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# First National Survey Of ACOs Finds That Physicians Are Playing Strong Leadership And Ownership Roles

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**ABSTRACT** The extent to which physicians lead, own, and govern accountable care organizations (ACOs) is unknown. However, physicians' involvement in ACOs will influence how clinicians and patients perceive the ACO model, how effective these organizations are at improving quality and costs, and how future ACOs will be organized. From October 2012 to May 2013 we fielded the National Survey of Accountable Care Organizations, the first such survey of public and private ACOs. We found that 51 percent of ACOs were physician-led, with another 33 percent jointly led by physicians and hospitals. In 78 percent of ACOs, physicians constituted a majority of the governing board, and physicians owned 40 percent of ACOs. The broad reach of physician leadership has important implications for the future evolution of ACOs. It seems likely that the challenge of fundamentally changing care delivery as the country moves away from fee-for-service payment will not be accomplished without strong, effective leadership from physicians.

**T**hrough the Centers for Medicare and Medicaid Services, the Affordable Care Act established a new, voluntary federal program that encouraged the formation of accountable care organizations (ACOs). ACOs are groups of providers that are collectively held responsible for the care of a defined population of patients. The core idea behind having insurers contract with ACOs is to create financial incentives for physicians and other provider organizations in an ACO to both improve the quality of care that their patients receive and reduce cost growth. Commercial insurers and state Medicaid agencies have begun to adopt contracts that are similar to those in the new federal Medicare ACO program.<sup>1</sup>

The transition from current fee-for-service practice to the population-based care models envisioned for successful ACOs will require a number of major and potentially disruptive changes to current practice. These changes include incor-

porating evidence-based information more quickly into patient diagnosis and treatment, engaging patients and families more directly in care, delivering higher levels of team-based care, and providing more-transparent cost and quality data to physicians and other providers.<sup>2</sup>

An ACO is responsible for the broad continuum of its patients' care, regardless of whether or not it provides a particular service. As a result, ACOs may focus on developing and managing relationships with organizations such as post-acute care facilities, health departments, and community social service organizations.<sup>3,4</sup>

A major question is whether emerging ACOs will have the clinical and managerial leadership needed to navigate this transition.<sup>5-7</sup> Physician leadership will be particularly important in motivating the implementation of quality improvement and cost reduction programs by ensuring greater commitment to the ACO's overall mission.<sup>8,9</sup>

The transition to an ACO is almost certain to

have a major impact on many if not most aspects of physicians' lives, including their incomes, degree of autonomy, work environments, and clinical routines.<sup>10,11</sup> Physicians' buy-in to these changes is likely to be critical. Previous research has shown that involving physicians in the governance of provider organizations improves communication and builds trust by assuring practicing physicians and clinical staff that their professional values are represented when key organizational decisions are made.<sup>12-14</sup> Physician governance also assures patients that their needs will be considered, along with those of the organization.<sup>15</sup>

In addition, physicians and policy makers have expressed concern that hospitals, because of their managerial strengths and resources, might quickly dominate the leadership of ACOs, thus accelerating the trend toward hospitals' employment of physicians and, in a more pessimistic view, interfering inappropriately in the physician-patient relationship.<sup>8</sup> Robert Kocher and Nikhil Sahni have argued that physicians should pursue ACO leadership in the initial wave of ACO development to preserve their long-term interests.<sup>10</sup> These authors believe that whoever dominates the formation of ACOs at the start is likely to continue to do so—a phenomenon called “path dependence.”

Despite the potential importance of engaging physicians in ACO leadership, little information is available about the leadership and management structures of ACOs.<sup>16</sup> In this article we analyze new national survey data on ACOs. We explore the extent to which physicians are engaged in the leadership of emerging ACOs, including whether ACOs identify themselves as physician led, have boards that are run by physicians, and are physician owned. We also examine how physician-led ACOs compare to other ACOs in terms of structure, size, and services provided. And we examine the implications of leadership types for ACO capabilities and the future of the ACO model.

## Study Data And Methods

**OVERVIEW** The first wave of the National Survey of Accountable Care Organizations was fielded from October 2012 to May 2013. The design of the survey was based on published frameworks for evaluating ACOs,<sup>17-23</sup> interviews with early ACO leaders, qualitative work with multiple ACOs,<sup>24-26</sup> and a review of questions from existing surveys.<sup>3,27,28</sup>

The survey included questions regarding ACOs' contracts with payers, organizational components, capabilities, and activities. Cognitive testing on a sample of questions was com-

pleted by executives representing seven ACOs. Representatives of nineteen ACOs completed pilot testing of the full survey.

The survey was completed by the person in the ACO who was most knowledgeable about its contracts and activities. Most of the respondents were ACO executives, including CEOs, executive directors, and chief medical officers. The survey was offered either online or via telephone: 98 percent of the respondents completed it online.

The survey was approved by the Institutional Review Board at Dartmouth College.

**PARTICIPANTS** We defined an ACO as a group of providers that are collectively held accountable for the total cost and quality of care for a defined patient population. We identified likely ACOs that had been established by August 2012 through multiple sources: Participants in Medicare ACO programs (Shared Savings and Pioneer) were identified through public documents. Participants in state Medicaid ACO programs were identified through publicly available announcements and communication with state Medicaid offices. And commercial payer ACOs were identified from diverse sources, including provider surveys that identified ACOs, participation in ACO collaboratives (such those run by Premier or the Brookings-Dartmouth Learning Network), published case studies on ACOs, certification by the National Committee for Quality Assurance, and public announcements of ACO contracts.

We were broadly inclusive of potential ACOs in our initial population. In all, 292 organizations were deemed possibly eligible and were invited to participate in the survey.

Estimates of the number of ACOs currently in existence vary widely, as do lists of the attributes that define an ACO. We used a set of preliminary screening questions to identify and exclude from our pool of invited organizations those that did not meet our strict criteria for an ACO: responsibility to a payer for both total cost of care and quality of care, and a contract in place to develop an ACO with at least one public or private payer. Thus, we excluded organizations that had declared themselves to be ACOs but did not have an ACO contract, organizations operating under a pay-for-performance approach that had no responsibility for the total cost of care, and organizations operating under simple capitation that had no significant payments based on quality performance.

Of the 292 potential participants, 203 completed the screening questions. Thirty were ineligible to participate; the remaining 173 ACOs completed the full survey. This resulted in a response rate of 70 percent, based on the method-

ology of the American Association for Public Opinion Research.<sup>29</sup>

The response rate was higher among ACOs that had contracted with Medicare (81 percent) and lower among ACOs with Medicaid contracts (48 percent). We tested for nonresponse bias by comparing the distribution of Medicare ACOs in our sample with the distribution of all Medicare ACOs across the organizational categories developed by Zirui Song and Thomas Lee.<sup>30</sup> We found that the distribution of our sample across the categories was very similar to that of all Medicare ACOs on key variables such as involvement of physician group practices, hospitals, and safety-net clinics (see Appendix Exhibit 1).<sup>31</sup> We thus opted not to develop survey weights to account for nonresponse.

**OUTCOMES** Our analysis of the survey results was largely organized around what type of leaders ACOs said that they had, as represented by responses to the question: “Which of the following best describes the organization of your ACO?” The possible answers were physician led; hospital led; jointly led by physicians and hospital; state, region, or county led; coalition led; led by a federally qualified health center; and some other arrangement, with space provided for the respondent to specify the arrangement.

We first completed a factor analysis of responses that we hypothesized would be indicative of physician leadership in ACOs, including answers to questions on governance, ownership, leadership, and influence. Based on that analysis, we created a composite measure of physician leadership. However, we found that 98 percent of the ACOs that we considered to have strong physician leadership according to this composite measure had identified themselves as physician led. Based on these results, we used the single question on leadership to identify physician-led ACOs.

We initially divided the remaining ACOs into subcategories, but we found similarities across ACOs jointly led by physicians and hospitals and ACOs in the remaining subcategories. Thus, we compared ACOs that identified themselves as physician-led with all other types of ACOs, using bivariate models with two-sample comparison of means tests.

We measured a number of care management and coordination capabilities, using behaviorally anchored response categories—that is, we anchored a quantified scale with specific narrative examples of advanced, moderate, and poor performance. We report the proportion of ACOs that reported having the most advanced capabilities. We created an index of health information technology (IT) development from twelve questions on health IT capabilities and use (Appendix

Exhibit 2).<sup>31</sup> An ACO was considered to have “advanced” health IT if it had complete or near-complete capabilities on eight of the twelve measures.

**LIMITATIONS** Our study had some limitations. The National Survey of Accountable Care Organizations addressed a broad range of questions to only one person at each ACO; therefore, the responses reflect the views and knowledge of that individual. We believe that for each ACO surveyed, we identified the respondent who was the most knowledgeable about the organization. However, that person’s responses might not be representative of those of other people in leadership roles in the ACO or—importantly—of front-line clinicians and staff within the ACO. Compared to executives at other ACOs, executives at physician-led ACOs may respond differently to questions to demonstrate their managerial aptitude.

We used behavioral anchoring of responses to guard against subjective interpretation of survey questions. However, it is possible that different types of respondents (such as physicians versus administrators) interpreted the questions differently.

In addition, despite testing for nonresponse bias using publicly available data on Medicare ACOs, it was difficult to determine the presence of nonresponse bias in organizations with commercial contracts. This is because there were no publicly available data on ACOs with commercial contracts with which to compare our sample. Given our high response rate, however, the impact of any such bias should be small.

A final limitation is that we relied on self-identification to classify ACOs as being physician-led. We provide some data that appear to be consistent with respondents’ self-identification, and we completed a factor analysis that confirmed the distinction between physician-led ACOs and other ACOs in almost all cases. Nonetheless, we acknowledge our reliance on the respondents.

## Study Results

**LEADERSHIP** Physicians are playing a strong role in the leadership of the first wave of ACOs. Fifty-one percent of the respondent ACOs identified themselves as physician led, and another 33 percent reported that they were jointly led by hospitals and physicians (Appendix Exhibit 3).<sup>31</sup> Only 3 percent reported being led by hospitals alone; the remaining 13 percent were led by other entities.

Physicians constituted a majority of the governing boards of 78 percent of all responding ACOs, 94 percent of physician-led ACOs, and

65 percent of ACOs led jointly by hospitals and physicians. Physicians also were a majority of the boards in most of the other types of ACOs.

Overall, physicians owned the equipment and employed the staff in 40 percent of ACOs. Physicians owned 62 percent of physician-led ACOs, compared to 16 percent in all other ACOs ( $p < 0.001$ ). Furthermore, 58 percent of both physician-led ACOs and other ACOs reported “extensive and active involvement of clinicians in ACO discussions and decision making.”

**ORGANIZATIONAL COMPONENTS** Compared to other ACOs, physician-led organizations were less likely to include a hospital and to be part of an integrated delivery system (Exhibit 1). Physician-led ACOs were also less likely to include a federally qualified health center or a rural health clinic, but they were as likely as other ACOs to include a nursing home.

Physician-led ACOs had fewer primary care physicians and specialist clinicians but included more individual medical groups than other ACOs (Exhibit 1). The larger number of individual medical groups may indicate that at least some of these ACOs consisted of independent practice associations or included a network model in which physicians owned their individual practices. In fact, 37 percent of physician-led ACOs consisted solely of physician practices, compared to only 6 percent of ACOs with other leadership types ( $p < 0.001$ ; data not shown). Physician-led organizations also had fewer patients per contract than other ACOs (Exhibit 1).

Similar patterns emerged when we compared the services provided by physician-led ACOs and those provided by other ACOs. Physician-led ACOs were less likely than other ACOs to directly provide services across the continuum of care, including emergency and postacute services (such as rehabilitation, skilled nursing, and home health care) and services that are especially important in the care of special or vulnerable populations, such as behavioral health or hospice care (Exhibit 1).

**CONTRACTS** Physician-led ACOs were more likely than other ACOs to have a Medicare contract but less likely to participate in the Pioneer program, which is designed for large organizations that are prepared to take on financial risk (Exhibit 1). Two-thirds of physician-led ACOs were participating in the Medicare Shared Savings Program, and few were taking on downside risk. Fifteen percent of physician-led ACOs were participating in the Advance Payment Program, which is part of the Shared Savings Program but provides start-up capital to physician-based and rural providers.

One concern about the ability of physician-led organizations to become ACOs is that they might

have difficulty securing capital to fund the transition.<sup>10</sup> A quarter of the ACOs in our sample reported that securing sufficient funds to launch an ACO was very challenging, but there was no difference on this measure between physician-led and other ACOs.

Significantly fewer physician-led ACOs were participating in contracts that included downside risk, compared to ACOs with other leadership structures (Exhibit 1). In both groups, nearly all of the ACOs currently bearing risk had had previous experience with risk-based contracting, through either bundled payment initiatives or capitation. Physician-led groups were slightly less likely than other ACOs to have had experience with risk-based contracts.

**CAPABILITIES** Physician-led ACOs were as likely as ACOs with other leadership types to report having advanced care management and health IT capabilities (Exhibit 2). However, fewer than half of all ACOs had these advanced capabilities. In the two cases where the difference between physician-led and other ACOs was significant, a higher percentage of physician-led ACOs reported having the capabilities. Physician-led ACOs are leading in outpatient care management and health IT. However, they are lagging in their ability to manage care across settings (transitions and readmissions), which is consistent with the fact that physician-led ACOs are less likely to include hospitals and postacute care providers.

**MONITORING AND REPORTING QUALITY AND FINANCIAL RESULTS** About half of both physician-led and other ACOs reported having the ability to monitor systemwide quality performance metrics and provide meaningful and timely feedback to clinicians (Exhibit 3). Only a third of both physician-led and other ACOs monitored comprehensive and timely financial performance relative to benchmarks. Timely financial data that allow ACOs to gauge their performance against a benchmark may be important in the organizations’ ability to stay within a global budget and be eligible to receive shared savings. The lack of such data was a complaint among organizations that participated in a Medicare ACO demonstration.<sup>32</sup>

Our survey also asked about challenges to ACO implementation. Developing health IT infrastructure was the most frequently cited challenge, and half of the respondents reported that it was very challenging.

As noted above, most ACOs reported being unable to monitor financial performance relative to benchmarks. However, physician-led ACOs were significantly more likely than other ACOs to measure and report financial performance at the practice and clinician levels (Exhibit 3).

## EXHIBIT 1

## Organizational Characteristics Of Accountable Care Organizations (ACOs), By Leadership Type

Characteristic	Type of ACO leadership		
	Physician led (n=89; 51%)	Other (n=84; 49%)	All (N=173)
<b>ORGANIZATIONAL STRUCTURE</b>			
Include a hospital			
Percent of ACOs	41	87****	63
No. of hospitals	2.1	4.7**	3.4
Include a medical group			
Percent of ACOs	93	87	90
No. of medical groups	23.3	13.8	18.8
No. of primary care clinicians	156.2	204.4	179.1
Include a specialist group			
Percent of ACOs	49	64	56
No. of specialist groups	13.0	11.6	12.3
No. of specialist clinicians	215.7	268	240.6
Include an FQHC or RHC			
Percent of ACOs	15	43****	28
No. of FQHCs or RHCs	0.3	2.0***	1.1
Include a nursing home			
Percent of ACOs	20	25	22
No. of nursing homes	1.6	1.5	1.5
Belong to an integrated delivery system			
Percent of ACOs	44	64**	54
<b>SERVICES PROVIDED (% OF ORGANIZATIONS)</b>			
Emergency	30	78****	54
Rehabilitation	26	59****	42
Behavioral health	28	57****	42
Skilled nursing	10	21**	15
Pediatric	55	64	59
Palliative or hospice	27	58****	42
Home health or visiting nurse	17	49****	32
Pharmacy	20	38***	29
<b>NO. OF ASSIGNED PATIENTS IN LARGEST CONTRACT (% OF ORGANIZATIONS)</b>			
Fewer than 5,000	1	0	0
5,000–10,000	40	30	36
10,001–20,000	31	18	25
20,001–50,000	19	37**	27
More than 50,000	8	15	11
<b>TYPE OF CONTRACT (% OF ORGANIZATIONS)</b>			
Any Medicare	75	57**	66
Pioneer	9	21**	15
Shared Savings Program	51	37****	44
Advance Payment Program	15	0****	8
Medicaid	13	38****	25
Private insurer	45	57	51
Experience with risk			
Current contract	20	40***	29
Previous experience	72	86**	79

**SOURCE** Authors' analysis of data from the National Survey of Accountable Care Organizations.

**NOTES** "Other ACOs" are led by hospitals and physicians jointly (33 percent); coalitions (6 percent); hospitals (3 percent); state, region, or county (1 percent); federally qualified health center (FQHC) (1 percent); and other (5 percent). All numbers are mean. Advance Payment Program ACOs are part of the Medicare Shared Savings Program. Significance denotes difference from physician-led ACOs. RHC is rural health clinic. \*\* $p < 0.05$  \*\*\* $p < 0.01$  \*\*\*\* $p < 0.001$

**OUTLOOK ON THE ACO MODEL** Fifty-four percent of leaders at physician-led ACOs said they believed that at least half of US patients will be covered by ACO-like contracts in the next five

years, but only a third of leaders at other ACOs had the same belief ( $p = 0.010$ ; Appendix Exhibit 4).<sup>31</sup> About three-quarters of both groups believed that more than half of the patients in their market will be covered by ACO-like contracts. Respondents in physician-led ACOs believed that the ACO model will spread quickly and were optimistic about its potential to improve quality. However, fewer respondents were optimistic about the model's potential to reduce cost growth. This is consistent with previous research on performance in the Physician Group Practice Demonstration<sup>33</sup> and the initial year of the Pioneer ACO program.<sup>34</sup>

## Discussion

In spite of initial concerns about potential hospital dominance,<sup>8,10</sup> physicians are at the forefront of leadership in the early implementation of the ACO payment and delivery model. In the first national survey of both public and private ACOs, we found that over three-quarters of ACOs were either physician led or jointly led by physicians and hospitals, and that physicians constituted a majority of the governing boards of 78 percent of ACOs.

Active leadership by physicians has been shown to be critical to the success of efforts to change physician practice<sup>14,35</sup> and to help overcome potential resistance from physicians, patients, and other groups to new financial models.<sup>15,36</sup> Thus, these findings suggest that emerging ACO governance structures offer the promise of continued support and performance improvement.

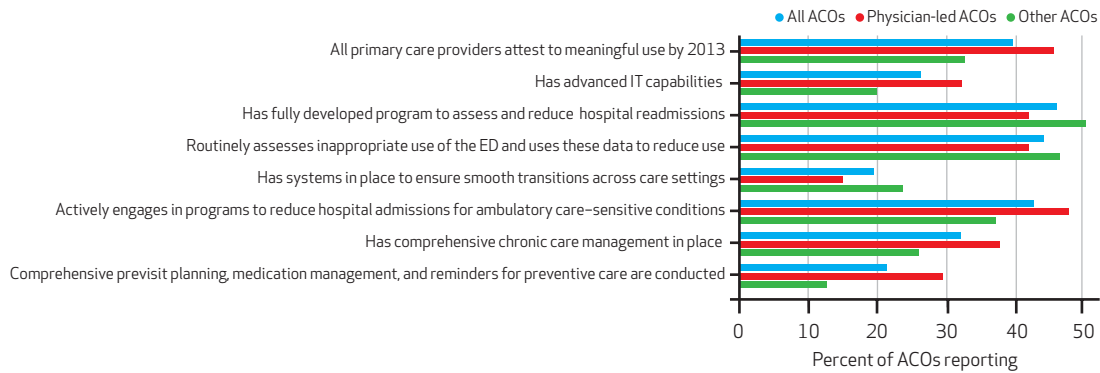
Physician-led ACOs differ from other ACOs in key ways. Physician-led ACOs are less likely to include hospitals and other types of providers, but they are more likely to include physician groups—and, if they do include physician groups, to have a larger number of the groups (Exhibit 1). Despite having different leadership structures and offering fewer services, physician-led ACOs have care management and health IT capabilities that are similar to those of other ACOs.

Because they are less likely to include hospitals or postacute care facilities, physician-led organizations may face greater challenges than other ACOs in managing transitions between settings of care and managing hospital-based care, if it is provided by hospitalists who do not have a formal relationship with the ACO. It is possible, therefore, that ACOs with other leadership types may be better equipped to coordinate care through the participation of organizations across the care continuum.

Physician-led ACOs are also less likely than

**EXHIBIT 2**

**Care Management And Technology Capabilities Of Accountable Care Organizations, By Leadership Type, 2012-13**



**SOURCE** Authors' analysis of data from the National Survey of Accountable Care Organizations, October 2012–May 2013. **NOTES** For an explanation of "other ACOs," see notes to Exhibit 1. "Meaningful use" of electronic health records is defined by the Health Information Technology for Economic and Clinical Health Act of 2009. Difference between physician-led ACOs and other ACOs is significant ( $p < 0.05$ ) in the "advanced IT capabilities" and "comprehensive previsit planning" categories. ED is emergency department. IT is information technology.

other ACOs to offer services that traditionally are segregated from medical care, such as pharmacy or behavioral health services. This may make it more difficult for physician-led ACOs to track medication compliance, for example, or follow up on mental health referrals or discharges. The networks in physician-led ACOs may be limited because physicians are ill equipped to develop and manage relationships with multiple organizations—a crucial goal of ACOs to ensure smooth care transitions and continuity of care.

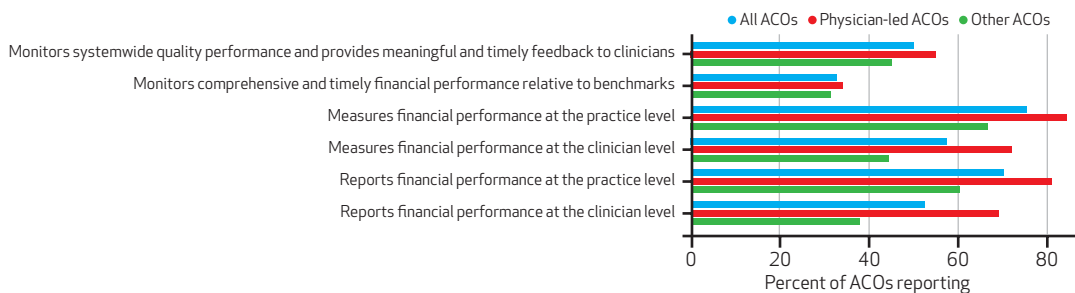
Many stakeholders<sup>22,37</sup> have expressed opinions about what ACOs should or will look like. To our knowledge, however, this article is the first to present national data on physician leadership in the first wave of ACOs and on the relationship between leadership and organizational characteristics, capabilities, and views of leaders on the future of accountable care.

Our findings suggest that there are diverse types of leadership and paths of development for ACOs, as the Centers for Medicare and Medicaid Services intended when it designed its ACO program.<sup>9</sup> Because it is not yet clear which characteristics and capabilities are important for an ACO's performance, policy makers and payers may need to continue to provide different types of support and contracts to encourage the continued development and success of physician-led ACOs.

An ACO's leadership and organizational structure will have implications for strategies to lower cost growth. The organizational structure of physician-led ACOs is more focused on outpatient care, and these ACOs may reduce the use of services provided in settings outside of the ACO, such as inpatient or postacute care.<sup>38,39</sup> For example, in the Physician Group Practice Demonstra-

**EXHIBIT 3**

**Capabilities Of Accountable Care Organizations Related To Monitoring And Reporting, By Leadership Type, 2012-13**



**SOURCE** Authors' analysis of data from the National Survey of Accountable Care Organizations, October 2012–May 2013. **NOTE** Difference between physician-led ACOs and other ACOs is significant ( $p < 0.05$ ) in all cases except the "Monitors comprehensive and timely financial performance" and "Monitors systemwide quality performance" categories.

tion, a pilot of the ACO concept, one of the effects was to reduce spending on acute hospital care.<sup>33,40</sup> This could have adverse consequences for patients if they did not receive necessary care. Physician-led organizations may be better suited to address the overuse of health care services than other ACOs, if physician-led ACOs do not own or receive revenue from providers of discretionary services.<sup>41,42</sup>

Physician-led ACOs may struggle with challenges that hospital-led ACOs could find easy to overcome. For example, to achieve coordination across providers, ACOs require clinical, administrative, and technological cooperation not only among physicians but also with other providers beyond the walls of typical physician practices.<sup>10</sup> Direct management of an ACO may create technical and professional challenges for physicians: ACOs require capital investment, assumption of financial risk, and the ability to distribute gains or losses. These tasks have historically proved difficult for physician groups to manage.<sup>10</sup> However, our research shows that physician-led ACOs are investing in health IT capabilities at or above the level of other ACOs.

## Conclusion

The broad reach of physician leadership has important implications for the future evolution of ACOs. It seems likely that the challenge of fundamentally changing care delivery as the country moves away from fee-for-service payment will not be accomplished without strong, effective leadership from physicians. The factors that contribute to successful ACOs are likely to be multiple. Previous work has highlighted a range of factors that are vital to success, including the complexity of the intervention; the commitment of all levels of management and front-line deci-

sion makers to implementing it; and the correct mix of skills, peer opinion leaders, incentives, and adequate communication among key decision makers.<sup>35</sup>

Research from the managed care era showed that when physicians are expected to serve both their patients and the financial interest of their organization, physicians' involvement in leadership is essential.<sup>15</sup> The same research showed that physicians must work collaboratively with other groups to develop a balanced set of accountability approaches that can appropriately meet the interests of payers, accreditation bodies, patients, and community groups.

It is possible that the physician-led model of accountable care may face greater challenges than other ACOs in integrating care across diverse health care providers, which is required for effective care coordination. It is also possible that physician-led ACOs may have a shorter reach of influence than other ACOs into some settings of care that are important to both the quality and the cost of care.

Participating physicians may need to give up some autonomy for an ACO to be successfully implemented. Encouraging the use of team-based care and standardized processes may be difficult for physician-led ACOs to the extent that physicians resist these changes.

Further research is needed to see how practices evolve into ACOs, how ACOs attempt to achieve cost savings while maintaining and improving quality, and whether patient experience and overall population health is differentially improved across leadership styles and organizational structures of ACOs. Organizations that are physician led may need to learn from ACOs that are led by a coalition or jointly by hospitals and physicians how to achieve the integration necessary to coordinate care across settings. ■

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## NOTES

- 1 Lewis VA, Colla CH, Carluzzo KL, Kler SE, Fisher ES. Accountable care organizations in the United States: market and demographic factors associated with formation. *Health Serv Res.* 2013;48(6 Pt 1):1840–58.
- 2 DeVore S, Champion RW. Driving population health through accountable care organizations. *Health Aff (Millwood).* 2011;30(1):41–50.

- 3 National Study of Physician Organizations [home page on the Internet]. Berkeley (CA): University of California, Berkeley; [last updated 2012 Oct 9; cited 2014 Apr 17]. Available from: <http://nspo.berkeley.edu/>
- 4 Shortell SM. Bridging the divide between health and health care. *JAMA.* 2013;309(11):1121–2.
- 5 Institute of Medicine. *Crossing the*

quality chasm: a new health system for the 21st century. Washington (DC): National Academies Press; 2001.

- 6 Singer S, Shortell SM. Implementing accountable care organizations: ten potential mistakes and how to learn from them. *JAMA.* 2011;306(7):758–9.
- 7 Jacobson PD, Jazowski SA. Physi-

- cians, the Affordable Care Act, and primary care: disruptive change or business as usual? *J Gen Intern Med.* 2011;26(8):934-7.
- 8 Crosson FJ. The accountable care organization: whatever its growing pains, the concept is too vitally important to fail. *Health Aff (Millwood).* 2011;30(7):1250-5.
  - 9 Berwick DM. Launching accountable care organizations—the proposed rule for the Medicare Shared Savings Program. *N Engl J Med.* 2011;364(16):e32.
  - 10 Kocher R, Sahni NR. Physicians versus hospitals as leaders of accountable care organizations. *N Engl J Med.* 2010;363(27):2579-82.
  - 11 Reid RJ, Coleman K, Johnson EA, Fishman PA, Hsu C, Soman MP, et al. The Group Health medical home at year two: cost savings, higher patient satisfaction, and less burnout for providers. *Health Aff (Millwood).* 2010;29(5):835-43.
  - 12 Rehm JL, Alexander JA. New trends in governing board—medical staff relations. *Trustee.* 1986;39(7):15-8.
  - 13 Shortell SM. Effective hospital-physician relationships. *Ann Arbor (MI): Health Administration Press Perspectives;* 1991.
  - 14 Weiner BJ, Shortell SM, Alexander J. Promoting clinical involvement in hospital quality improvement efforts: the effects of top management, board, and physician leadership. *Health Serv Res.* 1997;32(4):491-510.
  - 15 Shortell SM, Waters TM, Clarke KB, Budetti PP. Physicians as double agents: maintaining trust in an era of multiple accountabilities. *JAMA.* 1998;280(12):1102-8.
  - 16 Addicott R, Shortell S. Collaborative governance through accountable care organizations: recommendations for policy and practice. *Health Care Manage Rev.* Forthcoming.
  - 17 Berenson RA. Shared Savings Program for accountable care organizations: a bridge to nowhere? *Am J Manag Care.* 2010;16(10):721-6.
  - 18 Fisher ES, Shortell SM, Kreindler SA, Van Citters AD, Larson BK. A framework for evaluating the formation, implementation, and performance of accountable care organizations. *Health Aff (Millwood).* 2012;31(11):2368-78.
  - 19 Lewis VA, Larson BK, McClurg AB, Boswell RG, Fisher ES. The promise and peril of accountable care for vulnerable populations: a framework for overcoming obstacles. *Health Aff (Millwood).* 2012;31(8):1777-85.
  - 20 Muhlestein D, Croshaw A, Merrill T, Peña C, Brent J. The accountable care paradigm: more than just managed care 2.0 [Internet]. Salt Lake City (UT): Leavitt Partners; 2013 [cited 2014 Apr 17]. Available from: <http://leavittpartners.com/wp-content/uploads/2013/08/Accountable-Care-Paradigm.pdf>
  - 21 Noble DJ, Casalino LP. Can accountable care organizations improve population health? Should they try? *JAMA.* 2013;309(11):1119-20.
  - 22 Shortell SM, Casalino LP. Health care reform requires accountable care systems. *JAMA.* 2008;300(1):95-7.
  - 23 Shortell SM, Casalino LP, Fisher ES. How the Center for Medicare and Medicaid Innovation should test accountable care organizations. *Health Aff (Millwood).* 2010;29(7):1293-8.
  - 24 Kreindler SA, Larson BK, Wu FM, Carluzzo KL, Gbemudu JN, Struthers A, et al. Interpretations of integration in early accountable care organizations. *Milbank Q.* 2012;90(3):457-83.
  - 25 Larson BK, Van Citters AD, Kreindler SA, Carluzzo KL, Gbemudu JN, Wu FM, et al. Insights from transformations under way at four Brookings-Dartmouth accountable care organization pilot sites. *Health Aff (Millwood).* 2012;31(11):2395-406.
  - 26 Kreindler SA. The politics of patient-centred care. *Health Expect.* 2013 May 22. [Epub ahead of print].
  - 27 American Hospital Association. Care coordination survey. Chicago (IL): AHA; 2012.
  - 28 American Medical Group Association. Accountable care organization readiness assessment [Internet]. Alexandria (VA): AMGA; 2010 [cited 2014 Apr 17]. Available from: <http://www.amga.org/wcm/PI/Collabs/ACO/assessTool.pdf>
  - 29 American Association for Public Opinion Research. Standard definitions: final dispositions of case codes and outcome rates for surveys [Internet]. Deerfield (IL): AAPOR; [revised 2011; cited 2014 Apr 17]. Available from: [http://www.aapor.org/AM/Template.cfm?Section=Standard\\_Definitions2&Template=/CM/ContentDisplay.cfm&ContentID=3156](http://www.aapor.org/AM/Template.cfm?Section=Standard_Definitions2&Template=/CM/ContentDisplay.cfm&ContentID=3156)
  - 30 Song Z, Lee TH. The era of delivery system reform begins. *JAMA.* 2013;309(1):35-6.
  - 31 To access the Appendix, click on the Appendix link in the box to the right of the article online.
  - 32 Wilensky GR. Lessons from the Physician Group Practice Demonstration—a sobering reflection. *N Engl J Med.* 2011;365(18):1659-61.
  - 33 Colla CH, Wennberg DE, Meara E, Skinner JS, Gottlieb D, Lewis VA, et al. Spending differences associated with the Medicare Physician Group Practice Demonstration. *JAMA.* 2012;308(10):1015-23.
  - 34 CMS.gov [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services. Press release, Pioneer Accountable Care Organizations succeed in improving care, lowering costs; 2013 Jul 16 [cited 2014 Apr 17]. Available from: <http://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-Releases/2013-Press-Releases-Items/2013-07-16.html>
  - 35 Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Q.* 2004;82(4):581-629.
  - 36 Levinson W, Gorawara-Bhat R, Dueck R, Egener B, Kao A, Kerr C, et al. Resolving disagreements in the patient-physician relationship: tools for improving communication in managed care. *JAMA.* 1999;282(15):1477-83.
  - 37 Fisher ES, Shortell SM. Accountable care organizations: accountable for what, to whom, and how. *JAMA.* 2010;304(15):1715-6.
  - 38 Ackerly DC, Grabowski DC. Post-acute care reform—beyond the ACA. *N Engl J Med.* 2014;370(8):689-91.
  - 39 Mechanic R. Post-acute care—the next frontier for controlling Medicare spending. *N Engl J Med.* 2014;370(8):692-4.
  - 40 Colla CH, Lewis VA, Gottlieb DJ, Fisher ES. Cancer spending and accountable care organizations: evidence from the Physician Group Practice Demonstration. *Healthcare.* 2013;1(3):100-7.
  - 41 McWilliams JM. Accountable care organizations: a challenging opportunity for primary care to demonstrate its value. *J Gen Intern Med.* 2013 Nov 20. [Epub ahead of print].
  - 42 Anderson GF. Leadership in creating accountable care organizations. *J Gen Intern Med.* 2011;26(11):1368-70.