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RESEARCH BRIEF

Accountability across the Continuum: The Participation of Postacute Care Providers in Accountable Care Organizations

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Objective. To examine the extent to which accountable care organizations (ACOs) formally incorporate postacute care providers.

Data Sources. The National Survey of ACOs ($N = 269$, response rate 66 percent).

Study Design. We report statistics on ACOs' formal inclusion of postacute care providers and the organizational characteristics and clinical capabilities of ACOs that have postacute care.

Principal Findings. Half of ACOs formally include at least one postacute service, with inclusion at higher rates in ACOs with commercial (64 percent) and Medicaid contracts (70 percent) compared to ACOs with Medicare contracts only (45 percent). ACOs that have a formal relationship with a postacute provider are more likely to have advanced transition management, end of life planning, readmission prevention, and care management capabilities.

Conclusions. Many ACOs have not formally engaged postacute care, which may leave room to improve service integration and care management.

Key Words. Accountable care organizations, postacute care, health care reform

Coordination of care is challenging for patients who use multiple settings of care, such as outpatient, inpatient, and postacute care (Boyd et al. 2005; Anderson 2010; Boult and Wieland 2010). Management of the postdischarge period is essential to improving quality and reducing cost growth, and many reforms focus on improving transitions across settings and holding providers accountable for coordinating care across the continuum.

Postacute care, which includes rehabilitation, skilled nursing, and home health care, has several characteristics making it a target for reform. First, postacute care is heavily used by Medicare beneficiaries; 43 percent of

Medicare beneficiaries discharged from hospitals went to a postacute care setting in 2011 (Medicare Payment Advisory Commission (MedPAC) June 14, 2013). Second, postacute care is expensive, accounting for 17 percent of Medicare spending in 2012 (MedPAC 2013), and postacute care drives much of the variation in total spending across Medicare beneficiaries (Institute of Medicine 2013). Third, coordination across settings is problematic for patients and clinicians alike. Physicians report poor information sharing and electronic health record interoperability across settings (Kripalani et al. 2007; Mehrotra, Forrest, and Lin 2011), adverse events are common (Forster et al. 2003), and patients find care transitions difficult and unsatisfactory (Coleman 2003; Kripalani et al. 2007). Finally, misaligned financial incentives are a major reason for discontinuity across care settings and the rapid growth and variation in postacute expenditures (Chandra, Dalton, and Holmes 2013; Institute of Medicine 2013; MedPAC 2013). Although Medicare has begun to reimburse for transitional care management services (The Centers for Medicare and Medicaid Services August 21, 2013), current payment systems differ by setting, and reimbursements remain largely setting-specific.

Researchers and policy makers have hypothesized that there is room to reduce postacute spending and improve quality by coordinating care in postacute settings (Davidson 2013; MedPAC 2013; Ackerly and Grabowski 2014; Burgess and Hockenberry 2014; Mechanic 2014). Postacute care referral has historically been driven by proximity to patient home and referral relationships between hospitals and postacute providers (Buntin et al. 2005, 2010; Buntin, Colla, and Escarce 2009). However, new payment and delivery reforms may encourage adoption of innovative programs that successfully reduce readmissions or costs after a hospital stay (Fitzgerald et al. 1994; Naylor et al. 1999, 2004; Coleman 2003; Coleman and Boult 2003; Krichbaum 2007; Kind et al. 2012).

Accountable care organizations (ACOs) are among the most prominent of these reforms; ACOs hold providers financially responsible for the total cost of care and a set of quality measures, potentially incentivizing postacute management. As ACO contracts move providers away from fee-for-service

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reimbursement, value becomes a more important determinant of care, and providers work to coordinate care across the continuum, it is likely that ACOs will target postacute care as an area to save without sacrificing quality. ACOs have formed quickly (Lewis et al. 2013a), but little is known about postacute provider participation in ACOs and how these relationships will be translated into clinical practice changes.

Conceptual Framework

Whether and how ACOs engage with postacute providers likely depends upon several factors, including existing relationships, choice of quality improvement and cost reduction strategies, degree of formal integration desired, and local provider characteristics. ACOs could pursue alternative approaches to the provision of postacute care: formal integration of postacute care sites within the ACO, selective contracting for ACO services, or relying upon informal (noncontracted) referral relationships with postacute care providers (Keckley and Hoffman 2010; Shay and Mick 2013). ACOs investing in infrastructure related to improving care coordination may seek to minimize transactions costs by formally integrating postacute care providers into the ACO (Shay and Mick 2013). Alternatively, an ACO might attempt to reduce use of expensive institutional postacute care settings by shifting toward home health supports. In this case, an ACO would not want to integrate institutional postacute settings, because of the planned loss of revenue in those settings. The inclusion of postacute providers in ACOs also depends on pre-ACO existing relationships and referral patterns. If a strong informal network already exists, the ACO may not benefit from formal integration (Shay and Mick 2013).

Medicare ACOs deciding whether to include postacute care settings must also consider the beneficiaries gained through attribution. There are two ways that ACOs might view clinically vulnerable patients who frequently visit skilled nursing facilities: either as beneficiaries to avoid (because reducing spending for this population may be challenging) or as beneficiaries they want attributed to their ACO (because they believe these patient have the greatest potential for quality and cost improvements). These clinically vulnerable patients are more likely to be attributed to ACOs if the ACO includes a skilled nursing facility (McWilliams et al. 2013). If ACOs want to avoid these patients, it might be beneficial not to formally include postacute settings. If ACOs view the attribution of these beneficiaries as important, ACOs may decide to formally incorporate postacute settings.

This postacute engagement conceptual framework drives our hypotheses. We hypothesize that ACO breadth of services, care management capabilities, and health information technology infrastructure are all positively associated with the formal inclusion of postacute providers in the ACO because the greater a system's own capabilities (e.g., experience with population management), the more likely they are to internalize activities than to outsource them (Robinson 1997; Shortell 1997). Medicare ACOs are most likely to be impacted by relationships with postacute providers due to the age of the population, and for this reason we hypothesize ACOs with a Medicare contract will have the highest proportion of formal engagement with postacute care providers. Finally, we hypothesize that ACOs formally engaging postacute providers may have greater transition and care management capabilities for managing older populations.

In this paper, we take a first step toward evaluating the impact of ACOs on care coordination and care management for older populations by exploring the extent to which ACOs incorporate postacute care under existing programs and contracts. We examine the formal inclusion of postacute care providers in ACOs using national survey data. ACO engagement with postacute providers and investment in improving this area of care will be a key determinant of outcomes for high-risk and high-cost Medicare beneficiaries.

METHODS

Data and Study Design

We evaluated the extent to which ACOs are formally incorporating postacute care providers through a cross-sectional analysis of the National Survey of ACOs (NSACO). Baseline data were collected from two waves of ACOs, the first between October 2012 and May 2013, and the second between September 2013 and March 2014.

We defined an ACO as a group of providers collectively held responsible for the total cost of care and quality performance for a defined patient population. Screening questions at the beginning of the survey determined whether a respondent organization met our definition. A total of 269 ACOs completed the survey, for an overall response rate of 66 percent. We tested for nonresponse bias by comparing the distribution of Medicare ACOs in our sample with the distribution of Medicare ACOs across the organizational attributes developed by Song and Lee (2013) and found the distribution was similar across key variables (table may be found in Colla et al. 2014). The majority

of respondents were ACO executives. Each respondent answered questions on ACO contract features, organizational structure, services, care management capabilities, quality and process improvement, and informational technology infrastructure. The survey population and methodology have been detailed in earlier work (Colla et al. 2014; Shortell et al. 2014).

Measures

We primarily examined NSACO questions on the formal relationships with postacute care providers: outpatient rehabilitation, inpatient rehabilitation, home health, and skilled nursing (Appendix SA2). For each service category, the ACO was asked whether the service is offered within the ACO, is contracted outside the ACO, or if the ACO has no formal relationship with a service provider. Hospice is occasionally considered a postacute provider organization. We have included the proportion of ACOs with palliative or hospice providers in Table 1.

The NSACO measured several care management capabilities using a 9-point scale. We focused on ACOs who reported advanced capabilities in the area by agreeing with the highest behavioral anchoring description (scores 7–9). For example, the descriptions for engagement in preventing hospital readmissions include "a fully developed program to reduce preventable hospital readmissions" (7–9), "started to assess preventable hospital readmissions and remedial action" (4–6), and "very few or no activities that are currently directed toward reducing preventable hospital readmissions" (1–3). Additionally, we created a composite measure of capabilities related to postacute care based on a factor analysis of eight capabilities (see Figure 1). The single, common factor of care management related to older populations was identified after specifying a minimum eigenvalue of 1. An ACO was considered to be in the "high" category if they ranked in the top tertile of the composite measure. We also reported the proportion of ACOs with complete or near complete ability to integrate outpatient and inpatient data from providers within the ACO, and those with complete or near complete ability to integrate outpatient and inpatient data from providers contracted outside the ACO or with whom they have no formal relationship. Better communication between clinicians can improve patient outcomes, and the effective implementation of health information technology is crucial for information transfer across care settings (Coleman 2003).

Finally, we categorize ACOs based on their taxonomy categories, as described in earlier research focused on early ACO development and

Table 1: Organizational Characteristics, by Inclusion of Postacute Care

		Postacute Care	
	Total (N = 269)	*No (N = 125; 48%)*	*Yes (N = 136; 52%)*
Postacute care services			
Any postacute care service	52%	–	100%
Outpatient rehabilitation	41%	–	80%
Inpatient rehabilitation	38%	–	74%
Home health	34%	–	65%
Skilled nursing	18%	–	34%
Other services			
Palliative/hospice	41%	7%	72%***
Behavioral health	42%	16%	66%***
Outpatient pharmacy	26%	8%	43%***
Participant providers			
Hospital	65%	41%	87%***
Mean hospitals (SD;IQR)	3 (6;5)	2 (3;2)	5 (8;5)***
Community health center	33%	28%	38%
Mean community health centers (SD;IQR)	2 (6;1)	1 (4;1)	2 (8;1)
Mean primary care clinicians (SD;IQR)	169 (179;158)	142 (185;120)	196 (171;166)*
Mean specialist clinicians (SD;IQR)	257 (349;375)	167 (271;194)	337 (389;417.5)***
Integrated delivery system	58%	38%	76%***
Taxonomy			
Large integrated ACOs	36%	20%	53%***
Hybrid ACOs	27%	21%	33%*
Small, physician-led ACOs	37%	60%	15%***

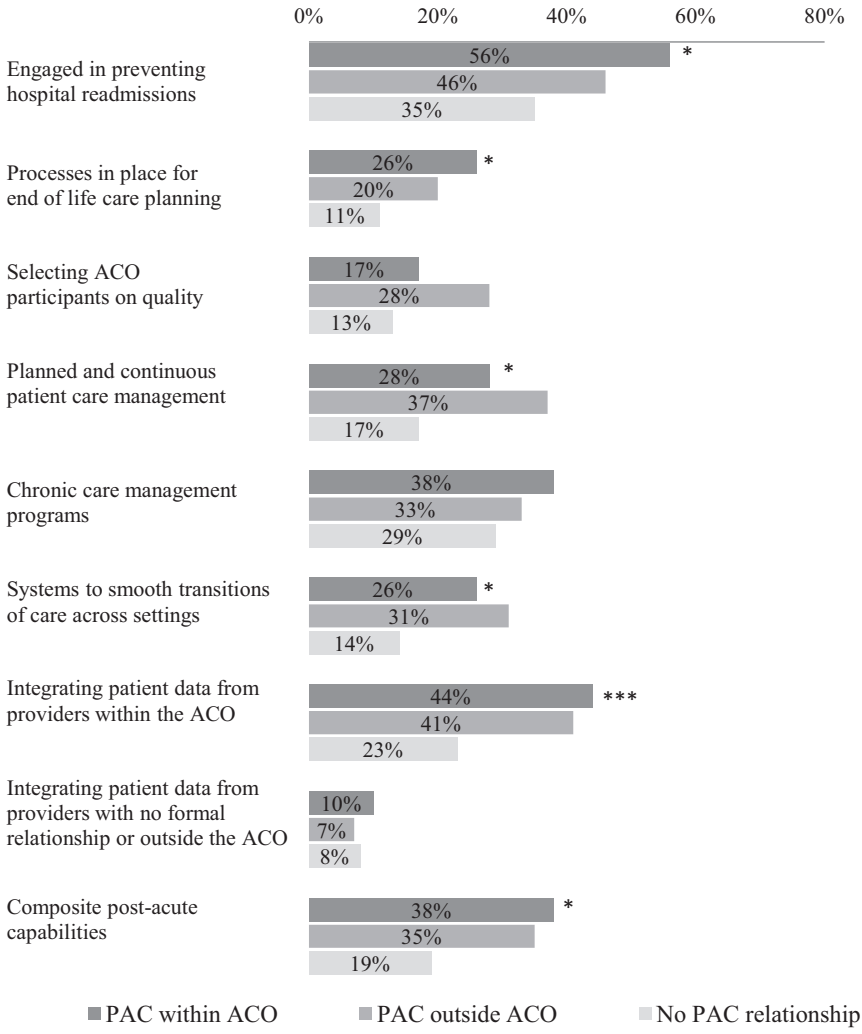
Notes. Postacute care groups are mutually exclusive. Significance tested using two-sample *t*-tests comparing the "No" and "Yes" groups.
*$p < .05$, **$p < .01$, ***$p < .001$.
ACO, accountable care organization; IQR, interquartile range; SD, standard deviation.

assessment (Shortell et al. 2014). Larger, integrated ACOs offer a broader scope of services; smaller, physician-led ACOs center around primary care; and hybrid ACOs are typically jointly led by hospitals and physicians or coalitions and offer a moderate scope of services.

Statistical Methodology

Two-sample *t*-tests were used to assess differences between ACOs with and without postacute care participant providers and differences between characteristics of ACOs with different types of contracts (commercial, Medicare, Medicaid). We report *p*-values from the *t*-tests in the text and figures.

Figure 1: Proportion of Accountable Care Organizations (ACOs) with Advanced Capabilities Relevant to Older Populations, by PAC Inclusion



Notes: PAC is postacute care and includes rehabilitation, home health, and skilled nursing services. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. Significance tests use two-sample *t*-tests comparing ACOs that include postacute care within the ACO versus ACOs that contract outside or do not have a relationship with these services. "Advanced capabilities" indicates self-scoring of 7–9 on a 1–9 scale based on behavioral anchoring to guide the responses.

RESULTS

Organizational Characteristics

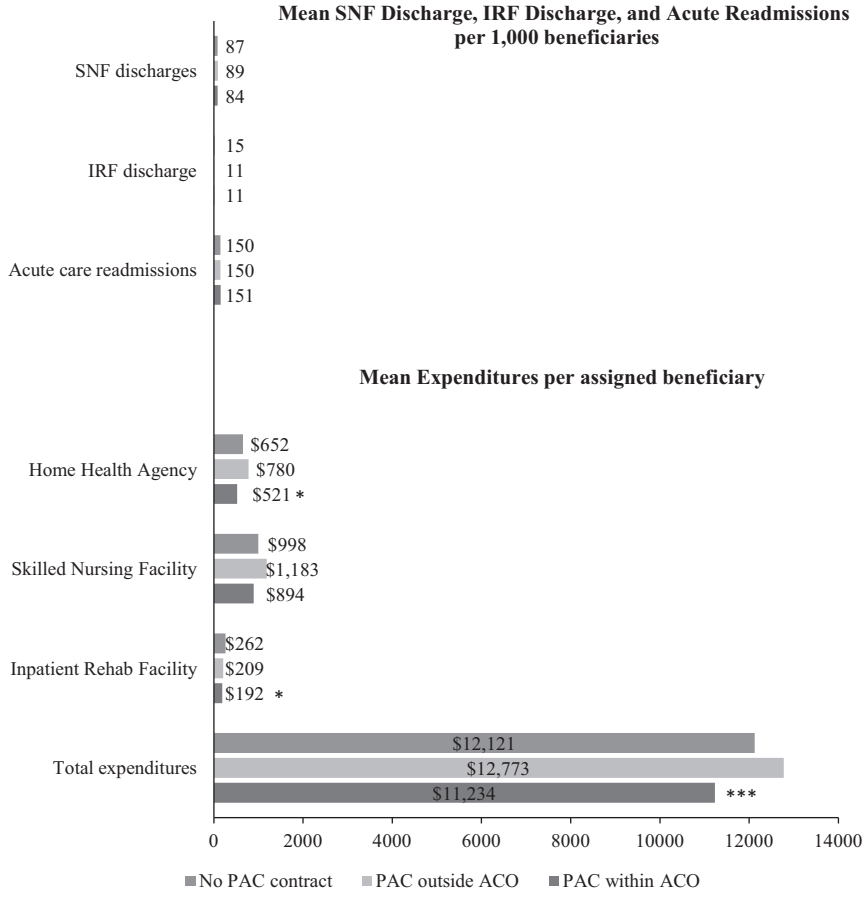
Half of ACOs (52 percent) include at least one type of postacute service formally within the ACO. Other ACOs contract with postacute providers (21 percent) or have no formal relationship with any type of postacute provider (27 percent). Outpatient rehabilitation (41 percent) and inpatient rehabilitation (35 percent) are most commonly included within ACOs, while skilled nursing facilities are only included in a small proportion of ACOs (18 percent, Table 1). ACOs that include postacute care are more likely to include other nontraditional services such as palliative/hospice care (72 percent vs. 7 percent; $p < .001$), behavioral health (66 percent vs. 16 percent; $p < .001$), and outpatient pharmacy (44 percent vs. 8 percent; $p < .001$). Nearly all ACOs with postacute care also include a hospital (87 percent), compared to 41 percent of ACOs without postacute care ($p < .001$). Community health centers are also more likely to be integrated into ACOs that include postacute care (58 percent vs. 49 percent). ACOs with postacute care are larger, with a greater number of hospitals (mean 5 vs. 2; $p < .001$), primary care clinicians (199 vs. 142; $p = .012$), and specialist clinicians (337 vs. 167; $p < .001$). ACOs that include postacute care are more also likely to self-identify as an integrated delivery system (76 percent vs. 38 percent; $p < .001$). ACOs with postacute care are more likely to fall in the large integrated taxonomy group (53 percent) and most ACOs without postacute care are small and physician-led (60 percent).

Another way for ACOs to engage postacute providers is through contracting. A quarter of ACOs contract outside the ACO for home health care, and almost a fifth of ACOs contract for outpatient and inpatient rehabilitation services. A quarter of ACOs contract outside of the ACO for skilled nursing services (26 percent), nearly 10 percentage points more than those that include skilled nursing directly within the ACO. Total spending is significantly lower ($p < .001$) when postacute care is included within the ACO compared to ACOs without postacute care (Figure 2), and average spending is significantly lower in inpatient rehabilitation ($p = .019$) and home health settings ($p = .018$).

Contracts

Medicare beneficiaries are the patients most likely to use postacute services, while Medicaid enrollees are the most vulnerable patients and frequently use long-term care services. Differences in integration across contracts may help

Figure 2: Accountable Care Organization (ACO) Outcomes, by Postacute Care Inclusion



Notes: Acute care readmissions is mean acute care readmissions (all-cause 30 day) per 1,000 discharges in the performance period. Inpatient rehabilitation facility (IRF) discharges is mean IRF discharges per 1,000 person years in the performance period. Skilled nursing facility (SNF) discharges is mean SNF discharges per 1,000 person years in the performance period. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. Significance tests compare ACOs that include postacute care within the ACO versus ACOs that do not have a relationship with these services.

us to understand how ACOs might affect different patient populations. Less than half (45 percent) of Medicare ACOs include at least one type of postacute service within the ACO (Table 2), whereas 64 percent of ACOs with a

commercial contract include postacute services within the ACO. ACOs with a Medicaid contract are significantly more likely than ACOs without a Medicaid contract (70 percent; $p < .001$) to include postacute care within the ACO. Medicaid ACOs are significantly more likely to offer outpatient rehabilitation (58 percent; $p < .001$), inpatient rehabilitation (54 percent; $p < .001$), home health services (51 percent; $p < .001$), and skilled nursing facilities (24 percent; $p = .049$). Medicare ACOs appear to be nascent ACOs currently more focused on outpatient care, while ACOs with a Medicaid contract include services more often used by dually eligible beneficiaries, such as postacute care and behavioral health.

Capabilities

Overall, fewer than half of ACOs report advanced care capabilities (Figure 1). ACOs with postacute care participant providers are more likely than those without postacute participants to report a fully developed program to reduce preventable hospital readmissions ($p = .010$) and to have established processes for identifying, counseling, and planning for end of life care across settings of care ($p = .019$). Although the difference is not statistically significant, ACOs that include postacute care within the ACO or contract outside of the ACO for these services report similar, higher capabilities than ACOs without postacute care in terms of having comprehensive chronic care management programs and systems in place to assure smooth transitions of care across

Table 2: Service Inclusion by Accountable Care Organization (ACO) Contract

	Medicare (N = 172; 64%)	*Commercial (N = 140; 52%)*	*Medicaid (N = 77; 29%)*
Postacute care services			
Any postacute care service	45	64	70
Outpatient rehabilitation	36	55	58
Inpatient rehabilitation	29	54	54
Home health	30	39	51
Skilled nursing	16	17	24
Other services			
Palliative/hospice	36	52	53
Behavioral health	36	46	59
Outpatient pharmacy	21	31	39

Note. ACOs may have multiple contracts; the Medicare, Commercial, and Medicaid contract groups are not mutually exclusive.

practice settings. Our factor analysis shows ACOs with postacute care are more likely to report advanced care management capabilities. Across Medicare, Medicaid, and private payer ACOs, there were no meaningful differences in care management capabilities related to older adults and postacute care.

ACOs' health information technology capabilities may greatly impact the degree to which ACO patients experience coordinated care. Nearly half (44 percent) of ACOs with postacute care participants report complete or near complete ability to integrate outpatient and inpatient data (including medication data, lab results, and health status appraisals) from providers within the ACO. In contrast, only 7 percent of ACOs that contract outside for postacute services report complete or near complete ability to integrate outpatient and inpatient data from providers with no formal relationship or contracted outside of the ACO.

DISCUSSION

Overall, ACOs most often formally include rehabilitation services, while skilled nursing is most frequently contracted for outside of ACOs. ACOs with formal relationships with postacute providers report more advanced capabilities, such as chronic care management programs or systems that create smoother care transitions. The majority of ACOs that offer postacute care also include a hospital, meaning clinicians across care settings are accountable for cost and quality. Interestingly, ACOs with Medicaid and commercial contracts are more likely to include postacute services than those with a Medicare contract.

Our study has limitations due to the timing and nature of survey data. We are limited in the number of questions on postacute care and transition management and have presented descriptive characteristics rather than multivariate analyses. Our study cannot capture the exact operational relationships between clinicians, the history of these relationships, or the details of postacute provider participation beyond classification, or fully capture the environmental and market factors that situate each ACO. Formal inclusion of postacute providers is an imperfect proxy for the functional integration of care across the continuum. ACO success could also depend heavily upon management of referral networks and patterns (Song, Sequist, and Barnett 2014); at this time, we are unable to determine how differences in postacute contracting and physician referrals affect ACO performance.

Prior research suggests ACOs are taking varying paths with respect to integration, as predicted based on theoretical work (Shay and Mick 2013). Many ACOs are choosing to coordinate care across the continuum without formally integrating hospitals or postacute providers, and they may be motivated by their strong informal networks or degree of market power (Shay and Mick 2013). The lack of inclusion may also be because of where surveyed ACOs are on the path to clinical integration. They may focus on primary care and information technology in the early years of ACO formation and later turn their attention to other settings after meeting primary care goals. Another reason may be because of historic relationships—vertical integration of postacute providers historically has been the exception rather than the rule (Kaiser Family Foundation 2013). The lack of inclusion of postacute care could be positive if ACOs are able to change postacute care spending significantly because they are not worried about maintaining postacute revenue streams, or if they are able to selectively contract with the most efficient providers. ACO engagement with postacute care providers likely depends upon existing relationships and local provider characteristics; it is outside the scope of this research brief to examine market or environmental factors, but these areas should be explored in future research.

The lack of formal inclusion of postacute care in ACOs could also have potential adverse consequences for patient care coordination. First, ACOs that do not include postacute care may be challenged to meaningfully impact care coordination and spending across settings (Mechanic 2014). Theoretical work on integration suggests how an organization balances vertical integration with virtual or informal network features is a function of the local market, the organization's capabilities, and its historical context; theory also suggests the greater an organization's capabilities the more likely it is to internalize activities than to rely on outsourcing through contracts (Robinson 1997; Shortell 1997). Integrated health care systems have historically provided higher quality care (Hollander et al. 2005; Mehrotra, Epstein, and Rosenthal 2006; Friedberg et al. 2007; Mahoney et al. 2007; Solberg et al. 2009; Weeks et al. 2010) with lower utilization (Garrido et al. 2005) and lower overall costs (Rosko et al. 2007; Weeks et al. 2010; Hwang et al. 2013). To the extent ACOs with postacute settings can act like integrated delivery systems, it may be beneficial to patients and the success of the ACO. Second, ACOs without postacute care facilities may lose out on high-cost patients that represent significant potential savings for an ACO because Medicare physician assignment can happen through postacute facilities (see Appendix SA3 for a complete list) (Centers for Medicare & Medicaid Services April 2013; Lewis et al. 2013b; McWilliams

et al. 2013). By including postacute care facilities within an ACO or building relationships wherein ACO primary care physicians round on patients using postacute services, ACOs would ensure accountability for these high-risk and high-cost Medicare beneficiaries. Partnerships with skilled nursing facilities are particularly important because they receive the most patients (20 percent of discharges) and account for approximately half of Medicare postacute care spending (Mechanic 2014; MedPAC 2013). Future research should explore postacute care clinical integration in ACOs that do and do not formally include postacute providers, and its relation to performance and health outcomes.

ACO-level investment in health information technology is also likely to improve care transitions and performance on cost and quality (Coleman 2003; Coleman and Boult 2003). A small proportion of ACOs report complete or near complete ability to integrate outpatient and inpatient data from providers outside of the ACO, which is indicative of the gap between the baseline Meaningful Use quality measure and advanced health information technology implementation. The ability to integrate patient data across settings may influence both quality of care and ACOs' strategies around whether to directly include postacute providers as ACO participants.

ACOs are one of several approaches to improving patient care after hospital discharge and reducing postacute spending. A pilot of the ACO concept in the Medicare population was not associated with any changes in postacute care spending (Colla et al. 2012, 2013). CMS has launched a bundled payment initiative to encourage providers to reduce postacute spending, and the Affordable Care Act introduced rehospitalization penalties to curb costs. In addition to public reform efforts, private companies recognize postacute care as a potentially lucrative business opportunity and are assuming financial risk through ACO-like programs that use additional care staff and data analytics to reduce costs (Davidson 2013). Our results show that ACOs have room to improve the integration of postacute services and care management capabilities. Postacute care payment and delivery reform is a vital component of the movement toward value-based care, and it will be essential for altering the trajectory of Medicare spending.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Appendix SA2: NSACO Provider Engagement Questions.

Appendix SA3: Primary Care Codes for Medicare Shared Saving Program Attribution.