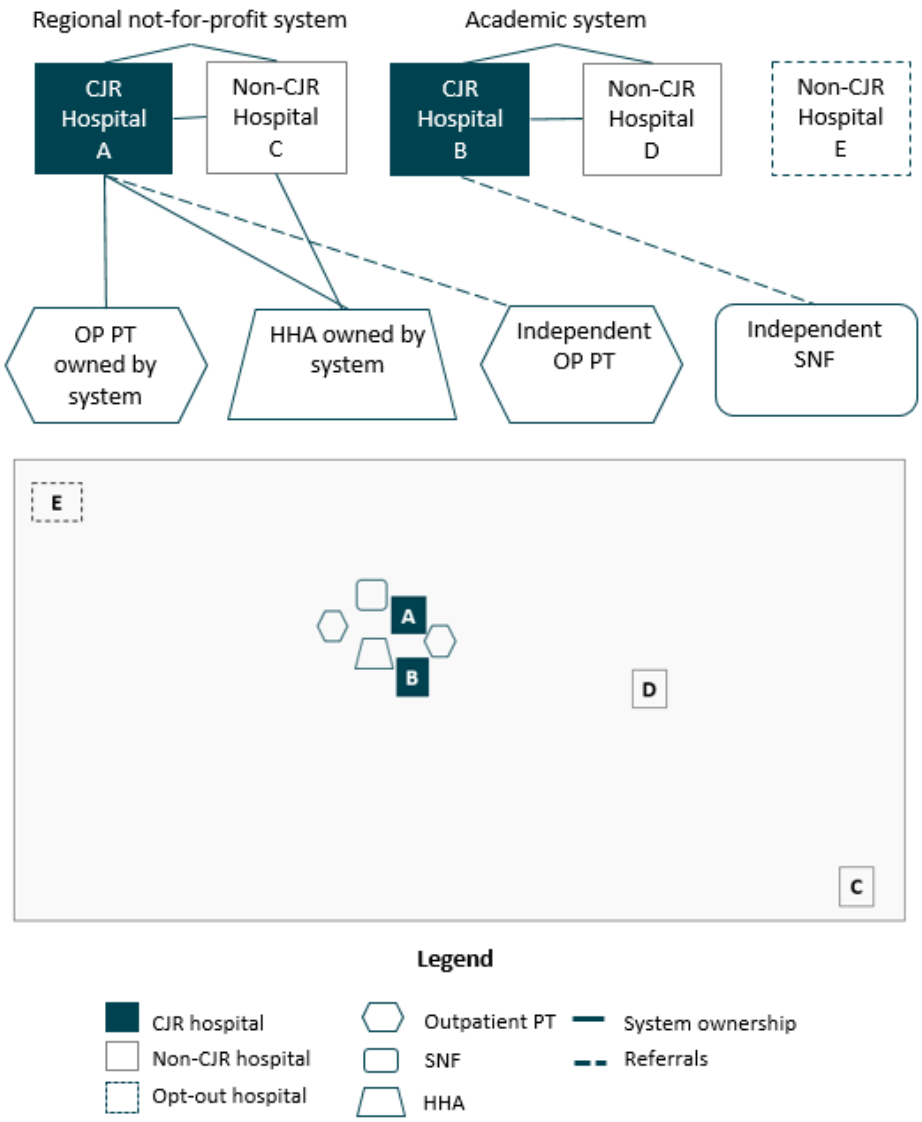
Exhibit 49 illustrates the relationships between hospitals and PAC providers interviewed in MSA 3, which has two health systems. One health system is a regional not-for-profit system and the other is a state based academic health system. Each health system owns one CJR participant hospital in the MSA, both of which were interviewed during site visits. CJR Hospitals A and Non-CJR Hospital D, are owned by the regional not-for-profit system. CJR Hospitals B and Non-CJR Hospital D are owned by state-based academic health system. An independent non-CJR hospital was also interviewed. The hospital was formerly a CJR model participant, but did not opt to continue participation in the model at the end of 2017 due to low-volume.



Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: MSA = metropolitan statistical area, TKA = total knee arthroplasty.

Exhibit 49: Relationships among hospitals and PAC providers interviewed in MSA 3



Source: CJR evaluation team analysis of Medicare claims and enrollment data for episodes initiated from October 1, 2017 to September 30, 2018, and referrals based on site visit interviews.

Note: The gray box is a visual depiction of distances between providers. Distances are approximate and not to scale.
HHA = home health agency, OP = outpatient, PT = physical therapy, SNF = skilled nursing facility.

CJR Hospital A performs the highest number of LEJRs in the MSA with an average of 387 Medicare LEJRs annually. CJR Hospital B performs 148 Medicare LEJRs annually, which is lower than the CJR hospital average of 164. Non-CJR hospital C performs an average of 125 LEJRs annually, and Non-CJR Hospital D and E both perform fewer than 50.

In each performance year, both CJR participant hospitals earned reconciliation payments (Exhibit 50). They also received a quality score of "acceptable" or higher in all performance years. One CJR participant hospital accredited its positive performance to its renewed focus on improvements in the post-hospital discharge period, which it had begun to address prior to the CJR model using comparison and benchmarking analysis. The other CJR participant hospital attributed its strong performance to implementation of a patient-centric model called the Marshall Steele program, participation in an ACO prior to the model, and standardized use of surgical supplies that began around the same time as the CJR model.

Exhibit 50: MSA 3 hospital CJR model performance, PY1-3

		CJR hospital	
	Hospital performance	**A**	**B**
Financial	Earned reconciliation PY1	•	•
	Earned reconciliation PY2	•	•
	Earned reconciliation PY3	•	•
Quality	"Acceptable" or higher quality score PY1	•	•
	"Acceptable" or higher quality score PY2	•	•
	"Acceptable" or higher quality score PY3	•	•

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes January through December 2018).

Note: MSA = metropolitan statistical area, PY = performance year. A "•" indicates that a hospital met reconciliation or quality criteria. A blank space means a hospital did not meet reconciliation or quality criteria. A "-" indicates a hospital did not participate in the CJR model in that PY.

Key Findings

Influential Market Features

MSA 3 and its surrounding area were described by interviewees as a retirement destination, with increasing numbers of retirees moving to the region in recent years. They said that cardiovascular disease, obesity, tobacco use, diabetes, hypertension, renal disease, and low health literacy are prevalent among the population. Interviewees described MSA 3 as a competitive market for LEJR procedures. One interviewee noted the area is historically "underserved from a physician standpoint," in both primary care and specialty services.

MSA 3 has recently seen several hospital closures and acquisitions. An interviewee reported a trend of smaller hospitals in the state closing or aligning with larger health systems. During this time, the one independent orthopedic group in the MSA, which employed around 10 surgeons, dissolved, and most of these surgeons joined the regional, not-for-profit health system as employees. This employment arrangement resulted in a shortage of orthopedic surgeons at CJR Hospital B, which is owned by the academic health system. CJR Hospital B now employs two

surgeons and was hiring a third after an independent surgeon who performed a large volume of LEJRs left the hospital.

The regional health system owns seven hospitals all located in the state, including CJR Hospital A and Non-CJR Hospital C. It has a larger market share than the five-hospital academic health system. The academic health system recently purchased Non-CJR Hospital D and CJR Hospital B, which participates in an ACO operated by the hospital's previous owner. Starting in January 2020, CJR Hospital B will stop participating in that ACO and begin participating in an ACO operated by the academic health system.

Care Coordination

The two CJR hospitals in the MSA began focusing on care coordination prior to the CJR model using different approaches. In the 1990s and early 2000s, CJR Hospital A conducted data analysis and compared itself with other hospitals, identified joint programs around the country performing best practices, and visited these hospitals and physicians to compare their care coordination activities and identify opportunities for cost savings and quality improvements. To better understand patients' perspectives throughout the care pathway, the hospital teams shadowed LEJR patients and consequently made changes, such as streamlining patient appointments to minimize trips to the hospital, ending the use of continuous passive motion machines, initiating multimodal pain management protocols, beginning patient ambulation on the day of surgery, and modifying the treatment for deep vein thrombosis prophylaxis.

CJR Hospital B took an alternative approach to revamp care coordination by implementing the Marshall Steele program in 2013, with the aim of preparing their patients to ambulate the day of surgery. The hospital also follows the Mayo Clinic's Enhanced Recovery After Surgery (ERAS) program to include protocols for multimodal pain management and diabetes control. Because of its ACO participation, the hospital hired a care navigator whose responsibilities have transitioned to case management under new ownership. The hospital also uses a standardized surgical tote vendor that packages surgical items, such as dressing, glue, and "soft goods," in a tote according to the surgeon's specifications; implants are not included. Interviewees reported that the totes have helped streamline surgical preparation, decrease labor costs and waste, minimize the potential for errors, and reduce the stock of supplies.

Non-CJR Hospital E, following CJR Hospital A's example, hired a care navigator as a point-of-contact for patients and the liaison for the hospital's HHA, who has helped prevent unnecessary readmissions and ED visits. Orthopedic service lines from all hospitals in the regional health system meet quarterly to share data and standardize protocols. Over the past three years, Non-CJR Hospital E has also modified pain management that improved early mobilization and decreased the average length of stay.

Effect of Removal of TKA from Medicare Inpatient-Only List

Both CJR participant hospitals reported a reduction in revenue as a result of the removal of TKA from the Medicare IPO list. Non-CJR Hospital E interviewees reported that the removal of TKA from the IPO list decreased its revenue because outpatient TKA procedures receive inpatient-level care for a lower, outpatient-level payment. Staff at this hospital mentioned that in response to the rule change, they planned to identify outpatient TKA patients who would be capable of safely returning home on the same day as surgery.

Patient and Caregiver Experience

Both CJR participant hospitals in MSA 3 emphasized that setting patient and caregiver expectations through pre-operative joint classes improved patient outcomes and led to shorter lengths of stay. They also reported that social interaction with other patients who received surgery around the same time improved patient recovery. At CJR Hospital B, patients having surgery on the same day take the joint class together and the hospital organizes a friendly game after surgery to compete for who can walk the farthest distance. The game serves dual purposes of motivating the patients to ambulate and providing another way for surgeons to track patients' progress. CJR Hospital A interviewees noted that patients benefit from the camaraderie and motivation provided by other LEJR patients at the outpatient therapy clinic.

Relationships among Providers

Care navigators at both CJR hospitals built networks of preferred PAC providers by hosting regular meetings with PAC providers, conducting site visits, and educating PACs on the hospitals' expectations and protocols for LEJR discharges. At CJR Hospital A, interviewees described a collaborative relationship with PAC providers where the hospital's physician champion provides educational discussions with the PAC staff on expectations and guidelines, and the PAC providers share suggestions they have for the hospital to improve performance. Interviewees at CJR Hospital B reviewed PAC quality data and hosted monthly discussions with PACs in its network.

CJR Hospital A

The CJR Hospital A summary is based on site visit interviews with executive and financial leadership, the vice president of patient services, the director of clinical outcomes, and members of the orthopedic service line, including an orthopedic surgeon and the orthopedic navigator. The director of sports medicine and rehabilitation at the hospital's outpatient therapy clinic and director of the hospital's HHA were also interviewed.

CJR Hospital A is part of the regional not-for-profit health system that owns seven hospitals in the state. CJR Hospital A is the market leader in LEJR volume, performing an average of 387 Medicare LEJR procedures annually, more than twice the average number performed at CJR mandatory hospitals (Exhibit 51).

Exhibit 51: CJR Hospital A is the market leader in LEJR volume and part of a seven-hospital health system

Characteristic	CJR Hospital A	CJR mandatory average
Annual Medicare LEJR volume	**387**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**SNF and HHA**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**42%**	35%
DSH patient percentage	**36%**	32%
Bed count	**493**	287
Teaching status	**Yes**	44% teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual Inpatient Prospective Payment System (IPPS), FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital A has about half of the joint replacement market share in the MSA. The facility is a safety net hospital located in the center of the MSA, but with a catchment area that includes the rural service area surrounding the MSA. Interviewees said that its patients are lower-income with diabetes, hypertension, and obesity, and often experience transportation difficulties and have low health care literacy.

The health system works to align best practices at all hospitals in the system. For example, the health system monitors all hospitals on the same data dashboard and shares knowledge gained from CJR with its non-CJR hospitals. Orthopedic surgeons from across the health system meet regularly, and clinical improvements implemented at CJR Hospital A both before and during the CJR model were also implemented at the health system's other sites. In a separate interview, representatives from Non-CJR Hospital C described hiring a care navigator as a result of CJR Hospital A's experience and outcomes with care coordination.

> *"As is our culture we didn't just do this in three months for CJR patients. We didn't just do it in [this hospital] …We brought our surgeons from our other hospitals that performed orthopedic surgery and became a part of this collaborative group. Any clinical improvements that we implemented both before CJR and during CJR were implemented at the other sites."*
>
> ***– Hospital Interviewee***

About two years ago, the hospital hired several surgeons from a dissolved independent orthopedic surgeon group in the region. The surgeons also work in other hospitals. The hospital does not provide gainsharing.

Several years prior to the CJR model, CJR Hospital A initiated research and analysis to examine and improve costs, patient length of stay, and outcomes across the hospital, including the orthopedic department. Beginning in the late 1990s and early 2000s, the hospital began comparing its data to similar hospitals across the country, which were identified by the hospital's data vendor and in-house literature reviews. The hospital focused on cost, length of stay, mortality, complications, and readmissions. It found that its "pricing was high…length of stay was a little bit high, and readmissions were a little bit high." It focused on identifying causes for these trends and ways to address them. In the early 2000s, the lead orthopedic surgeon and an administrator visited some joint programs around the country, including one run by a well-respected physician in private practice who emphasized patient engagement prior to surgery. Based on best practices identified through the visits, CJR Hospital A made changes to its own protocols; for example, the hospital focused on the pre-operative window and reduced discharges to IRFs. The hospital also designated several clinical nurse specialists to support the physicians in reviewing literature and analyzing data.

Care Coordination

Even though the hospital has engaged in quality improvement and cost reduction efforts for over two decades, it implemented a care navigator role in 2017 as a result of the CJR model. The care navigator, who is a physical therapist, maintains spreadsheets of all recently discharged patients and documents their discharge locations. Her role covers all LEJR patients regardless of CJR eligibility. She teaches a mandatory pre-operative joint class, makes pre-operative and post-discharge follow-up calls, visits patients the morning after their surgery, communicates with PAC providers, and occasionally visits patients' homes or PAC facilities. She typically conducts two

follow-up calls per patient – one the day after the patient returns home, to ensure home health has visited the patient, and one after the patient's two-week follow-up appointment with the physician. To help reduce readmissions, the hospital encourages patients and HHAs to call or visit the physicians' office instead of coming directly to the ED.

Prior to surgery, anesthesia type is determined by the surgeon through consultation with the anesthesiologist; an interviewee reported about half of procedures use general anesthesia while the other half use regional. Post-surgery, all patients receive a PT evaluation and mobilize the joint the day of surgery if possible. Patients attend a group therapy class the morning after surgery prior to discharge. When patients come for their six-week appointment, the hospital collects PRO data.

The hospital has two data vendors to organize, clean, and analyze hospital data. The hospital shares de-identified physician data with its surgeons so they can discuss discrepancies, troubleshoot, and identify best practices. Interviewees said that CJR Hospital A emphasizes data-driven protocols and updates its processes in response to research findings. For example, the hospital found that the majority of LEJR readmissions occur within the first week, so the hospital has chosen to devote its follow-up resources more heavily in the two-weeks after surgery. Interviewees expressed frustration that their reconciliation payments were not large enough to cover the added costs of their data vendor fees and financial losses due to the removal of TKA from the Medicare IPO list.

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital A interviewees reported that the removal of TKA from the IPO list aligned with the hospital's trajectory for LEJR procedures, stating that the rule change was "something that fell into place and followed something we were already going towards." Because the hospital was already discharging patients before two midnights prior to the rule change, the hospital's volume of inpatient TKA CJR patients drastically decreased after the rule change went into effect. From October through December 2018, the hospital performed 97% of its TKAs in its outpatient department. The interviewees reported the hospital uses a "strict interpretation" of the rule change and errs on the side of performing TKA in an outpatient status rather than documenting reasons for inpatient status. An interviewee described feeling shocked that some patients – such as those on oxygen – did not meet CMS' inpatient criteria, as interpreted by the hospital.[4]

> *"We probably over applied it…we could have potentially done more documentation, but we went [with] a strict interpretation."*
>
> ***– Hospital Interviewee***

[4] Patients such as those referenced by the hospital *would* be covered as inpatients by CMS. The hospital's misinterpretation of the inpatient criteria highlights a common theme discussed more fully in Annual Report 3, as many hospitals reported a lack of information or guidance from CMS and resultant confusion about which patients would qualify for CMS reimbursement as inpatients.

Financial leadership indicated that the removal of TKA from the IPO list resulted in financial losses. Prior to the rule change, the hospital's consultant projected their PY3 reconciliation payment to be three times the amount of what they actually received. The rule change also required the hospital to restructure its data dashboards and analysis to include the inpatient and outpatient population. The dashboards were in use prior to the CJR model.

Percent of TKAs performed in outpatient status
October – December 2018

97% vs. 19%

CJR Hospital A CJR average

Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty

Patient and Caregiver Experience

Interviewees reported one of the key motivating factors in implementation of orthopedic service line changes beginning in the late 1990s was to "[make] sure things were efficient and effective for their patients." To achieve this goal, the hospital both engaged in a national search for best practices and analyzed its own data and evaluated patient outcomes. Beginning in 2013, the hospital conducted LEJR patient shadowing to better understand patients' experiences and identify areas for improvement. For example, the hospital realized patients were going back and forth between departments at the hospital (e.g., to the physician, pre-admission testing, joint class, financial registration); as a result, the hospital streamlined the process so patients can complete several appointments during one visit. As a resulf of streamlining the entire process for LEJR patients prior to the start of the CJR model, there was not much left for the hospital to do under the model

"I went to [the physician's] office. I sat in the waiting room, saw the sign-in process, saw the waiting process…I even went to the home and watched physical therapy in the home and what they did. We knew what every step was happening with the patients and where we needed to streamline things, where things were duplicate, information we had that we weren't sharing that they were having to ask over and over again."

– Hospital Interviewee

Relationships among Providers

Because the hospital had already focused on reducing internal costs prior to the CJR model, the hospital turned to PAC collaboration and cost savings associated with the entire 90-day episode under the CJR model. For example, the hospital invited SNFs to discuss care coordination efforts; at first, no SNFs attended, but participation increased over time. The care navigator initially visited various PAC facilities and explained the physicians' protocols, and based on these visits the hospital established a list of preferred providers to share with CJR patients. The hospital reevaluates preferred providers annually to verify their quality ratings and procedures.

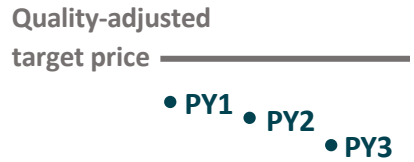
> *"It was from the beginning a good relationship. It was very collaborative."*
>
> ***– Hospital Interviewee***

Interviewees described a collaborative, transparent, and reciprocal relationship with the PAC providers. One interviewee referenced quarterly meetings with HHAs, quarterly meetings with SNFs, and biannual combined meetings. During these discussions, the hospital shared data on readmissions and referrals. Because the hospital found PAC providers were often waiting to discharge patients, the orthopedic physician champion developed specific discharge goals for patients in PAC settings. For example, PAC providers were instructed to discharge patients as soon as they could ambulate a certain distance. An interviewee reported the PAC providers were very engaged and often had discussions with hospital staff to troubleshoot readmissions and identify areas for improvement.

Impact

CJR Hospital A earned a reconciliation payment in all three performance years. In PY1, the hospital received a quality rating of "acceptable," which improved to "good" in PY2 and returned to "acceptable" in PY3 (Exhibit 52).

Exhibit 52: CJR Hospital A earned reconciliation payments in all three performance years



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Acceptable	Good	Acceptable
Average reconciliation or repayment per episode	$976	$1,205	$1,588

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Note: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

> *I feel like CJR, by giving us the data, by making us responsible for the 90 days, we looked at that post-discharge piece in a way that we never had before. We felt like we'd been sweeping our porch and now it was time to sweep other people's porches.*
>
> ***– Hospital Interviewee***

Although the hospital earned a reconciliation payment in all three performance years, interviewees noted a decrease in funding for the LEJR service line as a result of the CJR model. Because of the hospital's substantial work to improve length of stay, quality, and efficiency prior to the model, the hospital's historical target prices were low and the hospital found it difficult to further reduce costs. Because the hospital had already addressed most of the hospital processes, it began making improvements during the 90-day post-discharge period. The CJR data provided by CMS facilitated this focus.

Changes made by the hospital in response to the CJR model had a broader impact; the health system implemented these changes across the system, tailoring approaches to meet the needs and contexts of the various hospitals. Overall, however, interviewees noted that the reconciliation payments the hospital earned were positive yet not substantial enough to outweigh the hospital's investments in the CJR model and the losses the hospital experienced as a result of the rule change.

CJR Hospital B

The CJR Hospital B summary is based on site visit interviews with the hospital's executive leaders, director of finance, orthopedic surgeon, directors of the orthopedic service line, chief nursing officer, surgical staff, and rehabilitation services staff.

CJR Hospital B is owned by a not-for-profit academic health system that also owns Non-CJR Hospital D. The hospital performs an average of 148 Medicare LEJR procedures annually, which is fewer than the average number performed at CJR mandatory hospitals (Exhibit 53).

Exhibit 53: CJR Hospital B was recently purchased by a not-for-profit academic health system and is the second largest LEJR provider in MSA 3

Characteristic	CJR Hospital B	CJR mandatory average
Annual Medicare LEJR volume	**148**	164
Ownership	**Not-for-profit**	61% not-for-profit
Health system membership	**Yes**	87% membership
IRF, SNF, or HHA ownership	**IRF**	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	**54%**	35%
DSH patient percentage	**31%**	32%
Bed count	**342**	287
Teaching status	**No**	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual Inpatient Prospective Payment System (IPPS), FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

Key Findings

Background and Hospital Resources

CJR Hospital B was undergoing major transitions at the time of the site visit due to an ownership change and the loss of several orthopedic surgeons. The academic health system purchased CJR Hospital B along with three other hospitals in March 2019, and CJR Hospital B will join that system's ACO in January 2020, switching from the ACO managed by its prior owner organization. Of the four hospitals, CJR Hospital B is the largest and employs the most specialists, and the health system is exploring the possibility of transitioning it to a teaching hospital. Under its new leadership, employed physicians are expected to participate in system-level efforts to improve quality care and decrease costs.

Following the dissolution of the independent orthopedic surgeon group whose members entered into an employment agreement with the competitor hospital, plus the departure of a surgeon who performed a large volume of LEJRs at the hospital, CJR Hospital B recently hired a second surgeon and was hiring a third. In addition, two surgeons who are employed by CJR Hospital A practice part-time at CJR Hospital B. The health system that previously owned CJR Hospital B did not provide the hospital or the health system with the CJR data from CMS. As a result, data reported by interviewees, such as reconciliation payments did not always align with CMS CJR data.

Care Coordination

In 2013, the hospital improved its care coordination by adopting the Marshall Steele program. The hospital also follows the Mayo Clinic's Enhanced Recovery After Surgery (ERAS) protocols to better address comorbidities, which are prevalent among their patient population.

As part of the Marshall Steele program, a patient-centered model of care aimed at improving patient safety, experiences, and outcomes, CJR Hospital B holds a pre-operative joint class about two weeks prior to surgery. Patients with surgeries scheduled on the same day attend class together. During the class, one presentation focuses on the hospital's expectations of patients' progress prior to, during, and following the operation. A lunch is held for patients and their caregivers. Patients receive instructions on exercises to perform pre- and post-operation. One of the goals of the program is early ambulation, so patients are expected to ambulate the day of surgery.

LEJR procedures are performed with spinal anesthesia, nerve blocks, and multimodal pain management because staff have found these methods reduce surgery time and improve patient recovery. About an hour after the operation, a physical therapist examines the patients and assists them in standing and walking. Interviewees reported that about 98% of their patients can walk 300 feet the day of surgery. TKA patients generally receive 13 sessions of outpatient therapy over the course of four to six weeks after discharge and THA fracture patients receive 18 outpatient therapy sessions.

As part of the Mayo Clinic's ERAS guidelines, the hospital implements multimodal pain management and diabetes control protocols. One of the surgeons will not proceed with an LEJR if a patient has uncontrollable diabetes, and prefers not to perform TKA on a patient with a body mass index (BMI) above 40. Other activities the hospital implemented to optimize patient outcomes include assigning a joint coordinator to each LEJR patient, providing an optional free nutrition program, and offering diabetic care for all LEJR patients.

Interviewees stated that CJR Hospital B did not implement a standardized approach to tracking patients post-surgery beyond scheduling the follow-up visit 10 days after surgery; however, the

hospital was transitioning to a new EMR system that aligns with other hospitals in the system, a change that, as one interviewee described, "For continuity of care [is] going to be phenomenal."

Effect of Removal of TKA from Medicare Inpatient-Only List

CJR Hospital B reported a slight decrease in its revenue and no change to its processes as a result of the removal of TKA from the IPO list. Interviewees stated that all TKAs are considered outpatient procedures because they discharge almost all patients prior to two midnights.

Patient and Caregiver Experience

Patients and caregivers are expected to attend a pre-operative joint class. Interviewees mentioned that having caregivers present has improved compliance with pre- and post-operative exercises. If a caregiver is unable to perform the necessary care for the patient, a case manager from the hospital will help the caregiver to find additional resources, such as HHA to assist in caregiving.

> *"When we do the pre-op class…we tell them up front, you're going to go home, because you're not sick, you're not here because we're managing medical. I'm here to get a new knee or hip put in. Bring your workout clothes, when you get up the next morning you can get up in the chair, eat breakfast, put on your shorts and t-shirt, and you're going to the gym at 9:00 a.m. for group PT."*
>
> ***– Director of Orthopedic and Neurological Services***

Relationships among Providers

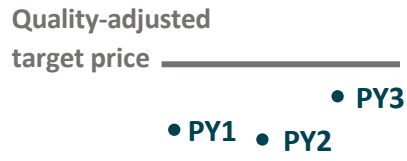
CJR Hospital B owns one IRF and one outpatient therapy clinic. The hospital established a PAC collaborative network with IRFs, SNFs, and HHAs while under previous ownership. Interviewees noted challenges locating SNF beds due to limited supply; this was compounded by some SNFs refusing to follow recommended lengths of stay prescribed by the hospital. Interviewees also reported that lags in CMS quality star ratings yielded inaccurate reflections of SNF quality, as some low-scoring SNFs have collaborated with the hospital to provide excellent care. An interviewee reported a drop in the number of referrals to IRFs in PY2, but the hospital increased its IRF referrals in PY3. One surgeon commented that although he considers cost differentials between PAC settings, he acknowledged that he did not feel pressured to avoid IRF use because the hospital acquired an IRF under new ownership in PY3.

A care navigator, who was hired in 2018 as part of the hospital's participation in the ACO, sought to create a PAC collaborative network by identifying preferred PAC providers that signed affiliation agreements with the hospital. This agreement allows representatives from the hospital to follow patients in the PAC setting. The PAC selection process involved a review of quality data — including readmissions, length of stay, and ED visits — and care protocols.

Impact

CJR Hospital B earned reconciliation payments in all three PYs, highlighted in Exhibit 54. In PY1 and PY2, the hospital received a quality rating of "excellent" and had similar average per-episode reconciliation payments. In PY3, the quality rating dropped to "acceptable" and average per-episode payments decreased to $631.

Exhibit 54: CJR Hospital B earned reconciliation payments in PY1-PY3



Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results	PY3 Initial Reconciliation Results
Quality category	Excellent	Excellent	Acceptable
Average reconciliation or repayment per episode	$1,330	$1,346	$631

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017), and PY3 (episodes ending January 2018 through December 2018).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

The hospital attributed its response to and performance in the model to the Marshall Steele program, ACO participation, use of standardized surgical totes, and adopting ERAS protocols. Interviewees noted the use of surgical totes occurred around the same time as the start of the CJR model, but was not a direct response to the model. Staff reported that the academic health system will likely standardize the use of implants and attributed this change to the CJR model.

Non-CJR Hospitals Summary

Introduction

The non-CJR hospitals summary is based on site visit interviews with three non-CJR hospitals. One hospital is a former CJR participant which chose not to opt-in due to its rural designation. The other two hospitals were selected because they are located outside of the MSA, but within the hospital referral region.

Non-CJR Hospital C is owned by the same regional not-for-profit health system that owns CJR Hospital A plus five other hospitals in the area around MSA 3. The non-CJR hospital is located in an MSA approximately 80 miles from the MSA 3 anchor city. Non-CJR Hospital D was acquired in early 2019 by the same academic health system that acquired CJR Hospital B and consequently is undergoing major programmatic and process changes. The hospital is located in the MSA 3 hospital referral region, but not in MSA 3. Non-CJR Hospital E is owned by a for-profit health system that owns three other hospitals in the state. Non-CJR Hospital E is located in MSA 3, but did not opt to continue participation in the CJR model due to its rural designation in December 2017. Non-CJR Hospital E is about 25 miles from the two CJR hospitals in MSA 3. (Exhibit 55).

Exhibit 55: Non-CJR hospital characteristics

Characteristic	Non-CJR Hospital C	Non-CJR Hospital D	Non-CJR Hospital E	CJR mandatory average
Annual Medicare LEJR volume	125	12	45	164
Ownership	Not-for-profit	Not-for-profit	For-profit	39% for-profit
Health system membership	Yes	Yes	Yes	87% membership
IRF, SNF, or HHA ownership	HHA	SNF	No	15%, 30%, and 42% (IRF, SNF, and HHA, respectively)
Medicare days percentage	50%	48%	46%	35%
DSH patient percentage	30%	42%	42%	32%
Bed count	155	94	116	287
Teaching status	No	No	No	56% non-teaching

Source: CJR evaluation team analysis of 2015-2016 Area Health Resource File, 2014 American Community Survey, 5-Year Estimates, December 2016 POS, FY 2016 CMS Annual IPPS, FY 2014 Annual IRF PPS, and Medicare claims and enrollment data for episodes or discharges initiated in 2012 through 2014 that ended between April 2012 and March 2015.

Note: DSH = disproportionate share hospital, FY = fiscal year, HHA = home health agency, IPPS = Inpatient Prospective Payment System, IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement, POS = provider of services, PPS = Prospective Payment System, MSA = metropolitan statistical area, SNF = skilled nursing facility.

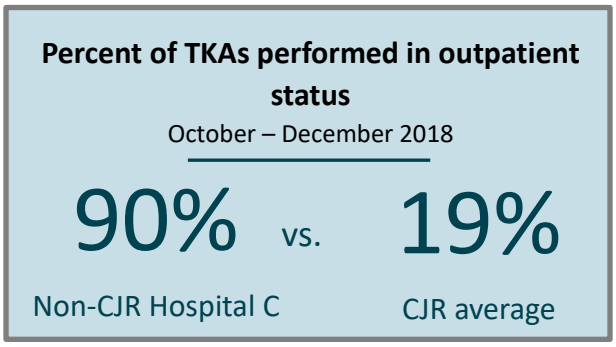
Key Findings

Non-CJR Hospital C: Adoption of Sister CJR Hospital Practices and High Percentage of Outpatient TKA

The MSA is described as a retirement community. Non-CJR Hospital C interviewees described its patient mix as older and healthier than MSA 3. An interviewee reported receiving some patient migration from MSA 3 because a leading surgeon in MSA 3 left the state within the past year, so some patients were choosing to have their surgery closer to home. Non-CJR Hospital C has 155 beds and performs an average of 125 Medicare LEJR cases annually, which is fewer than the average number performed at CJR mandatory hospitals.

Non-CJR Hospital C is not currently participating in any bundled payment initiatives, but its sister hospital in MSA 3, CJR Hospital A, is participating in the CJR model. Interviewees noted that many of the best practices implemented at CJR Hospital A in response to the CJR model have been adopted by all of the hospitals in the system. One interviewee at Non-CJR Hospital C commented, "Even though we're not [in CJR], we kind of act like we are." Interviewees reported that although some of the hospital's best practices are due to the sister hospital's involvement in the CJR model, others were a result of the health system's orthopedists discussing best practices. The hospital participates in quarterly, system-wide orthopedic service line meetings, during which orthopedists share best practices and data across the health system.

After observing the benefit of an orthopedic care navigator at CJR Hospital A, Non-CJR Hospital C hired a navigator. An interviewee shared that the navigator has made a "huge difference as far as following these patients when they have issues" and has helped increase communication between providers and prevented unnecessary hospital readmissions and ED visits. The navigator recently started conducting six-month follow-up calls with patients. To improve care coordination, the hospital team met with HHAs to ensure they all share consistent information around expectation setting and recovery time with patients. In addition, the hospital is transitioning to a new EMR that will allow it to receive electronic reports from the HHA directly. Like its sister hospital, Non-CJR Hospital C has a physician champion described by interviewees as passionate and committed to quality of care and evidence-based practices.



Source: CJR evaluation team analysis of Medicare claims and enrollment data for inpatient and outpatient TKA discharges between October and December 2018.

Note: TKA = total knee arthroplasty.

Non-CJR Hospital C performs 90% of its TKAs as outpatient procedures. When asked how the hospital achieved such a high percentage of outpatient TKA, interviewees reported that prior to the rule change, many of the hospital's patients were discharged home the day after surgery. One

interviewee noted, "It wasn't really a major effort…it was just a change in the admission designation." Non-CJR Hospital D and Non-CJR Hospital E do not perform outpatient TKAs.

Interviewees at Non-CJR Hospital C attributed the hospital's low average length of stay and high rate of outpatient TKA to pain management protocols, patient expectation setting, and diffusion of best practices across the health system. The lead LEJR surgeon stated that 98% of the hospital's hip and knee replacements are performed with spinal and regional anesthesia instead of general anesthesia, reporting that patients "look a lot better post-operatively" and are "up moving…much quicker" after surgery than patients using general anesthesia. The hospital has also shifted physical therapy staffing schedules to facilitate mobilizing patients as soon as their spinal anesthesia wears off, even if that occurs in the evening. The surgeon also mentioned reinforcing the message that patients will go home the day after surgery.

Interviewees from Non-CJR Hospital C noted the health system is taking the "conservative approach" of designating TKA procedures as outpatient by default to safeguard against Recovery Audit Contractor audits. One interviewee described the rule change as resulting in a "huge revenue hit" for the hospital. Interviewees noted the payment difference for TKA is between $4,000 and $6,000 for an inpatient versus outpatient TKA procedure.

> *"These patients can't go home like an outpatient gallbladder that's a two hour recovery. They need 24 hours…so there's almost this intermediate gap. That yes, [the patient] doesn't meet the two midnight rule that they need to be [an inpatient], but it's not truly an outpatient. But we are getting reimbursed like an outpatient, like you would in a surgery center."*
>
> ***– Hospital Administrator***

An interviewee shared that the hospital is "always looking to refine" its processes and decrease costs; the hospital is working towards same-day discharge outpatient TKAs for certain patients, which would lower hospital internal costs, lower risk for nosocomial infections, and allow patients to rest better following surgery.

Non-CJR Hospital D: Shifting of Fracture Cases to Sister Hospital and Relationships with HHAs

According to interviewees, Non-CJR Hospital D's primary service area covers roughly four counties within a 45-minute driving radius. The hospital performs an average of 12 Medicare LEJR cases annually, which is much fewer than the average number performed at CJR mandatory hospitals.

Non-CJR Hospital D interviewees reported that many people in the region have transportation barriers, which reduces competition for the hospital, but patients willing and able to travel to the larger LEJR providers in MSA 3 will often do so. Interviewees mentioned that more acute patients are seeking services at their hospital, and they attribute this change in patient mix to the new health system ownership. Twenty-five percent of Non-CJR Hospital D's patient population are dual

eligible, which is similar to the CJR mandatory average of 23% but twice the rate of its sister hospital, CJR Hospital B.

Non-CJR Hospital D employs one orthopedic surgeon who is preparing to retire. The surgeon performs surgery on non-complex fracture cases, but sends complicated fractures to CJR Hospital B, which is owned by the same health system. The hospital was recruiting another orthopedic surgeon, but noted challenges because it is located in a smaller community. Non-CJR Hospital D has a social worker and case managers who are responsible for discharge planning. Non-CJR Hospital D interviewees noted that the high turnover rate in the home health field makes it challenging to maintain strong relationships with HHA points of contact, but they have built rapport with liaisons at certain HHAs. Case managers provide patients with information about the HHAs' quality and trends. The hospital's Chief Quality Officer noted that the HHAs' data is not easily accessible as agencies often do not want to share outcomes. Non-CJR Hospital D owns a 92-bed SNF about five miles away, but most patients are discharged home with home health. Of the few fracture patients the hospital treats, interviewees reported that most are discharged to a SNF. The hospital had no LEJR episodes in PY1 (Exhibit 56).

Exhibit 56: Non-CJR Hospital D discharges the majority of its patients home with home health

Performance year	IRF	SNF	Home with home health	Home without home health
PY1	-	-	-	-
PY2	0%	8%	83%	8%
PY3	0%	7%	93%	0%

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes initiated during or after April 2016 that ended by December 2016), PY2 (episodes initiated during or after January 2017 that ended by December 2017), and PY3 (episodes initiated during or after January 2018 that ended by December 2018). CJR evaluation team analysis of Medicare claims and enrollment data for discharges during or after April 2016 that ended by December 2018 (intervention).

Notes: LEJR episodes at non-CJR hospitals are identified applying CJR eligibility criteria to discharges. Fields with a "-" indicate that data is not available. PY1 first PAC utilization data is not available because the hospital did not have any LEJR episodes.
IRF = inpatient rehabilitation facility, LEJR = lower extremity joint replacement PY = performance year, SNF = skilled nursing facility.

Non-CJR Hospital E: Acute Patient Mix and Organizational Changes

The hospital's patients come from surrounding rural areas to the north; however, interviewees reported that the hospital competes with larger hospitals in the MSA 3. The hospital has 116 beds and performs an average of 45 Medicare LEJR cases annually, both much lower than the respective averages among CJR mandatory hospitals.

Non-CJR Hospital E interviewees reported that the hospital serves an unhealthy patient population with high levels of obesity, diabetes, and tobacco use. As a result, surgeons do not have hard stops for surgery based on BMI or diabetes control. Instead, surgeons work with individuals to educate them on any health concerns, and one surgeon noted that if the patient is showing positive trends in weight loss, diabetes control, or smoking cessation, he is likely to move forward with surgery.

Under the direction of a new surgeon, the hospital has recently hired a navigator and service line manager to teach a joint class and improve care coordination across medical staff, PAC providers, and patients. Interviewees reported that the new surgeon has worked to shift discharge destination from SNF to home with home health, and that he is considering discharge to home with outpatient physical therapy.

Interviewees at Non-CJR Hospital E reported many organizational changes since 2016 that have affected the orthopedic service line. Two surgeons left the hospital and one operates only on fracture patients. Due to low-volume, hospital leadership opted not to continue participation in the CJR model on December 31, 2017. In November 2018, the hospital hired a new orthopedic surgeon to help rebuild the orthopedic service line.

According to hospital interviewees, because of these changes that coincided with the start of the CJR model, little was done in response to the model. Interviewees stated that reporting and compliance was done at the system level. The hospital earned a reconciliation payment in PY1 and had a repayment in PY2 (Exhibit 57). Interviewees at the hospital reported that access to CMS CJR claims data was one of the best parts of model participation.

Exhibit 57: Non-CJR Hospital E earned a reconciliation payment in PY1, but not in PY2

Measure	PY1 Final Reconciliation Results	PY2 Final Reconciliation Results
Quality category	Acceptable	Good
Average reconciliation or repayment per episode	$1,418	-$299

Source: CJR evaluation team analysis of CJR payment contractor data for PY1 (episodes ending April 2016 through December 2016), PY2 (episodes ending January 2017 through December 2017).

Notes: A positive dollar amount represents a reconciliation payment, and a negative dollar amount indicates a repayment. PY = performance year.

Associated Providers Summary

Introduction

The associated provider summary is based on interviews with one SNF, one HHA, and two outpatient physical therapy clinics. One outpatient physical therapy clinic and the HHA are owned by CJR Hospital A. The other outpatient physical therapy clinic and the SNF are independent. MSA 3 has two IRFs, 13 SNFs, and five HHAs. The supply of SNF beds per 10,000 people aged 65 and older is close to the CJR mandatory MSA average. The market has an above average rate of outpatient TKA compared to the CJR mandatory average and has seen a shift in post-acute care away from SNF use to home with home health and home with outpatient physical therapy for LEJR patients.

Key Findings

Shifts in Patient Complexity

The independent SNF reported receiving fewer LEJR patients, particularly in PY3. The patients the SNF receives are more complex and the SNF administrator reported increased care for LEJR patients. The SNF administrator reported that staff training has changed as the increase in patient complexity. The SNF contracts with physical therapists, but reported that the therapists have more difficulty completing therapy because of the additional complexity of the patients. Home health and outpatient therapy providers noted no increase in LEJR patient complexity.

Patient and Caregiver Experience

All interviewed PAC providers felt that changes to post-acute care protocols in response to the CJR model have increased the amount of support that families are expected to give, but interviewees felt that caregivers and patients had the tools and resources available to be successful. The director of rehabilitation at the outpatient physical therapy clinic of CJR Hospital A reported that patients who come for outpatient therapy benefit from interacting with other LEJR patients at the clinic and discussing their progress. The director of rehabilitation felt that was a benefit that patients did not get when receiving therapy through a home health provider, and he felt that it helped keep patients motivated in their recovery. Outpatient therapy clinics also reported that co-pays for therapy visits imposed a financial burden on patients, which they do not have if they go home with home health or go to a SNF for rehabilitation. Interviewees at the outpatient therapy

> *"I've had patients call me and say, I didn't know I was going to have to pay this co-pay. I can't afford to keep going. We'll talk about that, and see if there's any other options. Sometimes we'll call and say, can you get him in for just one more visit, get a good home program. We just have to do what the patient can do."*
>
> ***– Director of Sports Medicine and Rehabilitation***

clinic owned by CJR Hospital A reported working with patients to address financial concerns to ensure they do not stop their therapy too early. Strategies include providing financial education for patients on the first day of outpatient therapy so patients know what bills to expect, following up with patients via phone if they miss appointments, and decreasing therapy appointments to the minimum therapists feel is absolutely necessary.

Care Coordination and Relationships with Hospitals

Interviewees at both the SNF and independent outpatient physical therapy clinic felt that communications with other providers have improved as a result of the CJR model. Interviewees at the independent outpatient physical therapy clinic stated that communication with surgeons was minimal prior to the CJR model, and this has not changed, but that hospital staff and the nurse navigator have increased their follow-up. An interviewee from the outpatient physical therapy clinic stated, "We definitely see more follow-up where [CJR Hospital A] has a nurse navigator…that will follow-up with us as far as the referral and progress. It improves communication and the continuity of the care through the episode."

Interviewees at the HHA and the outpatient physical therapy clinic associated with CJR Hospital A reported increased education from surgeons in response to the CJR model. The director of rehabilitation stated that a particular surgeon at the hospital was very proactive in educating the HHA staff, including nurses and physical therapists at the hospital in preparation of the model. The surgeon educated the staff on what recovery should look like for the LEJR patients and when the rehabilitation staff should contact the surgeon with issues.

Impact

The MSA has seen a noteworthy shift away from SNF use to home health and outpatient physical therapy since the start of the CJR model. Interviewees from all PAC providers felt that the quality of care and patient outcomes have remained the same or improved since the start of the CJR model. Increased education for PAC staff provided by the surgeon was cited as having the most impact. Not all providers attributed the improvements in outcomes to the CJR model, noting that improved PAC protocols, such as same day ambulation and improved surgical techniques (e.g. nerve blocks) have been important in improving outcomes.