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Hospitals Using Bundled Payment Report Reducing Skilled Nursing Facility Use And Improving Care Integration

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Abstract

A goal of Medicare's bundled payment models is to improve quality and control costs after hospital discharge. Little is known about how participating hospitals are focusing their efforts to achieve these objectives, particularly around the use of skilled nursing facilities (SNFs). To understand hospitals' approaches, we conducted semistructured interviews with an executive or administrator in each of twenty-two hospitals and health systems participating in Medicare's Comprehensive Care for Joint Replacement model or its Bundled Payments for Care Improvement initiative for lower extremity joint replacement episodes. We identified two major organizational responses. One principal strategy was to reduce SNF referrals, using risk-stratification tools, patient education, home care supports, and linkages with home health agencies to facilitate discharges to home. Another was to enhance integration with SNFs: fifteen hospitals or health systems in our sample had formed networks of preferred SNFs to exert influence over SNF quality and costs. Common coordination strategies included sharing access to electronic medical records, embedding providers across facilities, hiring dedicated care coordination staff, and creating platforms for data sharing. As hospitals presumably move toward home-based care and more selective SNF referrals, more evidence is needed to understand how these discharge practices affect the quality of care and patient outcomes.

Skilled nursing care is a major driver of growth and variation in Medicare spending.¹ As of 2015 approximately 20 percent of all Medicare fee-for-service hospital admissions ended in a skilled nursing facility (SNF) stay, accounting for 1.7 million beneficiaries annually.² There is little evidence that increased SNF spending improves patient outcomes, and the optimal setting for postacute care remains unclear. As a result, SNF care has become a focus of two bundled payment programs in Medicare: the Bundled Payments for Care Improvement (BPCI) initiative and the Comprehensive Care for Joint Replacement (CJR) model.

These programs shift the financial responsibility for postdischarge care to hospitals and set incentives for stronger coordination between hospitals and postacute care providers, including SNFs.³ Traditionally, hospitals and SNFs receive separate payments for the care they provide. By contrast, Medicare's bundled payment initiatives link payments for multiple services related to a single episode of care. These models both retrospectively determine whether episode-based spending (including both hospital and posthospital) exceeds expected spending and hold participants accountable for that excess spending.^{4,5} BPCI is a voluntary initiative that started in October 2013, with participating hospitals selecting from forty-eight clinical episodes, including lower extremity joint replacement (primarily hip and knee)—which represents the most common episode type. In comparison, CJR was initiated in April 2016 as a mandatory model for lower joint replacement episodes only.⁵ It has recently been modified to allow voluntary participation.⁶

As hospitals are increasingly held accountable for the care delivered after discharge, there is growing interest in reducing readmissions and SNF spending.⁷ Yet how hospitals will achieve such reductions is unknown. Hospitals may seek to reduce SNF lengths-of-stay or avoid using SNFs altogether.^{8,9} Or they may improve care coordination and communication by vertically integrating with SNFs, building "preferred networks" with selected facilities, or developing other relationships.¹⁰ These linkages between hospitals and SNFs may be associated with reductions in readmission rates,^{11–13} hospital lengths-of-stay,^{14,15} and total expenditures for care.¹⁶

Understanding responses to bundled payment initiatives may help hospitals optimize organizational practices and patient outcomes. Using qualitative information gleaned from interviews with administrators and executives in twenty-two hospitals and health systems across ten states, we describe hospitals' approaches to discharging patients who have received lower extremity joint replacement within Medicare's CJR and BPCI programs. We emphasize two guiding questions: First, what overarching discharge strategies are hospitals using to respond to bundled payment? Second, how are hospitals interacting with SNFs to coordinate and integrate care?

Study Data And Methods

STUDY DESIGN

We identified hospitals and health systems participating in either of Medicare's programs for lower extremity joint replacement, CJR or BPCI, when we undertook our study during August-November 2017. Lower joint replacement is the most common Medicare inpatient

surgical procedure, with 400,000 procedures performed in 2014—which cost more than \$7 billion in hospitalization alone.⁵ For consistency and ease of interpretation, we focused on hospitals that participated in lower joint replacement episodes for bundled payment.

To achieve maximum heterogeneity in our sample, we employed a stratified purposive sampling method, selecting hospitals and health systems based on US census region, market size, urban or rural hospital location, bed size, and low (fewer than three stars) versus high (three or more stars) quality according to the five-star Hospital Compare score of the Centers for Medicare and Medicaid (CMS). We contacted chief executive and medical officers, who helped identify hospital leaders who directly oversaw post-acute or transitional care programs, bundled payment, or related operations. We recruited interview subjects in stages, contacting a total of eighty hospitals and health systems.

The Institutional Review Board at the University of Pennsylvania approved the study.

DATA COLLECTION AND ANALYSIS

The institutions selected for study were located in California (three hospitals), Colorado (two hospitals), Connecticut (one), Delaware (one), Florida (three), Illinois (one), Indiana (two), New Jersey (two), North Carolina (one), and Pennsylvania (six). Two of the authors (who were all members of the research team) conducted semistructured telephone interviews, each lasting approximately forty minutes, with chief medical officers, directors of postacute care, physician administrators, and other operations executives at the selected hospitals until thematic saturation was reached. One respondent from each of the twenty-two hospitals and health systems participated in the interviews.

The study team initially developed the interview protocol based on pilot testing with feedback from interviewees, and iteratively refined it with subsequent interviews. Domains covered included the overarching organizational strategies that hospitals employed in response to participation in bundled payment, changes in discharge practices, and care coordination with SNFs. We focused specifically on preferred SNF networks, including selection criteria, network development, and use of preferred SNFs (for the interview protocol, see the online appendix).¹⁷ A hospital was defined as having a SNF network if it engaged in an organized effort to selectively refer patients to a reduced number of SNFs and implemented specific strategies of care coordination with those SNFs. A network also had to include SNFs that the hospital did not own. Under this definition, solely discharging patients to an internally owned SNF did not identify a hospital as having a preferred network. We also collected data about hospital characteristics from publicly available Medicare data, including the Provider of Service files.

Interviews were recorded and professionally transcribed. Three research team members developed a preliminary coding scheme based on recurring ideas extracted from transcripts of the first eight interviews. Codes were updated continuously as interviews proceeded, and the revised list of codes was applied to all previously coded transcripts. Team members discussed discrepancies in code assignment until consensus was reached. Codes were bundled into major themes after iterative discussions among all five authors that included a

qualitative methodologist, a health economist, and health services researchers—all of whom were formally trained in qualitative research methods.

Coding and analysis were conducted using NVivo, version 11.4.2.

LIMITATIONS

This study had several limitations. First, our use of purposive sampling could have affected the generalizability of the findings, and the low response rate could have introduced some bias. However, we did attempt to temper the effect by recruiting hospitals from different markets, with variation in size, rurality, and quality, to maximize the heterogeneity of our sample.

Second, we focused on a subset of hospitals that had strong financial incentives to coordinate care for their joint replacement patients with SNFs. Thus, our findings might not be applicable to hospitals with different incentive structures or those participating in bundled payment for other clinical episodes.

Third, whereas BPCI is voluntary and allows hospitals to choose both episode duration (thirty, sixty, or ninety days) and which services to include in bundles, CJR is mandatory and has specified episode duration (ninety days) and covered services. Because of small sample sizes, we were unable to identify differences in strategies between hospitals participating in the two programs, which also have different structures.

Finally, we did not interview discharge coordinators or SNFleaders, whose perspectives may differ from those of hospital executives and administrators.

Study Results

HOSPITAL CHARACTERISTICS

The majority of the hospitals in our study participated in CJR and were major teaching hospitals, were not located in rural settings, and had a score of three or more (out of five) stars on CMS's Hospital Compare (exhibit 1). Five were safety-net hospitals, and nine hospitals owned their own SNF(s).

Hospitals with and without preferred SNF networks used similar strategies to coordinate with SNFs (exhibit 2). These included embedding hospital-employed physicians and advanced practitioners in SNFs (n = 12; 54.5 percent), sharing access to hospital electronic medical records (n = 15; 68.2 percent), holding regular meetings and performance reviews with SNF leaders (n = 19; 86.4 percent), hiring or reassigning staff members for dedicated care coordination positions (n = 17; 77.3 percent), and collecting data on SNF performance (n = 20; 90.9 percent)

THEMES

► **REDUCING SKILLED NURSING FACILITY REFERRALS:** A common response to bundled payment participation was to reduce SNF referrals for joint replacement patients and to shift discharges to home, with or without home health. One network quality director

said, "Surgeons, case management, and discharge folks [know that]...we want the patients to go home." For many hospitals, this change constituted a cultural shift. An orthopedic service line director observed, "It's just unbelievable...how the number of patients going home changed dramatically." A major reason for these changes was new understanding of cost drivers. "We were overutilizing skilled nursing, probably driven by our previous practices of not being able to see the total cost of care," said a chief medical officer.

STRATIFYING RISK AND SETTING PATIENTS' EXPECTATIONS: To shift

discharge destinations, hospitals implemented efforts to risk-stratify patients. This process often started with medical optimization well ahead of surgery. A chief of care integration reported: "Our surgeons are...interested in doing the right case, the right patient. If that patient isn't [medically] right [for surgery], let's get them right." An orthopedic service line director echoed: "We might work with somebody for several months before we think they're teed up appropriately for surgery. And we walk away from a lot of cases." Patients undergoing surgery were assessed using tools (such as the Risk Assessment and Prediction Tool) that predicted discharge disposition. Some hospitals designated physical therapists, advanced practitioners, or care coordinators to identify high-risk patients in need of additional resources.

Hospitals also addressed patients' expectations, as some patients anticipated discharge to a SNF after surgery based on their prior experiences or those of friends and family members. To guide discharge planning, hospitals commonly implemented presurgical education for patients and their caretakers. "The education that occurs now is standardized," said a senior director of operations. "It's a multipronged approach starting with education early and setting the expectation that patients will be going home." Often this effort was physician led because, as one medical director explained, "Patients are very much driven by what their providers will tell them."

► STRENGTHENING HOME SUPPORTS: To support patients being discharged to home, some hospitals identified social barriers to care and preemptively made referrals for in-home support services such as meal preparation and medication reminders. A few hospitals reported using community health workers and developing partnerships with community-based organizations. These approaches underscored hospitals' recognition of the home environment as an opportunity for care improvement. "What we really struggle with is getting the patient to participate in [their] care, [over] the long haul. You've really got to understand the social environment," an operations executive said. One hospital sent nurses and other hospital staff members into patients' homes before surgery to address environmental and social risk factors.

► LINKAGES WITH HOME HEALTH AGENCIES: Some hospitals reported enhancing relationships or vertically integrating with home health agencies to improve transitions of care. One chief medical officer reported that his hospital acquired a home health company and planned to merge electronic medical records (EMRs) across the care continuum. Owning a home health agency, as another medical director described, gave the hospital "clinically relevant data and the ability to hold an internal agency accountable for outcomes." Another hospital reported exploring exclusive contracts with home health

agencies willing to take on more medically challenging patients. Finally, others reported efforts to standardize home therapy visits. A director of quality explained, "Prior to [bundled payment]...Surgeon X would schedule ten home therapy visits. Surgeon Y would schedule five. We've standardized that to align with national best practices [and] control costs."

► IMPROVING INTEGRATION WITH SKILLED NURSING FACILITIES: While some

hospitals reported efforts to reduce SNF use, all twenty-two hospitals employed new strategies to include SNFs in care management. Common strategies included sharing providers across acute and postacute care facilities, permitting access to EMRs, and hiring or reassigning staff to fill dedicated care coordination roles. A few hospitals hired and embedded advanced practitioners and physicians at SNFs (referred to collectively as SNFists). "[Our SNFists] have been able to reduce emergency room returns and rehospitalizations," a population health director at a large health system said, citing the use of intravenous treatments that might not otherwise have been provided in the SNF setting. Other examples of provider integration included regular rounding in SNFs by hospitalemployed internists, geriatricians, and specialists, and hospital-employed or -affiliated physicians serving in medical directorships at partner SNFs.

Some hospitals also allowed SNFs to use their EMRs, ranging from limited (ability to view some records) to fully integrated access (all documentation performed within one medical record). One hospital granted EMR access, on request, to all community SNFs. Some hospitals did not share EMRs but required SNFs to report data on outcomes and quality, which were manually entered in spreadsheets or shared via third-party data analytics platforms. Nearly every hospital, however, cited desired or actual efforts to move toward an integrated EMR.

► CRITERIA FOR SKILLED NURSING FACILITY SELECTION IN PREFERRED

NETWORKS: More than two-thirds formed preferred SNF networks as a response to bundled payment incentives (exhibit 1). Nine hospitals' preferred networks included at least ten SNFs; three hospitals had fewer than five SNFs in their preferred networks. Hospitals reported having formed preferred networks as one way to exert influence on the quality and cost of care, focusing on SNFs that historically received larger shares of their discharged patients. "We are trying to increase our average daily census [at networked SNFs] to improve efficiency and quality of care," a director of care transitions reported. It was difficult to achieve "movement on quality and efficiencies" with fewer patients at each SNF.

Geographic coverage was another key criterion used to select SNFs to ensure, as one medical director said, "a wide footprint" of preferred providers. Hospitals also used publicly available star ratings from Nursing Home Compare as general indicators of quality, but in any given market the number of available SNFs with high ratings was often limited. Many hospitals thus developed their own metrics, which included hours of therapy offered, SNF leadership churn and quality of medical directorships, rates of acute transfer and infection, commitment to quality improvement, and willingness to accept weekend admissions. A director of population health explained, "We were looking at [SNFs] that had good citizenship practices with us."

More research is needed to understand the impact of discharge destination on patient outcomes across a number of conditions.

Another population health director described a stepwise selection process, starting with the top twenty-five SNFs by volume that received the institution's referrals. The hospital advanced SNFs with a CMS quality rating of three or more stars and finally selected preferred SNFs based on a survey of care managers that assessed patient experience, facility responsiveness, and other subjective criteria.

► REFERRAL VOLUME AND PARTICIPATION IN PREFERRED NETWORKS: Few

hospitals relied on financial incentives such as shared cost savings ("gainsharing") to encourage SNF participation. One hospital executive underlined this point: "[SNFs] don't really care about the gainsharing. The referrals are what they're looking for." Accordingly, hospitals with preferred networks referred a majority of their patients to SNFs in the networks, and only two hospitals reported sharing cost savings with their partner SNFs.

SNFs' willingness to join preferred networks for referrals led some hospitals not to pursue written contractual arrangements. Seven of the hospitals with preferred networks had such agreements with SNFs, while the remaining eight had informal, unwritten agreements based on referrals (exhibit 1). When contracts were used, the relatively few conditions placed on participating entities included accountability to quality benchmarks, program operations, technology use, and general rules of participation. A postacute care director explained: "We wanted to put some infrastructure around this, that [SNFs would] adhere to Medicare's quality standards, or we could remove them from our preferred network. They also agree to participate in meetings, readmission reviews, and data sharing. ... There's not a lot of verbiage that's punitive."

The extent to which SNFs not in preferred networks are downsizing or facing closures will be important to monitor.

► GREATER ENGAGEMENT WITH SKILLED NURSING FACILITIES: Hospitals reported greater engagement and communication with preferred SNFs, including convening facility medical directors, performing frequent site visits, and holding administrative meetings (ranging from monthly to every six months) to review data on quality and patient safety. A chief of care integration described these interactions with preferred SNFs this way: "It's higher touch...[with] much more communication...and we have a level of influence on how things get done." Many hospitals reported more "collaborative" relationships with preferred SNFs. One manager of network quality articulated that in the past, SNFs "weren't quite as open-armed with our requests as they are now," reporting new willingness to collect and share performance data, engage in quality improvement, and follow care pathways.

▶ DIFFERENCES BETWEEN HOSPITALS WITH AND WITHOUT PREFERRED

NETWORKS: Hospitals with and without preferred networks used similar approaches to coordinate care with SNFs, but there were a few key differences. Five of the seven hospitals without preferred networks had vertically integrated SNFs and targeted coordination strategies to their own facilities. These relationships were cited as a primary reason for not strengthening linkages with other SNFs. A chief medical officer noted: "You're going to

send many of your own patients [to the hospital's SNF]. Outside of that, it's about where there's a bed. There is little to no formal relationship [with] outside SNFs."

Another key difference was in interpreting a CMS provision that prohibits hospitals from restricting patients' choice of discharge providers.¹⁸ One integrated delivery system, for example, continued to discharge patients to nearly thirty facilities because of concerns about influencing patient choice. "It's the opposite [of] a preferred network," its senior vice president for postacute care said. "We invite all postacute care providers in our community to excel and raise their quality. There is no closed network because these are Medicare patients." Hospitals with preferred networks, in contrast, universally inter-preted patient choice as "informed" choice. One medical director said: "Instead of getting a list of forty facilities, they get whatever our preferred networkis. We say, based on our past experiences with these providers, they're going to treat you well, they know our protocols, you'll have [a] shortened length-of-stay." Hospitals reported sharing their appraisals of SNF performance; using standardized, prewritten scripts to describe preferred SNFs to patients; retraining and educating discharge coordinators to provide patients with data on quality; and shifting discharge discussions from discharge coordinators to physicians to allow more specific recommendations to be made.

Discussion

Our findings suggest that hospitals participating in bundled payment for lower extremity joint replacement episodes are attempting to reduce the use of skilled nursing facilities and facilitate discharges to home, with or without home health. This is consistent with prior research suggesting that payment system changes targeting postacute care settings are associated with shifts in use.¹⁹

These changes could counteract recent increases in SNF use and spending,^{7,20} which have resulted in uncertain benefit for patients. Discharging more patients to home may reduce the risk of iatrogenic harm, while also leading hospitals to invest in meaningful improvements in home-based care—including monitoring and reporting of outcomes, programs to address social determinants of health, and greater integration with home health agencies. However, it is unclear whether a shift toward care at home could inadvertently increase hospital readmissions or harm patients with more complex needs.

Given the elective nature of lower extremity joint replacement, patients undergoing this procedure are likely to be healthier than those with clinical conditions such as congestive heart failure or stroke that are also targeted by bundled payment programs. More research is needed to understand whether hospitals are adopting similar home-based care strategies for other patients and the impact of discharge destination on patient outcomes across a number of conditions.

We identified several strategies that hospitals used to strengthen their relationships with the SNFs to which they refer patients. These strategies—including monitoring quality data, hiring dedicated care coordinators, sharing EMRs, and embedding providers across settings —appear to be more common in our sample than among hospitals generally, as reported by

prior studies.^{11,21,22} Preferential relationships with SNFs were established by vertical integration or by preferred SNF networks (with either informal, unwritten agreements or written contracts to hold SNFs accountable for quality). Our findings on the selection and processes that characterize preferred SNF networks extend prior work by John McHugh and colleagues.¹¹

Developing a preferred SNF network may be valuable given that on average, hospitals work with nearly forty SNFs—the majority of which each account for no more than 1 percent of total referrals.²³ Concentrating discharge referrals to selected SNFs allows hospitals to focus their care coordination, integration, and management efforts on an exclusive group of discharge facilities.²¹ However, in our sample, hospitals without preferred networks also engaged in care coordination, often with SNFs they owned. Momotazur Rahman and coauthors found that stronger hospital-SNF linkages improve outcomes independent of hospital ownership,¹⁴ while others have found larger effects on rehospitalization from vertical integration between hospitals and SNFs, compared to informal integration.¹³ It remains unclear whether preferred SNF networks offer unique or preferable value to hospitals and patients, compared to vertical integration or other relationships with SNFs.

We identified a few areas that would benefit from greater policy attention. First, in selecting preferred SNFs, hospitals relied on SNF characteristics such as leadership churn and ability to deliver complex care, which are not encompassed by CMS quality metrics but reflect potential for quality improvement. More research is needed to understand how well these measures correlate with traditional metrics such as rehospitalization. Continued development of quality metrics under the Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014 may improve alignment of current measures with those that hospitals use to identify high-performing SNFs. Second, as noted in previous studies,^{11,22} a key concern for hospitals was how to steer patients to preferred SNFs while still preserving CMS's requirement for patient choice in the discharge process.¹⁸ Most of the hospitals in our study provided patients with guidance and recommendations around SNF selection, although some provided only lists of SNFs on discharge.²² As hospitals continue to improve their linkages with SNFs, more precise direction from CMS about this requirement may help facilitate informed choice without impinging on patients' preferences.

Our findings generate a number of questions about the relationships between bundled payment models and organizational responses. First, it is unclear whether the different structures of the BPCI and CJR programs (for example, in terms of duration of clinical episodes, expected spending, and voluntary versus mandatory participation) generate distinct responses from hospitals. In particular, hospitals selecting into the voluntary BPCI program are mostly large and nonprofit and have high clinical volumes for the conditions covered by the bundled payment episodes.²⁴ Voluntary participants may therefore be better equipped to respond to bundled payment incentives than hospitals that are mandated to participate,²⁵ but the size of those differences necessitates further study.

Second, the extent to which hospitals have adopted these practices more widely remains to be seen. While a number of observational studies have demonstrated reductions in SNF spending as a result of bundled payment participation, a recent analysis of Medicare data for

the period 2000–15 showed persistent increases in the use of institutional postacute care nationally.²⁶ Other studies suggest weakening hospital-SNF relationships over time.²⁷ Finally, as hospitals presumably move toward home-based care and more selective SNF referrals, evidence is needed to understand how this affects competitive pressures for SNFs. The extent to which SNFs not in preferred networks, for example, are downsizing or facing closures—and which ones are most sensitive to these pressures—will be important to monitor.

Conclusion

Hospitals that participate in bundled payment episodes for lower extremity joint replacement are attempting to reduce their overall use of skilled nursing facilities, while also strengthening care coordination with the facilities—with and without the use of preferred networks. Our findings provide insights into the specific strategies that hospitals are employing to facilitate discharges to home, enhance communication, facilitate performance monitoring, and steer patients toward selected SNFs. Future research should focus on how SNFs are responding to these practices, and the impact of these organizational changes on the quality of care and patient outcomes.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

NOTES

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EXHIBIT 1

Selected characteristics of 22 hospitals and health systems engaged in Medicare bundled payment initiatives, 2017

Characteristic		Number	Percent
Bundled payment participation	n		
BPCI only		6	27.3
CJR only		16	72.7
Both		2	9.1
Major teaching hospital		15	68.2
Safety-net hospital		5	22.7
Rural hospital		3	13.6
3 or more stars on CMS Hosp	ital Compa	re 14	63.6
SNF(s) owned by hospital or h	nealth syste	m 9	40.9
Preferred SNF networks		15	68.2
Type of contractual agreement	t with SNFs	s ^a	
Written agreements		7	46.7
Informal, unwritten agreem	ents	8	53.3
Number of SNFs in preferred	network ^a		
Fewer than 5		3	20.0
5–10		3	20.0
More than 10		9	60.0
			_
	Mean	Range	
Bed size	499.8	155–1,522	
Annual Medicare discharges	9,876.1	1,631–28,682	
Discharges to SNFs			
All	1,511.8	200-6,156	
Following joint surgery	108.7	29–329	

SOURCE Authors' analysis of data from qualitative interviews and publicly available data for 2015 from the Centers for Medicare and Medicaid Services (CMS), including Hospital Compare, Bundled Payments for Care Improvement (BPCI) and Comprehensive Care for Joint Replacement (CJR) analytic files, Provider of Service files, and Medicare claims. **NOTE** SNF is skilled nursing facility.

^{*a*}Denominator is number of hospitals with preferred SNF networks (n = 15).

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EXHIBIT 2

Strategies of integration reported by hospitals with and without preferred skilled nursing facility (SNF) networks, 2017

	With preferred network $(n = 15)$	erred $n = 15$)	Without J network (Without preferred network $(n = 7)$	Overall $(n = 22)$	t = 22)
	Number	Percent	Number	Percent	Number Percent Number Percent Number Percent	Percent
Embedded physicians/providers across settings	8	50.0	4	57.1 12	12	54.5
Shared electronic medical records	6	56.3	9	85.7	15	68.2
Regular meetings with SNF leaders	12	75.0	7	100.0 19	19	86.4
Dedicated care coordination staff	12	75.0	5	71.4 17	17	77.3
Data collection and monitoring of SNF performance	15	100.0 5	5	71.4 20	20	90.9

SOURCE Authors' analysis of data from qualitative interviews of twenty-two hospitals and health systems. NOTES A hospital was considered to have a SNF network if it engaged in an organized effort to selectively refer patients to a reduced number of SNFs and implemented specific strategies of care coordination with those SNFs. A SNF network also had to include SNFs that the hospital did not own. Fifteen hospitals had a network, and seven did not.