

# Care Transformation Strategies and Approaches of Accountable Care Organizations

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## Abstract

Although accountable care organizations (ACOs) proliferate, little is known about the activities and strategies ACOs are pursuing to meet goals of reducing costs and improving quality. We use semistructured interviews with executives at 16 ACOs to understand ACO approaches. We identified two overarching ACO approaches to changing clinical care: a practice-based transformation approach, working to overhaul care processes and teams from the inside out; and an overlay approach, where ACO activities were centralized and delivered external to physician practices. We additionally identified four methods ACOs were using to achieve their aims: using patient support roles; targeted clinics, events, programs, and interventions; clinical process standardization; and tracking and identifying patients on which to focus resources. We expect that ACOs using either of the major approaches can succeed under current ACO programs, but that as value-based payment programs mature, ACOs will need to undertake practice-based approaches to be successful in the long term.

## Keywords

health care reform, health care costs, health care quality, care management

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## **Introduction**

Accountable care organizations (ACOs) are a prominent reform initiative that has grown substantially in recent years. Despite rapid diffusion of the model, little is known about how ACOs are working to transform care on the ground. Research on ACOs has primarily focused on patient outcomes associated with moving to ACO programs (Busch, Huskamp, & McWilliams, 2016; Colla, Lewis, Kao, et al., 2016; Lewis, Frazee, Fisher, Shortell, & Colla, 2017; McWilliams, Chernew, Landon, & Schwartz, 2015; McWilliams, Landon, Chernew, & Zaslavsky, 2014; Ouayogodé, Colla, & Lewis, 2016) or the structure and capabilities of ACOs (Colla, Lewis, Shortell, & Fisher, 2014; Lewis, Colla, Schoenherr, Shortell, & Fisher, 2014; Shortell, Wu, Lewis, Colla, & Fisher, 2014). Studies in both these threads of research are typically quantitative work giving a broad lens on ACOs. The literature more closely examining the strategies ACOs are using to change clinical care is much smaller (D'Aunno, Broffman, Sparer, & Kumar, 2016; Gorbenko, Frazee, & Lewis, 2016; Lewis, Schoenherr, Frazee, & Cunningham, 2016; Lewis, Colla, Tierney, et al., 2014; Rundall, Wu, Lewis, Schoenherr, & Shortell, 2016). As a result, relatively little is known about common methods or strategies ACOs are using to meet goals around cost and quality, and there has been limited work to characterizing ACO approaches to changing clinical care or the methods underlying them (Lewis et al., 2016). Other studies in this realm have focused more often on managerial or organizational practices, rather than the specific clinical efforts of ACOs (Hilligoss, Song, & McAlearney, 2017; Phipps-Taylor & Shortell, 2016).

The ACO model is not rigid in structure or activities, making it quite different from highly structured models, such as the patient-centered medical home. The lack of prescription means the model is very flexible and allows for a high degree of freedom among providers; provider organizations have full autonomy to decide how they will attempt to meet cost and quality targets. This flexibility and freedom means that while on programs such as medical homes there is a shared understanding among policy makers, researchers, and other stakeholders about what constitutes a medical home intervention, on ACOs there is little shared understanding about what providers under ACO programs are undertaking to change clinical care. While there is an increasing amount of information from individual ACOs (Berkowitz, Ishii, Schulz, & Poffenroth, 2016; Hsu et al., 2016, 2017; Lustbader et al., 2016; Toussaint, Milstein, & Shortell, 2013; Wright, 2017) and commentary by researchers and policy makers about what ACOs may be doing, an empirically based understanding of ACO strategies on clinical care would inform policy makers, researchers, providers, and other stakeholders of common strategies or approaches.

## ***New Contribution***

In this article, we examine how ACOs were trying to transform care delivery, providing some of the first evidence on the strategies for transforming care used by ACOs. We use data from semistructured interviews with leaders at 16 ACOs to understand

how ACOs are designing clinical programs and the strategies they are using to implement these programs. We find that ACOs used two broad approaches to changing care delivery. The first is a practice-based transformation approach, where ACOs are focused on improving, reorganizing, and changing care in existing practice settings. The second is an overlay approach, where ACOs focused on developing wrap around or centralized support for patients and practices, with minimal alteration or interference with existing practices and care teams. We also describe four common methods used underneath these approaches: patient support roles, targeted programming, patient identification and tracking, and clinical process standardization. This work provides important assessment of the methods and approaches ACOs are using to change clinical care.

## Method

Our goal was to understand what clinical strategies ACOs were using at the time of interviews to meet quality and cost goals. We conducted qualitative interviews with ACO leaders to capture the variety, nuance, and range of strategies used to transform care. By interviewing an individual from each ACO's leadership team we were able to gain insight into the ACO's strategic plans and approach to care delivery transformation. While interviewing a single leader per organization and choosing not to collect observational data from each ACO impairs our ability to speak to the day-to-day practice of transformation work, this study was not aimed to assess variation in implementation of strategies at that level. Rather, as an initial foray into the empirical study of ACO-driven clinical transformation the study was designed to glean leadership-level insights into organizational strategies to transform clinical care.

We selected 22 potential interview sites from previous qualitative research with ACOs, a large database of ACOs maintained by our group, and publicly available information on ACOs. We selected ACOs to ensure adequate representation across geographic regions, urbanicity, payer mix, safety net provider inclusion, number of ACO contracts, ACO composition, and leadership structure. We purposively chose ACOs with advanced levels of clinical transformation activities, rather than new ACOs primarily focusing on early efforts such as establishing governance or meeting compliance requirements. All the ACOs in our sample had active ACO contracts and were in the second or later performance year at the time of interview; this ensured we were speaking with ACOs that were actively working to change care delivery, rather than in an initial or foundational phase of ACO development. Table 1 includes descriptive statistics on ACOs in our sample.

Outreach was conducted in June and July of 2014. Between July and August of 2014, we completed 17 semistructured phone interviews with clinical leadership across 16 ACOs (Interviewers TF, KIT). For one ACO, we conducted a follow-up interview because the initial respondent did not know sufficient details on clinical transformation activities. Interviews were approximately 1 hour in length. Our interview guide included questions on the structure of the ACO, ACO formation processes and prior relationships, structural changes since the last interview (if applicable),

**Table 1.** Characteristics of Accountable Care Organizations (ACOs) Interviewed in the Sample ( $N = 16$ ).

	N	Percent
ACO contracts		
One contract	10	63
More than one contract	6	38
Payer of ACO contract(s)		
Medicaid	7	44
Medicare Shared Savings (MSSP)	11	69
Private/commercial	6	38
Composition		
Multiple physician practices in ACO	12	75
Hospital in ACO	10	63
Safety-net providers in ACO		
Predominantly of safety net providers	6	38
At least one safety net provider, but not predominantly safety net	6	38
No safety net component	4	25
Geographic region		
Northeast	5	31
Midwest	2	13
South	4	25
West	5	31

clinical and population priorities, clinical strategies, challenges in implementation, and future goals (Table 2 includes sample questions; see the appendix for full interview guide). Interviews were recorded, transcribed, and imported into QRS NVivo, qualitative analysis software (QRS International Pty Ltd., 2014).

To systematically capture ACO strategies, we used an iterative process for organizing, coding, and analyzing data. First, for each interview transcript, a team member (KIT) wrote a summary of all information about the given ACO's clinical strategies. In completing and discussing these detailed profiles, the research team developed four broad codes, and the coder applied the codes to the site profiles and wrote an initial memo. The memo included examples from all ACOs referenced to allow team members to verify, contest, or clarify proposed themes. After discussion of the memo, the team devised a new set of codes and potential themes. Reviewing the data on these topics in the summaries, child codes for each topic were developed through an iterative process of memo writing based on data, memo review, and then returning to the data to verify posited themes.

A single coder coded the interview transcripts data for these parent and child codes (VAL). Concerned about missing any potential themes not captured by the major identified topics, the two coders reviewed data not included in the topics

**Table 2.** Examples of Interview Questions Used in Interview Guide.

Topic	Question examples
Formation and prior relationships	<p>Can you tell me about the organizations participating in your ACO?</p> <p>What was the relationship among the participating organizations prior to the ACO initiative? If it has changed, how?</p>
Governance and leadership	<p>Could you briefly describe the leadership structure of your ACO?</p> <p>What kinds of committees has the ACO formed?</p> <p>Who sits on these committees and what is each committee’s role?</p> <p>What is your clinical committee/quality committee currently working on?</p> <p>Have you added any additional committees since our last interview?</p>
Clinical and population priorities	<p>Broadly, what are your ACO’s priorities? What tactics are you using to work on each priority?</p> <p>For each area of focus, do you have specific goals or targets in these priority areas?</p>
Care delivery transformation	<p>What changes in clinical operations have taken place as a result of the ACO? <i>Probes:</i> New staff? Standardized treatment guidelines / protocols? Disease-management programs? Cross-organizational disease registries? Efforts to identify high-risk patients? Team meetings across settings? Care transition protocols? Integrated EMR or HIE?</p> <p>To what extent are clinicians and care teams meeting and communicating across care settings or organizations?</p> <p>To what extent are you focused on standardizing initiatives and programs across the ACO as opposed to having individual practices implement their own, tailored programs?</p> <p>Of all the programs, personnel, and activities you’ve mentioned, which do you think has been most successful across sites? Why?</p>
Challenges	<p>What has been the biggest barrier or challenge to selecting clinical priorities?</p> <p>What has been the biggest barrier or challenge to implementing new tactics?</p> <p>How might/have you overcome these challenges?</p> <p>Are there any additional challenges your ACO is facing?</p>
Future goals	<p>What one change in the clinic do you think the ACO would most benefit from implementing that has not yet been implemented? Why has not it been implemented already?</p>

*Note.* ACO = accountable care organization; EMR, electronic medical record; HIE, health information exchange.

above, and independently developed a set of child codes for these data. The team members had significant overlap on these additional topics, and the coder then applied these additional codes. From the coded data, the research team developed the themes for the methods presented below. At this point the team also noted it may be worthwhile to classify the clinical strategies ACOs were using; we thus developed additional codes to characterize the broad approach to clinical care presented in the “Results” section. The coder applied these codes to the transcripts. We then examined in detail how the codes and methods we had outlined varied by the approach in the coded data, as well as within each site the extent they were pursuing one of the approaches.

In a final iterative process of analysis and coding, the team determined it would be helpful to present not only methods used but also (briefly) the proximal goals ACOs were working on to improve care. These were concrete areas of care ACOs were working to improve. To ensure we had correctly characterized these goals, we identified a handful of additional codes and again these were applied to all transcripts by the coder.

A full list of codes is available in the appendix. The final themes presented are the final iteration of themes, verified by reviewing the coded data on each topic, as well as reviewing data not coded on any of the themes.

## **Results**

ACOs we interviewed were working most directly toward a number of proximal goals to improve care: disease management (15 ACOs); improving care transitions between inpatient, outpatient, and postacute care (15 ACOs); improving access, particularly to primary care (10 ACOs); patient outreach (10 ACOs), such as calling or visiting patients in their homes or other community locations to engage them with ACO health care providers; and managing nonmedical needs (5 ACOs) such as housing or transportation that were affecting patients’ ability to adhere to treatment or manage their conditions. In the following two sections, we discuss the broad approaches ACOs used and the more concrete methods they were using to achieve these proximal goals. We have organized the results around the broad approaches and the methods taken, rather than around the proximal goals, because the methods for changing care were being used across multiple goals, and so we believe that the methods used are a more efficient way of understanding ACO approaches to change. Moreover, this mode of presentation has greater potential utility for organizations interested in operationalizing approaches and specific methods outlined herein.

Table 3 presents the approaches and the methods discussed here. The “overall” row reflects our assessment of the ACOs’ overall set of strategies as predominantly overlap, predominantly, practice change, or a combination of the two; ACOs in the overlap or practice change categories may have a handful of strategies in the other category (reflected in the rest of the table) while reflecting still a pattern of predominantly focusing on one strategy.

**Table 3.** Number of Accountable Care Organizations (ACOs) using each Approach and Method for Changing Care.

Method	Total	Approach(es) to method		
		Predominantly overlay	Predominantly practice change	Both approaches
Overall	16 ACOs	3 ACOs	9 ACOs	4 ACOs
Patient support roles	14	3	3	8
Targeted programming	13	1	5	7
Clinical process standardization	14	1	12	1
Patient identification and tracking	13	NA	NA	NA

### *Approaches to Clinical Change*

Our data suggest that two general approaches capture how ACOs engage in changing clinical care and outcomes. The first approach we term an “overlay” approach, where an ACO added new services or programs on top of, and often independent of, existing practices and providers. The overlay approach typically introduced some form of new, centralized work to the ACO, such as centralized care management personnel or centralized disease programs or clinics. The second broad approach to clinical care we call a “practice change” approach. ACOs using this model were working to change clinical care within existing clinical settings, such as changing the way physicians behaved (e.g., changing referral patterns, changing diagnostic or testing orders), changing the makeup of primary care teams, or tinkering with other internal workings of hospitals and practices.

At one ACO that used primarily an overlay approach, the ACO used a centralized team of care coordinators that implemented a variety of well-defined care pathways for patients.

So when you're an [ACO] patient, I have a team, depending on your needs, that their whole sole goal in life is to take care of you within [the ACO] and so all my relationships . . . are designed of how do I increase that coordination for [my care coordinators] to do their job better, which is coordinate your care. So we have not gone about it how most people have, where they're trying to get [physician practices] to do the coordination, we decided to own all of that.

As described, the centralized team of coordinators was focused on implementing care pathways for patients for all medical needs. For example, coordinators would conduct home visits for patients discharged from the hospital to review treatment plans and ensure follow-up appointments were scheduled, reach out by phone to patients who had not completed screenings, or initiate palliative care for identified, eligible patients.

In this case, the care coordination work required little of physician practices and practice-based care teams because the ACO had decided to “own” that work centrally rather than have physicians or practices trying to take on coordination work. This meant that the coordination could happen in parallel and separate from existing practices, and this coordination had relatively little interface with existing practices.

The leader interviewed at this ACO noted that the structure of providing these coordination services without practices shouldering the burden was a very palatable idea to the ACOs’ physicians. He described the ACO’s strategy, which was generally to avoid meddling with physicians’ clinical care in a top-down approach:

The main goal is to how do we work with [physicians] versus just telling them what they need to be doing better. So it’s how do we get [physicians’] buy-in for me to add on these additional services? When I frame it that way, if you’re a doctor, what are you going to say? . . . You’re going to say “come on in. You’re trying to do the work for me that I have to be able to do.”

By “work with physicians” the interviewee was referring to work outside existing physician practices and clinical care. The interviewee and ACO leadership worked hard to ensure that physicians did not see the ACO as a burden or another set of rules or guidelines being imposed from above, but a helpful set of added services for physicians to better do their existing jobs. The ACO described having a relatively easy time getting physicians and practices on board with the ACO strategy and activities.

ACOs working under the overlay approach often had the mind-set that the best approach was to support physicians through additional support that was the least disruptive to physicians’ work of direct patient care as possible. An interviewee at another ACO described an instance when ACO staff worked to create a process and materials for patient notification. A goal was to make patient notification and distribution of ACO education materials least burdensome to providers:

Basically we got all the practice managers in a room and gave them the background that they needed plus the scripts . . . plus the actual materials to hand to patients, and we left nothing to the imagination. For each practice, for each doctor, we had the materials printed out in [the insurer’s] language, fonts, et cetera so that they didn’t have to worry about fixing a document. . . . We set up a call-in line if patients had any questions that the staff or practice manager [did not have to] answer. So we worked very, very hard to make it as easy and burden free as possible for the practices.

The goal of this overlay approach and others in our data was to do as much work as possible outside practices. Although in this case the practices still were involved minimally through handing material to patients, the bulk of the work (including even answering patient) was being structured to happen outside practices.

An overlay approach typically required a strong central system to develop and implement overlay strategies; no ACOs without a strong centralized leadership or management structure were using a primarily overlay approach. The particular centralized leadership or management structure took varied forms. At some ACOs, centralization



was due to the structure of a preexisting organization, such as an integrated delivery system, multispecialty practice, or physician hospital organization having a centralized department or office charged with ACO efforts. At other ACOs, the centralized management was new to the ACO and external to providers; two of the ACOs had either created or contracted with a management services organization that functioned as a centralized management structure. In either form of centralization, ACOs were able to take an overlay approach. Notably, however, the overlay approach was not used universally among ACOs with a high degree centralization or standardization; some ACOs with a strong centralized leadership or management structure were using the alternate approach to change, involving changing care within practices.

In contrast, the practice change approach involved ACOs meddling with the work of their clinicians, practices, and other staff. One ACO worked to change many of the workflows and roles within the ACOs' primary care clinics. The interviewee described how work had been reorganized within primary care teams:

We put in a bunch of workflows so that the medical assistants can address the health screening issues and the physicians can address the clinical quality issues. So for example, if a glycosylated hemoglobin is out of range, that's the physician responsibility. If a glycosylated hemoglobin has not been done, that's the MA [medical assistant] responsibility. . . . So the MA will deal with their responsibilities before the physician enters the room and then physician will deal with their responsibilities at the point of contact and there is a dashboard in each patient's chart that you can open up that shows you all of the measures that have been installed and whether they're in or out of compliance.

This ACO had worked to change the process within primary care visits to be more effective, increasing the scope of responsibilities of medical assistants to include completing screenings in order to allow physicians to focus more squarely on clinical outcomes. Although the process of separating out the screening from physicians' responsibilities and assigning it to medical assistants may seem straightforward, it required practices changing from within, with team members learning new responsibilities, redistributing work, and finally responding to feedback on if patients' care was in compliance with quality metrics. This type of restructuring of workflows within primary care teams is quite distinct from overlay efforts that leave teams untouched.

ACOs working under a practice change approach often acknowledged that the kind of change they were undertaking could be a slow or challenging process.

Our chief medical officer of the ACO reviews best practice guidelines on an ongoing basis and distributes them to each of the practices for integration into their day-to-day activities. . . . We're also sort of trying to increase the adherence to [guidelines] but, as I said, you can't do everything day one and this is all a process, but we recognize that this is clearly an important piece of the future.

This ACO reflected a common sentiment, that the ACO's current transformation work might be slow but would have payoff later. In this case, the ACO had begun by simply reviewing and distributing guidelines to practices, and had only just begun trying to

increase physicians' and practices' adherence to those guidelines. The ACO recognized that changing physicians' behavior would involve more than simply sending practices guidelines and was willing to engage in a slow process of changing practices. The long-term goal of ACOs using primary practice change approaches was often building a new, more effective way of caring for patients that would be a foundation for success in future, larger population health endeavors.

Many ACOs used primarily one of the two major approaches. Of those ACOs whose leaders we interviewed, three ACOs were using primarily or exclusively an overlay approach, and nine were using primarily or exclusively a practice change approach. Those using primarily one approach often were supplementing with a limited set of strategies from the alternate approach. For example, one ACO was primarily working on a host of methods for practice change, but had also built a small number of centralized, disease-specific programs to which ACO physicians could refer patients with the given condition.

An exception to the combined use of methods were ACOs that consisted of a single physician group; all four of these ACOs in our data used exclusively a practice change approach. These ACOs likely have an easier time structurally intervening in existing practices, since they had a single physician group rather than several independently owned practices. In contrast, ACOs with multiple practices may have found it challenging to intervene or change care within these practices simultaneously, and thus, may have gravitated to an overlay approach.

Four ACOs we interviewed were actively using both overlay strategies and practice change strategies. These ACOs generally had a set of overlay programs or personnel and were also working to change how practices or physicians were delivering care. In addition, some ACOs were actively engaged in deciding how to best implement methods for changing care, sometimes debating whether they should move more toward an overlay or more toward a practice change approach for particular programs or strategies. One ACO leader described a program that embedded case managers in clinics that was struggling to succeed under a practice change approach:

It's in flux. We put [registered nurse {RN} case managers] in the clinics to be closer to patients, try to move a lot of services to point of care but the challenge has been . . . R.N. case managers are really hard to find. You put them in the clinic they get pulled to do other things and their productivity is much lower than they are if they're centrally located. So we're currently reevaluating.

For this ACO, the dearth of registered nurse (RN) case managers and high needs of the clinic context compromised the success of embedded RN care managers. As this quote demonstrates, ACO leadership were able to identify an obstacle to success and adapt their approach to overcome this obstacle by centralizing case managers. With a shift to an overlay approach, ACO leadership hope to protect the focus and productivity of their case managers. As this case shows, ACOs looking to identify a successful approach need to think about the specific context in question.

In the sections that follow, we outline four methods used by ACOs in implementing change. Regardless of approach, all the ACOs interviewed used one or more of these strategies. However, the implementation and emphasis within the strategy varied by the ACO's approach to change. We highlight this variation in each section.

### *Methods for Change*

We identified four methods ACOs were using to achieve their goals. These methods were patient support roles, targeted programming, patient identification and tracking, and clinical process standardization.

*Patient Support Roles.* ACOs commonly employed nonphysician care team members who provided additional patient support outside medical appointments and hospitalizations. These support personnel had a wide range of titles such as care manager, care coordinator, community health worker, health partner, and patient navigator. Similarly, their scope of work differed across ACOs, including work such as medication reconciliation, patient outreach, follow up after hospitalization or emergency department use, disease management, patient education, home visits, screenings and assessments, and referrals to community resources.

Patient support roles in the practice-based transformation approach were generally nonphysician personnel embedded into primary care practices or teams to do work described above. In some cases, ACOs were working to standardize the roles of these embedded personnel across practices:

For the [care managers] it's really nice that we have some . . . in the medical clinic. They'll do a lot around helping people around—appointment reminders, helping them understand how to set up transportation to get to appointments, calling them after they've been in the hospital just to kind of check in to see how they're doing, make sure they got their medications and then if there's any issues they sort of move it on the next level of care. . . . We still have the majority of them embedded in the clinic. We really chose to do that embedded model which I think has been great.

This ACO used patient support personnel in medical clinics to help patients with a number of issues including ensuring patients could make their visits as well as following up with patients after hospitalizations. A number of other ACOs interviewed in our study had similar types of patient support roles embedded in medical clinics, performing similar or related services.

ACOs using an overlay approach had patient support personnel often providing the same services but were stationed in a centralized location, providing support by phone or in homes to patients, rather than from medical clinics. Additionally, some ACOs were using patient support personnel in creative ways, overlaid on top of existing practices to overcome challenges faced by ACO patients. For example, one interviewee described,

We've deployed [community health workers] in community-based organizations that don't deliver health care at all, but they are culturally specific organizations. So the Urban League has two of our community health workers, and Lutheran Family Services, which works a lot with the Southeast Asian population . . . So we're putting . . . culturally specific community health workers in organizations where that group gathers to help connect them to the health care system. Because sometimes, that population will trust the community-based organizations much more than they will trust the medical system.

This ACO was using community health workers in nonmedical settings to develop relationships with populations and individuals disconnected from the medical system as a way to improve access. Other ACOs were using patient support roles in similar ways, for example, stationing personnel in jails to help with access to care for those being released, or stationing personnel in housing developments that had high care utilization. These types of creative placements for patient support roles, particularly to improve access, were more common among safety net ACOs working to reach unique high-utilizing populations.

Some ACOs using an overlay approach were in the process of refining how personnel stationed outside clinics could best interface with physicians and practices. One ACO had some patient support personnel embedded in clinics as well as some who were centralized, and discussed:

There are some challenges here with care coordination with the practices. . . . So we're seeing if the [physician practice] staff is in there already and we don't go in or . . . if the [physician practice] wants our [centralized] staff to go in. So we do a lot of coordinating that because we don't want to reach multiple people touching a patient and potentially confusing someone.

In this case, the ACO worked to ensure that the centralized and practice-based staff were a coordinated (not confusing) set of individuals. The ACO was working to use both electronic medical records and other methods to clarify which staff were touching what patients to prevent duplicating work or confusing patients.

**Targeted Programming.** A number of ACOs created programming targeting patients with specific diseases or conditions, with a particular emphasis on chronic conditions. Overlay approaches to targeted programming typically involved specialized clinics, center, events, or programs delivered outside the primary care setting. One ACO, for example, created a skin care and abscess clinic located in a subsidized housing complex; registered nurses provided care to residents of the housing complex and homeless individuals to prevent infections in wounds. Other ACOs created similar dedicated clinics or centers for conditions, such as anticoagulation, diabetes, pregnant women with substance abuse disorders, and congestive heart failure.

Additionally, some ACOs held one-time events for specific patient groups, again in an overlay fashion. For example, one ACO identified 50 individuals with diabetes who had not seen a provider within a specified time period, and the ACO invited these

individuals to a specialized health fair. The fair had booths, activities, and giveaways (such as food bags) for attendees. While at the fair patients also could meet with a nurse and a diabetes educator or nutritionist. These type of special events or venues of care were typically approached as an overlay to ACO primary care; ACOs often created clinics, centers, or events where patients receive specialized care as a new but separate addition to existing care and practices within the ACO.

In contrast to targeted programming that happened in an overlay fashion, several ACOs implemented condition- or disease-specific interventions within practices and clinics. For example, one ACO was working to improve blood pressure control by working to improve both quality of screening and adherence to follow up protocol:

We're participating in . . . an initiative to improve blood pressure control through several different means. First of all, make sure that everybody in a clinical capacity that takes blood pressure takes them well and accurately, and we have a training initiative going out to all the different pods in the practice to make that happen. And . . . making sure that we have a two- to four-week follow-up if the blood pressure is found to be high.

This ACO was working to improve both the quality of the blood pressure screening by all clinical staff in practices as well as improve adherence to a follow-up care protocol. The hypertension intervention happened within clinics through a multiprong effort involving both education and incentives to change how practices were working with patients with hypertension.

Finally, some ACOs had initiatives aimed at engaging patients more actively through self-management or peer-support programs, typically for individuals living with chronic conditions. Some ACOs used centralized educational programs that helped individuals manage their conditions. For example, one ACO had a healthy homes program to educate parents of children with asthma how to clean their homes without aggravating the asthma and how to manage asthma to keep kids out of the emergency room. Other ACOs were using a practice change approach. One ACO was training physicians how to engage their patients in self-management of conditions like diabetes and obesity, and was building an EHR (electronic health record) process to require self-management goals from patients once a year to support this effort.

*Clinical Process Standardization.* Unlike patient support roles and targeted programming, which were methods used in both overlay and practice change approaches, clinical process standardization was almost exclusively used in a practice change approach. Standardization usually involved an ACO working with protocols or guidelines for how to deliver care for particular conditions, patients, or cases. The major distinction within standardization was the extent to which ACOs were enforcing adherence to standard guidelines or protocols. Most ACOs we interviewed (13) were educating providers within the ACO on protocols or guidelines. Most ACOs stopped short of monitoring or enforcing compliance:

To be honest with you, right now our strategy is not necessarily to monitor compliance. It has implications for engagement that at this stage of the game, I don't think we want to

get into the practice of, “You’re not following the protocol. You’re out.” We want to get in the stage of not how to get the red people out but how to get the people to green. So if people are not—we’re less interested, right now, in adherence to protocol than we are willing to accept the concept of a protocol trying to drive people in the right direction.

This interviewee reflected a sentiment heard from others: ACOs trying to change physician behavior were weighing how hard they should push physicians to change. In this case, the ACOs were not at a point where they wanted to penalize physicians for noncompliance. Rather, they were distributing protocols and working to improve physician acceptance of protocols and then move physicians toward greater adherence.

For ACOs moving to implement guidelines or protocols more strictly, there were a number of approaches. Some ACOs worked to hardwire guidelines into practice procedures through methods such as standing orders or electronic medical record alerts. Several ACOs were monitoring performance on guidelines or protocols through dashboards or other health information technology. Finally, other ACOs were using incentives to encourage providers to follow guidelines or protocols. The ACO described above implementing a blood pressure control program also had an incentive program:

Interviewee: We’re participating in . . . an initiative to improve blood pressure control through several different means. . . . We’ve tried to add some incentives to increase the percentage of follow-ups that happen in a very timely fashion.

Interviewer: And what types of incentives are you using?

Interviewee: Movie tickets. Well, movie tickets for the staff and then each of the primary care departments have a financial risk of paying money into a pool and then receiving a distribution from this pool of funds based on their adherence to following protocol surrounding hypertension.

The incentives were designed to increased adherence, a way to encourage providers to follow (not just read or be aware of) new care protocols. These were very direct ways ACOs were attempting to change behavior within existing practices.

Although most ACOs were implementing clinical process standardization through a practice change approach, two ACOs were taking an overlay approach to standardization. In one ACO, the ACO used a vendor to order appropriate screenings for providers’ patients as an alternative to standing orders through the practices’ own information systems. In the other ACO, centralized care coordinators implemented evidence-based care protocols for more than 30 specific care pathways/conditions, such as implementing guidelines on initiating palliative care services, protocols for follow-up from hospital discharge, and care pathways for adults with a depression diagnosis. For example, these centralized coordinators followed up with patients by phone or in-home a specified number of times, worked with patient on treatment adherence, and helped schedule necessary follow-up.

*Tracking and Identifying Patients.* Nearly all the ACOs interviewed used strategies to identify and track particular patients. This work included activities focused on finding and classifying high-risk, high-need, or high-cost patients; tools monitoring care delivery; and approaches to tracking hospital utilization.

Patient classification efforts were focused on grouping patients into useful or actionable categories for providers and varied in complexity and inputs. Sophisticated analytic approaches used advanced analytical tools, such as predictive modeling, to analyze available data, identify specific patient groups, and make projections on those patients' care needs or utilization patterns. In contrast, basic analytic approaches used more simple data approaches to identify patients, such as using claims data to identify and compile a list of patients who were high cost or (at the extreme) asking physicians to identify high-utilizing patients. Both ACOs that used an overlay or a practice change approach were using sophisticated analytic approaches; more basic approaches were generally used by ACOs that were using a practice change model and had less-sophisticated centralized systems or software to identify high-need patients.

ACOs used a variety of tools to monitor patient care processes, identify care gaps, and track practice performance on quality metrics. These monitoring tools most commonly involved disease registries, which monitored particular patient groups, and dashboards that could monitor or display care patterns at various levels, such as among particular patient populations, at a practice level, or at a physician level. One ACO identified care gaps with a platform that allowed physicians and practices to create useful patient lists from the electronic medical record. For example, they could create a list of patients with uncontrolled diabetes; physicians could access this information, and the ACO's quality committee used reports to compare performance across practices. Across the practice change and overlay approaches there were no major differences in use of registry or dashboard tools.

Finally, in addition to these identification strategies, some ACOs created systems to track patient hospital utilization patterns in a timely fashion. ACOs often set up alerts that notified identified providers when one of their patients was admitted to the hospital or had an emergency department visit so that they could appropriately coordinate patient care. When used in an overlay approach, ACOs often notified overlay patient support personnel; for example, when one ACO received real-time notifications on hospital use, the ACO's centralized care management team was able to follow up with patients. In a practice change model, ACOs often had setup to notify primary care physicians and teams about hospital utilization.

*Use of Methods by ACO Characteristics.* We examined our data for evidence of patterns across some of our key descriptive characteristics presented in Table 1. Because we have a small and not random sample, we are careful not to read too much into small differences in patterns. Although the implementation of the strategies varied by the ACO's approach to change, the general strategies used were relatively consistent across ACOs with varied compositional features. For example, ACOs that were largely safety net or Medicaid were pursuing similar strategies to ACOs that largely served commercial patients; we similarly found no notable patterns by region, age, or number



of ACO contracts. The approaches did differ along one key dimension: if an ACO is a single, existing organization (e.g., one physician group practice or a single integrated delivery network). Single organization ACOs exclusively pursued practice change approaches to clinical care, whereas ACOs that consist of multiple providers or practices also used overlay approaches.

Despite the similarities in the types of strategies executed across ACOs, it should be noted that specific execution of these strategies varied. For instance, the specific location of patient support personnel varied by patient population. Additionally, as noted above, ACOs without hospitals were forced to pursue different strategies to receiving timely notification of hospitalizations through an insurance verification service whereas ACOs with hospitals were generally working on these notifications within their own system. Nevertheless, the overall strategies (e.g., notifying outpatient physicians of hospitalizations) did not vary dramatically by particular compositional features.

## **Discussion**

Understanding the approaches providers are taking under new payment models is important for researchers and stakeholders interested in accountable care. In this work, we have shown that providers with ACO contracts underway are pursuing a number of strategies aimed at meeting cost and quality benchmarks. Overall, a major difference across ACOs was whether they were approaching cost and quality goals through transforming care in existing practices and care settings, or through overlaying supports and programs relatively independent of practice-based physician care. In addition, we identified four methods ACOs were using to change care: the use of patient support roles, targeted programming, clinical process standardization, and identifying and tracking high need patients. The nature of how these were implemented varied across ACOs, including by whether the ACO was using a practice change approach or an overlay approach. The variety of methods and approaches to changing clinical care mirrors the literature on ACO characteristics and capabilities, which has documented wide variation in ACO leadership, structure, and characteristics (Colla, Lewis, Beaulieu-Jones, & Morden, 2015; Colla, Lewis, Bergquist, & Shortell, 2016; Lewis, Colla, Schoenherr, et al., 2014; Lewis, Colla, Tierney, et al., 2014; Shortell et al., 2014).

The approaches, overlay and practice change, each carry advantages and disadvantages. Overlay approaches may allow for more creative use of care outside practices, such as efforts described above for outreach, and may be more efficient for some ACOs; for example, hosting a single centralized program or clinic may be easier and more cost-effective than instituting many throughout an ACO. However, the overlay approach likely has limits on what it can achieve, as some things that ACOs want to effect will likely be very challenging or impossible to do without some change in practices or the delivery of care.

Again, however, each approach has unique challenges. Overlay strategies require some degree of centralization, as implementing overlay programs require effort outside individual practices and hospitals; additionally, these strategies may be initially



costly, as they typically involve new programs or staffing with no obvious or simple way to divert or repurpose existing staff. In addition, ACOs using overlay approaches must find ways to coordinate overlay efforts with practices. These challenges are similar to challenges faced by insurers or managed care plans providing services to patients coordinating with the physicians providing care (Walsh & Clark, 2002). In contrast, practice-based transformation requires changing existing workflows, roles, and practices; champions hope these efforts have long-term payoff, but in the short term it can be a hefty undertaking to achieve significant organizational change.

We believe that ACOs using either the overlay or the practice change approach may succeed at reaching cost and quality benchmarks. The flexibility of current ACO programs and ambitious but achievable quality and cost benchmarks allow for any number of strategies, and it is likely that ACOs taking a variety of approaches may be successful (Ouayogodé et al., 2016). In the long term, as U.S. health care becomes more efficient and ACO benchmarks are reset based on ACOs' own spending, we expect that ACOs will need to engage in some level of practice-based transformation to achieve goals such as reducing low-value care or changing prescribing patterns among physicians. Ultimately, a hybrid model of pairing practice-based change with overlay programs may be the most successful model if ACOs are able to pull the most effective pieces of centralized and overlay care to wrap around physician practices with efficient and effective care teams.

The approaches taken appear to differ in one key way: ACOs that are a single, existing organization (e.g., one physician group practice or a single integrated delivery network) are exclusively pursuing practice change approaches to clinical care, whereas ACOs that consist of multiple independent providers or practices also use overlay approaches. This may suggest that ACOs that consist of multiple, independent providers face challenges to changing care from within practices, and look to the alternate approach of overlaying new services. The distinct approaches suggest that there are challenges to changing clinical care among ACOs that consist of independent providers, consistent with the emerging literature that shows new partnership ACOs have more limited capabilities on care management and quality improvement and face obstacles such as multiple EHRs more frequently than ACOs that are a single organization (Lewis, Tierney, Colla, & Shortell, 2017).

We anticipate that providers under ACO contracts will continue to develop their capacity to manage population health, and as a result ACOs will grow in new and additional areas. We expect that as ACOs solidify core capabilities, providers may expand their work into additional domains. For example, few of our interviewees were working to systematically reduce low-value care such as discretionary imaging or procedures, although we expect ACOs may increase their focus on this arena (Colla, 2014; Schwartz, Chernew, Landon, & McWilliams, 2015). This mirrors the literature on early ACO programs that found little evidence of change in these domains as a result of ACO programs (Colla, Goodney, et al., 2014). ACOs may begin to work more in this domain in the future.

We anticipate that some ACOs may develop more robust management and organizational strategies on implementation, as well. Though we have focused on the methods

ACOs reported pursuing on clinical care, the implementation of these methods is another important area of study. At the time of interviews, most ACOs were still at a buy-in phase and relied on engaging providers with positive incentives or the vision of the ACO. We encountered few if any instances where an ACO enacted any kind of sanction against providers for not complying. As ACO contracts progress, it will be important to understand if and how ACOs become able to enforce new requirements among participating providers. Without mechanisms to enforce new strategies, some ACOs may struggle to achieve long-term success at cost and quality performance. ACOs may respond to this problem by constricting networks, removing providers or partners who are unable to perform to necessary standards, mirroring the constriction of insurance networks (Polsky, Cidav, & Swanson, 2016; Wong, Kan, Cidav, Nathenson, & Polsky, 2017).

Our work has important limitations. Our results are based on interviews with leadership at 16 ACOs, which are not a statistically generalizable sample. To determine the priorities of the full population of ACOs, we would need to validate our findings with a larger population sample of ACOs. In addition, because we oversampled safety net providers, our sample includes few ACOs who have no safety net component (e.g., a safety hospital, federally qualified health center) or high share of safety net patients. However, our work provides the first in-depth look at strategies ACOs are pursuing, which is not available in most large data sources on ACOs, such as ACO claims or Medicare publicly released data on ACO performance. In addition, our work is focused squarely on the strategies ACOs are pursuing, and not the successful implementation of these strategies. Further work would be needed to understand which ACOs have the most success at implementing their methods throughout the ACO and how this is achieved.

As ACO programs mature, careful thought will be needed on the part of payers, providers, and policy makers about how to continue to refine and develop not only ACO programs but also a next generation of programs related to population health management. While our work demonstrates that ACOs are working diligently to meet cost and quality benchmarks, performance data on Medicare's ACO programs highlights that a small portion of ACOs are successfully achieving savings. Research that can understand not only the strategies ACOs are pursuing but also what strategies and in what contexts ACOs achieve cost and quality goals is needed. Work to facilitate providers building the capacity for success may be necessary to move U.S. health care to the next level of integration, coordination, and high-quality, low-cost care for all patients.

## Appendix

### *Interview Guide*

*Background (Composition and Governance).* Our first set of questions asks generally about your ACO's composition, partnerships, and governance.

1. What types of organizations are participating in your ACO?
2. What was the relationship among the participating organizations prior to the ACO initiative? Did the organizations work together prior to the ACO? What was their relationship?

- IF OLD: What effect has participation in an ACO had on these relationships?
  - IF NEW: Can you describe how these organizations came together to form an ACO?
3. What is the leadership structure of your ACO?
  4. [Last year we learned about \_\_\_\_\_ committees], has the ACO formed any additional committees?
    - Who sits on these committees and what is each committee's role?

Probe about any clinical or quality committees: What is your clinical committee/quality committee currently working on?

*Clinical and Population Priorities (What & Selection).* We are interested in learning about your ACO's priorities, including your clinical process improvements and population management priorities. This includes both the general areas your ACO is focused on and any of the specific processes, initiatives or priorities within those areas.

1. Broadly, what are your ACO's priorities? Alternative: How are you focusing your efforts to improve care?
2. For each of the clinical priorities mentioned probe on: What tactics are you using to work on this priority?

Probe on each if needed:

- If the interviewee has difficulty identifying priority areas, try asking:
  - Do you have any efforts specifically aimed at reducing costs?
- How is your ACO improving quality of care?
  - What quality benchmarks are you trying to reach?
  - What are you doing to reach those?
- Is your ACO currently concentrating on any specific priority populations?
- Is your ACO focusing on any specific diseases?
  - Are there any other areas in particular you are concentrating on? Be sure to get as many specifics as possible—are they focusing on a subtype of this focus
- How did you select these clinical priorities focus on?

Probe on:

- Use of data in selection (if time)
  - Clinician experience?
  - Quality measures?
3. For each area of focus, do you have specific goals or targets in these priority areas? How are you or would you measure success?

4. Which of these priorities do you think will be easiest to work on? Why?
  - o How about most difficult to work on?
5. To what extent do these priorities differ across sites participating in the ACO?
6. What has been the biggest barrier or challenge to selecting clinical priorities?
  - o How might/have you overcome these issues?

### Tactics

1. Previously, we were talking about the big areas of focus for your ACO. In this set of questions, we want to learn more about the specific actions, changes, or tactics you are using to address your priorities.

Probe on each of the following if not mentioned:

- New staff (e.g., care coordination, analytic)
    - a. What is the role of these new staff?
    - b. Are they clinic specific or centrally located?
  - Standardized treatment guidelines or protocols (e.g., treatment of diabetes, when to give certain tests, etc.)
    - a. What diseases or procedures have you created guidelines for?
    - b. How were these created?
    - c. How is compliance monitored?
  - Disease-management programs (e.g., diabetes management)
    - a. What diseases are being focused on?
    - b. How are these programs staffed?
    - c. How do you ensure these protocols are followed in the ACO?
    - d. If changes were needed to these protocols, how would this be done?
  - Cross-organizational disease registries
    - a. Within the ACO
    - b. How about with non-ACO providers?
  - Efforts to identify high-risk patients
  - Team meetings across care settings (e.g., primary care, ED, specialty care)
  - Care transition guidelines
    - a. Which care transitions are being focused on (ED to primary care, primary care to specialty, etc.)?
    - b. Can you describe these guidelines?
    - c. How were these guidelines developed?
    - d. How do you ensure these guidelines are followed in the ACO?
    - e. If changes were needed to these guidelines, how would this be done?
  - Integrated EMR or HIE
    - a. Within your ACO do clinicians use an integrated EMR?
    - b. Do you have other ways of sharing patient data?
2. To what extent are you standardizing tactics across the ACO as opposed to having individual practices implement their own, tailored tactics?
    - o Are you planning to further standardize care in any ways?

3. Of the tactics you've been working on, which have been the most successful? Why?
  - How about the least successful? And why?
4. Are there any additional tactics, personnel, or protocols the ACO has implemented (or plans to implement) to increase the coordination and management of patient care across settings?
5. What has been the biggest barrier or challenge to implementing new tactics?

How might/have you overcome these issues?

### *Big Picture*

1. What one change in the clinic do you think the ACO would most benefit from implementing that hasn't yet been implemented?
  - Why hasn't it been implemented already?
2. How have providers and staff been engaged in the ACO's activities?
  - What types of activities have you tried? What has worked? What hasn't?
3. Are there any additional challenges your ACO is facing that we haven't touched upon?
  - What benefits have you seen from these tactics so far? What do you hope to see?
4. Is there anything we haven't asked you yet that we should have?

### *Codebook*

The following are the final set of codes applied to the full set of interview transcripts. Codes listed with bullets are child codes that are subsets of the broader code they are under. Codes added after initial coding are listed as child codes in "Codes generated from none," reflecting the iterative coding and analytic process taken.

Care delivery and process redesign

- Clinical process standardization
- New team members
- Other
- Provider education

Patient outreach

Patient support personnel

Targeted programming

- Clinics, events, venues
- Condition specific intervention
- Patient-provider interaction models
- Self-management and peer support

### Tracking and identifying patients

- Dashboards
- Registries
- Notification of hospital use
- Patient classification
  - Low tech or Manual chart review
  - No-tech: physician referral
  - Predictive modeling
  - Vague/unclear

None of the above

Codes generated from none:

- Partner organization
- Patient education
- Technology intervention
- Access
- Care transitions
- Nonmedical needs

### Models of care

- Overlay
- Practice transformation
- Unclear
- Not relevant

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### **References**

Berkowitz, S. A., Ishii, L., Schulz, J., & Poffenroth, M. (2016). Academic medical centers forming accountable care organizations and partnering with community providers: The experience of the Johns Hopkins Medicine Alliance for Patients. *Academic Medicine, 91*, 328-332. doi:10.1097/ACM.0000000000000976

- Busch, A. B., Huskamp, H. A., & McWilliams, J. M. (2016). Early efforts by Medicare accountable care organizations have limited effect on mental illness care and management. *Health Affairs (Project Hope)*, *35*, 1247-1256. doi:10.1377/hlthaff.2015.1669
- Colla, C. H. (2014). Swimming against the current—What might work to reduce low-value care? *New England Journal of Medicine*, *371*, 1280-1283. doi:10.1056/NEJMp1404503
- Colla, C. H., Goodney, P. P., Lewis, V. A., Nallamothu, B. K., Gottlieb, D. J., & Meara, E. R. (2014). Implementation of a pilot ACO payment model and the use of discretionary and non-discretionary cardiovascular care. *Circulation*, *130*, 1954-1961. doi:10.1161/CIRCULATIONAHA.114.011470
- Colla, C. H., Lewis, V. A., Beaulieu-Jones, B. R., & Morden, N. E. (2015). Role of pharmacy services in accountable care organizations. *Journal of Managed Care & Specialty Pharmacy*, *21*, 338-344.
- Colla, C. H., Lewis, V. A., Bergquist, S. L., & Shortell, S. M. (2016). Accountability across the continuum: The participation of postacute care providers in accountable care organizations. *Health Services Research*, *51*, 1595-1611. doi:10.1111/1475-6773.12442
- Colla, C. H., Lewis, V. A., Kao, L.-S., O'Malley, A. J., Chang, C.-H., & Fisher, E. S. (2016). Association between Medicare accountable care organization implementation and spending among clinically vulnerable beneficiaries. *JAMA Internal Medicine*, *176*, 1167-1175. doi:10.1001/jamainternmed.2016.2827
- Colla, C. H., Lewis, V. A., Shortell, S. M., & Fisher, E. S. (2014). First National Survey of ACOs finds physicians are playing strong leadership and ownership roles. *Health Affairs (Project Hope)*, *33*, 964-971. doi:10.1377/hlthaff.2013.1463
- D'Aunno, T., Broffman, L., Sparer, M., & Kumar, S. R. (2016). Factors that distinguish high-performing accountable care organizations in the Medicare shared savings program. *Health Services Research*. Advance online publication. doi:10.1111/1475-6773.12642
- Gorbenko, K. O., Frazee, T., & Lewis, V. A. (2016). Redesigning care delivery with patient support personnel: Learning from accountable care organizations. *International Journal of Care Coordination*, *19*(3-4), 73-83. doi:10.1177/2053434516676080
- Hilligoss, B., Song, P. H., & McAlearney, A. S. (2017). Aligning for accountable care: Strategic practices for change in accountable care organizations. *Health Care Management Review*, *42*, 192-202. doi:10.1097/HMR.0000000000000110
- Hsu, J., Price, M., Spirt, J., Vogeli, C., Brand, R., Chernew, M. E., . . . Ferris, T. (2016). Patient population loss at a large pioneer accountable care organization and implications for refining the program. *Health Affairs (Project Hope)*, *35*, 422-430. doi:10.1377/hlthaff.2015.0805
- Hsu, J., Vogeli, C., Price, M., Brand, R., Chernew, M. E., Mohta, N., . . . Ferris, T. G. (2017). Substantial physician turnover and beneficiary “churn” in a large Medicare pioneer ACO. *Health Affairs (Project Hope)*, *36*, 640-648. doi:10.1377/hlthaff.2016.1107
- Lewis, V. A., Colla, C. H., Schoenherr, K. E., Shortell, S. M., & Fisher, E. S. (2014). Innovation in the safety net: Integrating community health centers through accountable care. *Journal of General Internal Medicine*, *29*, 1484-1490. doi:10.1007/s11606-014-2911-0
- Lewis, V. A., Colla, C. H., Tierney, K., Citters, A. D. V., Fisher, E. S., & Meara, E. (2014). Few ACOs pursue innovative models that integrate care for mental illness and substance abuse with primary care. *Health Affairs*, *33*, 1808-1816. doi:10.1377/hlthaff.2014.0353
- Lewis, V. A., Frazee, T., Fisher, E. S., Shortell, S. M., & Colla, C. H. (2017). ACOs serving high proportions of racial and ethnic minorities lag in quality performance. *Health Affairs (Project Hope)*, *36*, 57-66. doi:10.1377/hlthaff.2016.0626

- Lewis, V. A., Schoenherr, K., Frazee, T., & Cunningham, A. (2016). Clinical coordination in accountable care organizations: A qualitative study. *Health Care Management Review*. doi:10.1097/HMR.0000000000000141
- Lewis, V. A., Tierney, K. I., Colla, C. H., & Shortell, S. M. (2017). The new frontier of strategic alliances in health care: New partnerships under accountable care organizations. *Social Science & Medicine*. doi:10.1016/j.socscimed.2017.04.054
- Lustbader, D., Mudra, M., Romano, C., Lukoski, E., Chang, A., Mittelberger, J., . . . Cooper, D. (2016). The impact of a home-based palliative care program in an accountable care organization. *Journal of Palliative Medicine*, 20, 23-28. doi:10.1089/jpm.2016.0265
- McWilliams, J. M., Chernew, M. E., Landon, B. E., & Schwartz, A. L. (2015). Performance differences in year 1 of pioneer accountable care organizations. *New England Journal of Medicine*, 372, 1927-1936. doi:10.1056/NEJMsa1414929
- McWilliams, J. M., Landon, B. E., Chernew, M. E., & Zaslavsky, A. M. (2014). Changes in patients' experiences in Medicare accountable care organizations. *New England Journal of Medicine*, 371, 1715-1724. doi:10.1056/NEJMsa1406552
- Ouayogodé, M. H., Colla, C. H., & Lewis, V. A. (2016). Determinants of success in shared savings programs: An analysis of ACO and market characteristics. *Healthcare*. doi:10.1016/j.hjdsi.2016.08.002
- Phipps-Taylor, M., & Shortell, S. M. (2016). More than money: Motivating physician behavior change in accountable care organizations. *Milbank Quarterly*, 94, 832-861. doi:10.1111/1468-0009.12230
- Polsky, D., Cidav, Z., & Swanson, A. (2016). Marketplace plans with narrow physician networks feature lower monthly premiums than plans with larger networks. *Health Affairs (Project Hope)*, 35, 1842-1848. doi:10.1377/hlthaff.2016.0693
- QSR International Pty Ltd. (2014). NVivo qualitative data analysis software (Version 10). Melbourne, Victoria, Australia.
- Rundall, T. G., Wu, F. M., Lewis, V. A., Schoenherr, K. E., & Shortell, S. M. (2016). Contributions of relational coordination to care management in accountable care organizations: Views of managerial and clinical leaders. *Health Care Management Review*, 41, 88-100. doi:10.1097/HMR.0000000000000064
- Schwartz, A. L., Chernew, M. E., Landon, B. E., & McWilliams, J. M. (2015). Changes in low-value services in Year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine*, 175, 1815-1825. doi:10.1001/jamainternmed.2015.4525
- Shortell, S. M., Wu, F. M., Lewis, V. A., Colla, C. H., & Fisher, E. S. (2014). A taxonomy of accountable care organizations for policy and practice. *Health Services Research*, 49, 1883-1899. doi:10.1111/1475-6773.12234
- Toussaint, J., Milstein, A., & Shortell, S. (2013). How the pioneer ACO model needs to change: Lessons from its best-performing ACO. *JAMA*, 310, 1341-1342. doi:10.1001/jama.2013.279149
- Walsh, E. G., & Clark, W. D. (2002). Managed care and dually eligible beneficiaries: Challenges in coordination. *Health Care Financing Review*, 24(1), 63-82.
- Wong, C. A., Kan, K., Cidav, Z., Nathenson, R., & Polsky, D. (2017). Pediatric and adult physician networks in affordable care act marketplace plans. *Pediatrics*. doi:10.1542/peds.2016-3117
- Wright, W. L. (2017). New Hampshire nurse practitioners take the lead in forming an accountable care organization. *Nursing Administration Quarterly*, 41, 39-47. doi:10.1097/NAQ.0000000000000205