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RESEARCH ARTICLE

Physician Practice Participation in Accountable Care Organizations: The Emergence of the Unicorn

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Objective. To provide the first nationally based information on physician practice involvement in ACOs.

Data Sources/Study Setting. Primary data from the third National Survey of Physician Organizations (January 2012–May 2013).

Study Design. We conducted a 40-minute phone survey in a sample of physician practices. A nationally representative sample of practices was surveyed in order to provide estimates of organizational characteristics, care management processes, ACO participation, and related variables for four major chronic illnesses.

Data Collection/Extraction Methods. We evaluated the associations between ACO participation, organizational characteristics, and a 25-point index of patient-centered medical home processes.

Principal Findings. We found that 23.7 percent of physician practices ($n = 280$) reported joining an ACO; 15.7 percent ($n = 186$) were planning to become involved within the next 12 months and 60.6 percent ($n = 717$) reported no involvement and no plans to become involved. Larger practices, those receiving patients from an IPA and/or PHO, those that were physician-owned versus hospital/health system-owned, those located in New England, and those with greater patient-centered medical home (PCMH) care management processes were more likely to have joined an ACO.

Conclusions. Physician practices that are currently participating in ACOs appear to be relatively large, or to be members of an IPA or PHO, are less likely to be hospital-owned and are more likely to use more care management processes than nonparticipating practices.

Key Words. Accountable care organizations, care management, physician practices, Affordable Care Act

The Affordable Care Act (ACA) is expected to extend health insurance coverage for up to 25.3 million Americans by 2022 (Holahan et al. 2012). A major policy question is whether the expanded coverage and the associated increased

demand for care will be affordable over time. This depends importantly on the ability of delivery systems to provide more efficient and effective care. One important component of the ACA was the creation of Accountable Care Organizations (ACOs). ACOs are entities willing to be held accountable for the costs and quality of care for a defined population of patients.

When the ACA became law, such would-be organizations were likened by some observers to unicorns—they exist in our imagination, but no one has actually seen one (Morrison 2011; PWC 2011). But as the ACA has evolved, a number of new value-based payment and delivery system reforms have been established through the ACO initiative, including the Medicare Shared Savings and Pioneer ACO programs (Berwick 2011). Private payers are also actively fostering the development of ACOs (Larson et al. 2012). There are currently 30 Pioneer ACOs, 337 shared savings arrangements (Evans 2013), and 239 private payer risk-bearing contracts for a total of 606 ACOs (Muhlestein 2014). ACOs are now present in most health care markets and 55 percent of Americans live in areas where ACOs exist (Lewis et al. 2013).

While there is an emerging knowledge base on some of the successes and challenges faced by early ACOs (Fisher et al. 2012; Larson et al. 2012; Lewis et al. 2012; Song et al. 2012; McWilliams, Landon, and Chernew 2013), no information has been published to date on the extent to which individual physician practices have joined or are planning to join an ACO. This includes existing practices in which most physicians are employed but in which the practice has not yet entered into risk-bearing contracts; a defining criterion of an ACO. Such information is critical to assessing the likely uptake and spread of ACOs across the country. Will they spread fast enough to make a difference? Will a sufficient number exist to make value-based purchasing viable nationally (Ryan and Damberg 2013)? Data are also lacking on the capabilities that practices may need to contain cost growth, make improvements in clinical quality and patient experience, and improve overall population health—the much touted “triple aim.” This study addresses the level of

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physician practice participation and planned participation in ACOs along with the factors associated with each.

We examined data from 1,183 practices responding to the National Survey of Physician Organizations III, conducted in 2012 and 2013. We identified practices that are currently part of an ACO, others that were planning to join within a year, and still others that were not involved and had no plans to become involved. We compared these groups on a variety of background characteristics and, importantly, on their adoption of care processes thought to assist with the management of patients with chronic illness such as asthma, congestive heart failure, depression, and diabetes, which account for the majority of health care expenditures in the United States (Anderson and Horvath 2004). Specifically, we examined the extent to which practices that were a part of an ACO differed from those who were in the planning stage or had no involvement at all with regard to such factors as size, ownership, governance, specialty mix, location, and their ability to manage patients with complex chronic illness. Understanding differences in these practice characteristics can help to assess the future growth of physician practice involvement in ACOs and whether the impact of ACOs may be different for early adopting physician practices compared to later adopters (Westphal, Gulati, and Shortell 1997).

METHODS

Data

The National Study of Physician Organizations III was a 40-minute phone survey conducted between January 2012 and May 2013. The survey was conducted with a lead physician or lead administrator of each organization in a national sample of physician practices and medical groups. Respondents were paid \$200 for their time.

Survey Sample. The study focused on organizational characteristics, care management practices, and related variables for four major chronic illnesses: asthma, coronary heart failure, depression, and diabetes. Thus, only organizations with a significant proportion of primary care providers (family physicians, general internists, and general practitioners), cardiologists, endocrinologists, or pulmonologists were eligible for the study. Physician practices with 20 or more physicians were eligible if at least 30 percent of their

providers were one of the focal specialties, and practices with less than 20 physicians were eligible if at least 40 percent were one of the focal specialties. Academic faculty practices and practices associated with federal hospitals were excluded from the study.

The survey sample was constructed to provide nationally representative data on physician practices that would also be useful to evaluate the impact of the Aligning Forces for Quality (AF4Q) initiative sponsored by the Robert Wood Johnson Foundation in 17 communities (Painter and Lavizzo-Mourey 2008; Aligning Forces for Quality National Program Office 2012). The population of physician practices from which we sampled was derived from the IMS Healthcare Organization Services database (received in May 2011). IMS data are widely accepted and have been used in many studies published in peer-reviewed journals (Nyweide et al. 2009; IMS Health Incorporated 2012; Ryan et al. 2013). Using the IMS database and the eligibility criteria described above, we drew a random sample of practices, stratifying by practice size (1–2, 3–7, 8–12, 13–19, and 20 or more physicians), mix of specialties (primary care, cardiology, endocrinology, pulmonary, and multispecialty), and location. Organizations that had responded to earlier surveys involving the National Study of Physician Organizations II (NSPO2; Rittenhouse et al. 2008; Shortell et al. 2009) and the National Study of Small and Medium-sized Physician Practices (NSSMPP; Rittenhouse et al. 2011; McClellan et al. 2013) were also asked to respond to the survey.

The total sample size from all three sources (NSPO2, NSSMPP, and IMS) was 3,245 (Appendix SA1). The overall adjusted response rate was 49.1 percent (AAPOR method RR3; American Association for Public Opinion Research 2011). We assessed differences between respondents and nonrespondents with regard to practice size, specialty mix, region of the country, and whether the practice was located in an AF4Q community. We found only minor differences: responding practices were slightly more likely to have a higher proportion of practices with 3–12 physicians; a slightly lower proportion of practices with 20–99 physicians than nonrespondents; and were somewhat less likely to be comprised of mostly specialists.

Measures

ACO Participation. To examine whether physician practices were currently participating in an ACO, respondents were asked if they had “applied to the Centers for Medicare and Medicaid Services (CMS)” or had “a signed agreement with a private health insurance plan” to become an ACO. If they

reported “yes” to either question, we considered them to be participating in an ACO. To ensure that we captured any anticipated ACO participation, organizations reporting that they were not currently participating in an ACO were also asked whether they planned to participate in a CMS-sponsored or private ACO within the next 12 months.

Organizational Characteristics. We examined several practice characteristics related to practices’ capabilities to provide high-value care. Size was included because larger practices may have more capabilities in areas such as care management and electronic health record functionality while smaller practices may need more assistance (Robinson and Casalino 1996; Casalino et al. 2013; Landon 2013; Ryan et al. 2013). We measured the mix of primary care and specialist physicians in each organization through three indicators: all primary care, all specialist, and multispecialty (i.e., practice had both primary care and specialist physicians). We also examined organizational ownership, because organizations owned by hospitals, health systems, or HMOs may already have many of the capabilities necessary to successfully participate in ACOs relative to physician-owned organizations (Rittenhouse et al. 2008, 2011). Organizations that were neither physician-owned nor owned by a hospital, health system, or HMO (e.g., nonprofit clinics or federally qualified health centers) were placed in a third “other” category. Similarly, independent practice associations (IPAs) and physician–hospital organizations (PHOs) may also help facilitate physician practices to join ACOs (Robinson and Casalino 1996; Casalino et al. 2013). We thus included a binary indicator capturing whether practices reported receiving “a significant amount of their patients” from IPAs or PHOs.

To assess the characteristics of ACOs themselves, we asked practices about the health care organizations that were part of their ACO and the nature of the ACO’s governance structure. We captured ACO membership through a series of questions asking whether the ACO to which the physician practice belonged included the following: practices with fewer than 20 physicians, practices with 20 or more physicians, one or more hospitals, one or more nursing homes, one or more home health agencies, or other organizations. For analysis, the questions for nursing homes, home health agencies, and other were aggregated into one variable. ACO governance was captured through a question asking, “Who primarily governs the ACO?” Available responses included the following: physicians, a hospital or health system, shared physician–hospital governance, and other (e.g., private health plans).

Finally, to account for geographic variation, we included 10 dummy variables capturing census regions and one variable indicating whether the practice was located in an Aligning Forces for Quality site.

Patient-Centered Medical Home Processes. Although evidence to date about the success of patient-centered medical homes has been mixed (Jackson, Powers, and Chatterjee 2013; Landon 2013), the adoption of patient-centered medical home processes may nonetheless provide physician organizations with important capabilities to succeed within ACOs (Davis, Schoenbaum, and Audet 2005; American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Osteopathic Association 2007; Berenson et al. 2008; Rittenhouse, Shortell, and Fisher 2009). Thus, we included in the study an index of 25 items of patient-centered medical home processes used in previous research focusing on care management, quality and patient safety, patient engagement, and related capabilities (Rittenhouse et al. 2008, 2011). We restricted this analysis to a subset of 880 organizations in which primary care physicians were at least 33 percent of the practice.

Analysis

We first examined summary statistics for the organizational characteristics and patient-centered medical home processes, stratified by whether organizations were currently participating, planning to participate within the next 12 months, or not participating and not planning to participate in an ACO.

Our two study outcomes were whether a practice was currently participating in an ACO or if a practice planned to participate in an ACO, both binary indicators. Factors associated with these outcomes were then examined through multivariate logit regression models. From those logit models, we calculated the average marginal effects for each explanatory variable. We report marginal effects because they allow for a more straightforward interpretation of how changes in the explanatory variables are related to changes in probabilities (Wooldridge 2006). The average marginal probabilities were largely consistent with the odds ratios produced from the same models.

All results were weighted to be nationally representative. Standard errors were adjusted to account for the complex survey design of the Third National Study of Physician Organizations. Missing values were addressed through multiple imputation (Schafer 1997).

Table 1: Organizational Factors Associated with ACO Participation

<i>Variable</i>	<i>N</i>	<i>ACO Participation%</i> <i>(n = 280)</i>	<i>Planning to Participate within the Next 12 months, %</i> <i>(n = 186)</i>	<i>Not Part of an ACO and Not Planning to be at This Time, %</i> <i>(n = 717)</i>	<i>p-value</i>
Practice size					
1–2 physicians	476	7.36	21.18	71.63	.002
3–7 physicians	336	25.25	14.29	60.47	
8–12 physicians	102	41.38	3.45	55.17	
13–19 physicians	57	14.29	4.76	80.95	
20–99 physicians	136	29.81	14.42	55.77	
100+ physicians	76	73.94	4.93	21.83	
Ownership					
Owned by physicians or a larger medical group	857	23.90	17.25	58.74	.595
Owned by hospital/system/HMO	255	20.00	11.20	69.20	
Owned by other*	71	39.13	8.70	52.17	
Received patients from IPA/PHO					
Did not receive patients	945	19.43	16.19	64.38	<.001
Did receive patients	238	50.00	12.80	37.20	
Specialty mix					
All primary care physicians	623	23.04	17.31	59.65	.214
All specialist physicians	273	14.29	11.56	74.15	
Multispecialty	287	31.47	12.93	55.60	
Region					
East North Central	364	17.73	24.11	58.16	<.001
East South Central	55	76.80	0.80	22.40	
Mountain	64	32.08	5.66	62.26	
Middle Atlantic	153	9.86	12.68	77.46	
New England	102	68.42	5.26	26.32	
Pacific	229	31.01	17.09	51.90	
South Atlantic	98	12.97	10.27	76.76	
West North Central	85	2.48	0.83	96.69	
West South Central	33	2.11	71.58	25.26	

continued

Table 1. *Continued*

<i>Variable</i>	<i>N</i>	<i>ACO Participation% (n = 280)</i>	<i>Planning to Participate within the Next 12 months, % (n = 186)</i>	<i>Not Part of an ACO and Not Planning to be at This Time, % (n = 717)</i>	<i>p-value</i>
AF4Q sites					
AF4Q site organizations	745	26.55	9.73	63.72	.017
National site organizations	438	23.36	16.36	60.28	

Note. $N = 1,183$. Results are weighted to be nationally representative. p -values were derived from chi-squared tests.

*Other includes entities such as Federally Qualified Health Centers and community clinics.

Source: National Study of Physician Organizations III (January 2012–May 2013).

RESULTS

Table 1 shows the unadjusted relationships between practice characteristics and ACO participation. Nearly a quarter of practices ($n = 280$) are participating and another 16 percent ($n = 186$) are planning to participate. Seventy-four percent of practices with 100 or more physicians are currently participating versus much lower percentages for smaller practices. Practices that received patients from an IPA or PHO were also more likely to be part of an ACO than those not receiving patients from IPAs or PHOs. Practices located in New England and East South Central regions of the country were also more likely to be part of an ACO. There were no significant differences by ownership or specialty mix.

Table 2 highlights the relationship between the practices' patient-centered medical home processes involving care management and related capabilities and the three ACO participation categories. As shown, there is a clear pattern in which the overall PCMH index and the subindices of chronic disease management, quality and patient safety, patient engagement, and prevention/health promotion are highest for those practices that are part of an ACO; next highest for those that plan to become so within a 12-month period; and lowest for those not planning to be involved at all.

Table 3 shows the factors associated with ACO participation from the logit models. The second column of Table 3 shows the marginal effects from models in which participating in an ACO versus those not participating is the dependent variable. The PCMH index was positively associated with a greater likelihood of involvement with an ACO. Specifically, a 10 percentage

Table 2: Patient-Centered Medical Home Processes Associated with ACO Participation

<i>Variable</i>	<i>Overall Mean (n = 880)</i>	<i>Currently Participating in an ACO Mean (n = 226)</i>	<i>Planning to Participate in an ACO within the Next 12 months Mean (n = 140)</i>	<i>Not Part of an ACO and Not Planning to Be at This Time Mean (n = 514)</i>	<i>p-value</i>
Patient-centered medical home indices					
Overall PCMH index for NSPO3 (0 to 100)*	39.24	53.09	42.21	31.93	<.001
Chronic disease management index	33.53	56.98	33.28	23.44	<.001
Quality and patient safety index	39.92	61.35	41.10	30.08	.001
Patient engagement index	31.49	41.47	34.86	25.68	.002
Prevention/health promotion index	29.89	43.54	37.03	20.86	<.001

Note. N = 880. Results are weighted to be nationally representative. *p*-values were derived from *F*-tests.

*Score is a percentage of total possible points out of 25.

Source. National Study of Physician Organizations III (January 2012–May 2013).

point increase in a practice’s PCMH score is associated with a 4 percent increase in its probability of participating in an ACO. Practice size, whether a practice receives patients from an IPA or PHO, and being located in New England are each significantly associated with an increased the probability of participating in an ACO. A practice having 100 physicians or more is associated with an increase in nearly 28 percent versus smaller size practices; a practice receiving patients from an IPA or PHO is associated with an increase in approximately 20 percent versus those not receiving such patients; and being located in New England is associated with an increase in approximately 23 percent versus the rest of the country. Practices owned by a hospital, health system, or HMO were approximately 17 percent less likely to be associated with an ACO than physician or other-owned practices. Specialty mix and

Table 3: Factors Associated with Practice Participation in ACOs

	<i>Marginal Effect (95% Confidence Interval)</i>	
	<i>Participating in an ACO versus Not Currently Participating or Planning to Participate in an ACO</i>	<i>Planning to Participate in an ACO versus Not Planning to Participate</i>
Practice size [†]		
1–19 physicians	–0.064 [–0.332, 0.205]	0.055 [–0.129, 0.238]
100+ physicians	0.278 [0.038, 0.518]*	–0.019 [–0.332, 0.294]
Owned by a hospital/system/HMO [‡]	–0.171 [–0.301, –0.040]*	–0.154 [–0.479, 0.172]
Received patients from an IPA/PHO	0.199 [0.084, 0.315]*	0.123 [–0.069, 0.316]
Practice specialty mix [§]		
Multispecialty practice	–0.029 [–0.090, 0.032]	–0.040 [–0.260, 0.181]
Region: New England [¶]	0.232 [0.122, 0.342]*	–0.164 [–0.325, 0.004]*
Located in AF4Q community site	0.033 [–0.055, 0.121]	–0.176 [–0.263, –0.088]*
Patient-centered medical home index	0.004 [0.002, 0.007]*	0.007 [–0.003, 0.016]
<i>N</i>	880	654

Note. Logit regression analysis was used for all models. Results are presented as average marginal probability [95 percent CI] calculated from logistic regression and are weighted to be nationally representative.

* $p < .05$; ** $p < .01$.

[†]Reference group is 20–99 physicians.

[‡]Reference group is physician-owned practices and practices in the other group, which includes entities such as Federally Qualified Health Centers and community clinics.

[§]Reference group is 100 percent primary care physicians.

[¶]Reference group is rest of the United States.

^{||}Reference group is national sample.

AF4Q, Aligning Forces for Quality; HMO, health maintenance organization; IPA, independent practice association; PCMH, patient-centered medical home.

Source: National Study of Physician Organizations III (January 2012–May 2013).

whether the practice was located in an AF4Q community were not associated with the probability of being involved with an ACO.

The third column of Table 3 presents the marginal effects from models in which average marginal probabilities of practices planning to participate in an ACO versus those not intending to participate is the dependent variable. In this analysis, the overall PCMH index while positive, is not statistically significantly associated with whether the practice is in the planning stage or not. Being located in New England is associated with a 16 percent decrease in the probability that the practice was in the planning stage versus not. This may be due to the fact that they were significantly more likely to have already joined, as shown in column two. Physician practice size did not distinguish between

those practices planning to join an ACO within 12 months versus those not planning to become involved. Practices located in an AF4Q site were less likely to plan to become an ACO in the following 12 months than those from the national sample.

DISCUSSION AND IMPLICATIONS

Achieving the triple aim—better quality of care, better population health, and lower cost—requires health care organizations to effectively respond to new payment models that reward value and keeping people well. ACOs are one attempt to reorganize care delivery to achieve these aims. A major question is whether they can sufficiently engage the physician practice community in the United States to make a difference fast enough. Based on the national data of 1,183 practice respondents, 24 percent are currently part of ACOs, another 15.7 percent are planning to join ACOs, while 60.6 percent had no intention of doing so at the time or in the near future. These findings clearly suggest that not only do unicorns exist but a significant number of physician practices find them attractive and they are propagating across the country.

Whether these numbers grow will depend both on the early experience of the existing ACOs and their member practices, how long it will take others to develop the necessary capabilities to succeed, and local market dynamics across the country. Early results from the 32 CMS Pioneer organizations suggest that all met the quality targets, but only 13 reduced costs sufficiently to share in savings (Centers for Medicare and Medicaid Services 2013). Further, seven Pioneer ACOs decided to move to lower risk-based models of payment and delivery, and two left the program altogether. Early formative evaluations of pilot sites highlight the challenges of building capabilities in electronic health record functionality, predictive analytics, data collection reporting and analysis, care management, physician and patient engagement, and the key roles played by culture and leadership (Fisher et al. 2012; Forster et al. 2012; Larson et al. 2012; Lewis et al. 2012).

The present findings identify some of the key factors influencing physician practice participation in ACOs across the country and suggest some of the key characteristics that may be associated with their participation. These include physician practice size, source of patients, ownership, and the practice's capability to change how care is delivered. Current ACO participation is dominated by very large practices (100+) as one might expect. Yet 48 percent of physician practices in the United States are composed of five or fewer

physicians and many others are practices of less than 20 physicians (Boukus, Cassil, and O'Malley 2009). The extent to which these practices can develop affiliations, alliances, or other forms of partnership to give them the size and infrastructure to participate in assuming risk for defined populations is a major question. Our finding that practices affiliated with IPAs and PHOs are more likely to be involved in an ACO is encouraging. Many ACOs are based on large multispecialty and group practice models or on hospitals with large numbers of employed physicians. IPAs and PHOs can provide an alternative means of organizing an ACO by making it possible for physicians in smaller practices to share care management and related resources to care for populations of patients (Shortell, Casalino, and Fisher 2010; Casalino et al. 2013).

Our findings also suggest that those practices owned by hospital and health systems may be reluctant participants given that the new value-based payment models are likely to adversely affect hospital admissions and financial viability. In this regard it is of interest to note that the top performer in the CMS Medical Group Practice Demonstration Program was the Marshfield Clinic, a non-hospital-owned provider (Wilensky 2011). Until the value-based payment models—bundled payment, episode-based payment, capitation, risk-adjusted global budgets and expenditure targets—reach a threshold of a hospital's business, hospitals are unlikely to significantly change their strategy from maximizing the inpatient margin to maximizing the total margin. As a result, the next round of ACO applicants are likely to still be dominated by largely physician-owned practices; some of which, however, may be closely linked to the hospitals where they admit most of their patients.

The findings pertaining to the PCMH capabilities are of particular interest because of their direct bearing on changing the way care is delivered. A considerable literature has documented the association between PCMH capabilities and improving care and potentially reducing costs (Mehrotra, Epstein, and Rosenthal 2006; Coleman et al. 2009; Reid et al. 2010). The positive association between our measure of PCMH capabilities and participation in ACOs underscores the potential importance of those capabilities in a practice's decision of whether to participate in ACOs (Shortell, Casalino, and Fisher 2010; Shortell and Casalino 2012). The effect size of this association, however, is relatively small, perhaps in part due to the correlation of PCMH capabilities with practice size. Smaller practices may be able to get some of the advantages of larger practices, however, through the support of IPA and PHOs as our findings suggest.

Limitations

First, the data are based on a single informant and may not reflect the care practices of the entire organization. However, we surveyed the physician leader or practice administrator who was most knowledgeable about the questions asked. Second, despite the large number of responding practices responses, there is the possibility of nonresponse bias (Halbesleben and Whitman 2013). As previously noted, we found only minor differences by selected size categories (3–12 physicians slightly more likely to respond and 20–99 physician category slightly less likely) and respondents were somewhat less likely to be comprised of mostly specialists.

But it is possible that nonrespondents differed from respondents in ways that we did not measure, but that were important. For example, it is possible that practices that were less likely to join an ACO might have been less likely to respond to the survey. But the survey was not about ACOs and the few questions about “accountable care organization” participation were not asked until near the end of the phone interview. Thus, there was no prior information that could have influenced the decision to respond or not based on whether the practice was involved in an ACO or considering such involvement or not.

We also considered the possibility that practices that felt they had greater capability to manage patients with chronic illness (the main purpose of the survey) might have been more likely to respond and also happen to be members of ACOs. To examine this possibility, we compared the mean PCMH score in our 2008 survey of 1–19 size physician practices (Rittenhouse et al. 2011) between two types of practices: those that responded to both the 2008 survey and the current NSPO3 survey (respondents) versus those that responded in 2008 but not to the current NSPO3 (nonrespondents). The mean scores were identical. Similarly, we compared the mean PCMH score from our 2007 survey of 20 or more size physician practices that also responded to the current NSPO3 survey to those that responded in 2007 but not to the current survey. The PCMH score for the practices that responded to both surveys was 10.4 versus 9.7 for practices that did not respond to the current NSPO3 survey ($p = .17$, not significant). Nonetheless, while the data are based on a nationally representative sampling frame and include over a thousand practices, we cannot totally rule out the possibility of nonresponse bias.

Third, our measure of the patient-centered medical home processes (the PCMH index) does not measure all dimensions of the patient-centered medical home, such as, for example, whole person care. Nonetheless, we believe

the measure captures many of the components of the medical home and the processes needed for practices to successfully operate as part of an ACO. Finally, our cross-sectional analysis of the associations between practice characteristics and ACO participation is subject to confounding from unobserved factors and therefore cannot be considered a causal relationship.

CONCLUSIONS

On the basis of the present findings and the early experiences and formative evaluations of ACOs, we suggest that the relevant question is not whether the ACO cup is half full or half empty. Rather, the relevant question is whether the water level is rising or falling. Sustained transformation of health care delivery will depend on both greater physician practice participation in accountable care arrangements and longer-run documentation of results. So far, physician organizations that are participating in ACOs are relatively large, well-networked practices with strong care management tool kits. These early adopting organizations may be better prepared than later adopters to perform the core functions of ACOs. As the ACO model evolves, there is need for longitudinal studies that examine the relationship between ACO practice capabilities and the triple aim of better quality, better population health, and lower growth in costs.

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SUPPORTING INFORMATION

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

Appendix SA1: National Study of Physician Organizations III January 2012–May 2013.

Appendix SA2: Comparison of National Study of Physicians Organizations III (NSPO3) Survey Respondents to Nonrespondents.

Appendix SA3: Patient-Centered Medical Home Index.

Appendix SA4: Odds Ratios from Logistic Regression.

Appendix SA5: Multiple Imputation.

Appendix SA6: Summary Statistics for All Variables.

Appendix SA7: Author Matrix.