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Contributions of Relational Coordination to Care Management in ACOs: Views of Managerial and Clinical Leaders

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Abstract

Background—The accountable care organization (ACO) is a new type of health care organization incentivized to improve quality of care, improve population health, and reduce the total cost of care. An ACO's success in meeting these objectives will depend greatly upon its ability to improve patient care management. Numerous studies have found relational coordination to be positively associated with key measures of organizational performance in health care organizations, including quality and efficiency.

Purpose—The purpose of this paper is twofold: (1) identify the extent to which ACO leaders are aware of the dimensions of relational coordination, and (2) identify the ways these leaders believe the dimensions influenced care management practices in their organization.

Methodology/Approach—We performed content analysis of interviews with managerial and clinical leaders from a diverse group of 11 ACOs to assess awareness of relational coordination and identify the ways that dimensions of relational coordination were perceived to influence development of care management practices.

Findings—ACO leaders mentioned four relational coordination dimensions: shared goals, frequency of communication, timeliness of communication, and problem solving communication.

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Three dimensions – shared knowledge of team members' tasks, mutual respect, and accuracy of communication – were not mentioned. Our analysis identified numerous ways leaders believed the four mentioned dimensions contributed to the development of care management, including contributions to standardization of care, patient engagement, coordination of care, and care planning.

Discussion—We propose two hypotheses for future research on relational coordination and care management.

Practice Implications—If relational coordination is to have a beneficial influence on ACO performance, organizational leaders must become more aware of relational coordination and its various dimensions and become cognizant of relational coordination's influence on care management in their ACO. We suggest a number of means by which ACO leaders could become more aware of relational coordination and its potential effects.

Keywords

Accountable Care Organizations/organization & administration; Relational Coordination; Cooperative Behavior; Organization and Administration/coordination, administrative; Patient Care Management; Delivery of Health Care/organization and administration; Continuity of Patient Care; Leadership

Introduction

The accountable care organization (ACO) is a new health care delivery model being rapidly implemented throughout the United States with the goals of reducing health care costs and improving health care quality (Lewis, Colla, Carluzzo, Kler, & Fisher, 2013). Several definitions of ACOs have been advanced (Shortell & Casalino, 2008; Fisher et al., 2009; McClellan, McKethan, Lewis, Roski, & Fisher, 2010), and they largely agree on the core concepts described by Muhlestein (2014, p.1): "An ACO is a group of health care providers that agree to oversee the provision of health care services to a defined population with responsibility to reach certain quality benchmarks and some financial responsibility for the total cost of care for the population." In 2012, the Centers for Medicare & Medicaid Services (CMS) established two types of Medicare ACOs – the Medicare Shared Savings Program (MSSP) and the Pioneer ACO Model – which differ primarily in how much financial risk the ACO may accept and how well developed are the ACO's care management capabilities. Private health plans also contract with providers to create commercial ACOs and several states have begun or are planning Medicaid ACO programs (Lewis, Colla, Carluzzo, Kler & Fisher, 2013; Larson et al., 2012; McGinnis and Small, 2012; Peterson, Gardner, Tu, & Muhlestein, 2014). The number of ACOs is growing rapidly. In June 2014 Leavitt Partners estimated that there were 626 commercial and government sponsored ACOs nationwide, nearly three times the number from June 2012, and these organizations cover over 20 million lives (Peterson, Gardner, Tu, & Muhlestein, 2014).

Proponents of the ACO model believe that it will encourage lower cost, higher quality, and better coordinated care through a variety of potential mechanisms, including redesign of patient care management processes (Shortell & Casalino, 2008; Fisher, Shortell, Kreindler, Van Citters & Larson, 2012; Berwick, 2011). Building on work by Mechanic (2004),

Bodenheimer & Berry-Millet (2009) define care management as “a set of activities designed to assist patients and their support systems in managing medical conditions and related psychosocial problems more effectively, with the aim of improving patients’ health status and reducing the need for medical services. The goals of care management are to improve patients’ functional status, enhance coordination of care, eliminate duplication of services, and reduce the need for expensive services.” For example, an ACO may encourage better coordination between inpatient and outpatient care to reduce costly readmissions; increase communication across providers to reduce duplicative tests or imaging; provide innovative care not reimbursed under traditional fee-for-service, such as e-visits or managing patients by phone or email; institute chronic disease management programs to improve the health of patients with heart disease, diabetes, hypertension, asthma, depression and other chronic conditions; or create new organizational roles such as patient navigators, or care coordinators that help patients and providers navigate care across settings and organizations (Larson, et al., 2012; McGinnis & Small, 2012). However, critics of the ACO model have suggested that the complex tasks required to improve care management will be too difficult for most US health care providers who have long operated in siloed systems of care under fee-for-service reimbursement (Burns & Pauly, 2012).

There is no doubt that ACOs face great challenges. If ACOs are to redesign health care delivery for their patients, they will need to implement changes that affect a large number of health care providers and organizations. For example, many of the mechanisms identified above involve improving the coordination of complex work tasks among multiple physicians and other health care and community support providers caring for a patient, including primary care physicians and specialists, as well as other stakeholders such as local hospitals, skilled nursing facilities, and behavioral health providers.

Many different theoretical approaches to improving organizational coordination could be usefully applied to ACO activities. However, a substantial body of research on relational coordination (RC) conducted over more than a decade indicates that relational coordination is consistently and significantly associated with organizational performance in the health sector (Gittell, 2009). As we describe in greater detail below, RC is a mutually reinforcing process of communicating and relating for the purpose of task integration (Gittell, 2002). Relational coordination theory argues that relationships of shared goals, shared knowledge and mutual respect support high quality communication (and vice versa) through which effective coordination occurs (Gittell, 2006). While RC can be influenced by individual factors, organizations can also influence RC through design features, such as shared information systems and boundary spanning roles, and organizational practices, such as training in teamwork and selection of people to fill supervisory and leadership roles. The theory predicts that RC will influence a range of performance outcomes, including quality, efficiency and financial outcomes. These are precisely the organizational performance outcomes on which ACOs must do well in order to succeed, and there is emerging evidence indicating that, indeed, relational coordination is positively associated with these outcomes.

With respect to quality of care in health care organizations, relational coordination has been associated with enhanced patient-reported outcomes (Gittell et al., 2000) as well as less frequent medication errors, fewer hospital acquired infections and fewer patient falls as rated

by nurses (Haven, Vasey, Gittell and Lin, 2010). Relational coordination among nurses in inpatient settings has also been found to be positively associated with nurse-rated quality of care (McIntosh et al., 2014). Other studies have also generally found positive associations between RC and quality of care (Cramm, & Nieboer, 2012; Noel, Lanham, Palmer, Leykhum, & Parchman, 2013; Hartgerink, et al., 2012). For studies exploring relationships between RC and efficiency or financial performance, most have found that RC was associated with more efficient use of resources as well as improved financial performance, although the evidence regarding length of stay is mixed (Gittell, et al., 2000; Brewer, 2006).

This review of the research on the relationships among RC and quality, efficiency and financial outcomes in health care organizations suggests that RC may provide a useful set of concepts to facilitate the organizational design and patient care process reforms needed to help ACOs meet their quality and financial performance targets. But we do not know the extent to which RC exists in these new ACO organizations or its effects, if any, on ACO performance. We begin to address these questions with interview data from clinical and managerial leaders in a diverse, cross-sectional sample of 11 ACOs. Our study's purpose is twofold: (1) to identify the extent to which ACO managerial and clinical leaders are aware of the dimensions of RC , and (2) identify the ways (if any) that these leaders believe the RC dimensions influenced care management practices in their organization.

Our focus on the beliefs of clinical and managerial leaders is motivated by theoretical arguments in RC theory itself that suggest that supervisory and leadership roles are important organizational structures that may facilitate or retard the development of RC within an organization (Gittell, Edmondson and Schein, 2014). This argument is supported by other contemporary organizational theories. For example, relational leadership theory (a distinct theory from RC theory) argues that leadership is a social influence process through which coordination and change are constructed and produced (Uhl-Bien, 2006). Similarly, collective leadership theory argues that in pluralist settings characterized by diverse power and divergent objectives a collective leadership group in which members play complimentary roles is critical in achieving change (Denis, Lamothe and Langley, 2001). The notion that multiple leaders must play roles in effecting organizational change is also embedded in the theory of distributed leadership, which draws attention to iterative relations between leaders and followers (Currie and Lockett, 2011). In all the above theories of leadership and organizational change, leaders' awareness of organizational dynamics is crucial to their ability to influence those dynamics. These theoretical arguments are consistent with research on physician organizations that indicates that strong leadership support is an important facilitator of the use of chronic care management processes (Bodenheimer, et al., 2004). Hence, we seek to understand the extent to which clinical and managerial leaders in our sample of ACOs exhibit awareness of the various dimensions of RC and any effects these dimensions may have on care management practices under the presumption that awareness of RC and its effects are preconditions to influencing the organization to enact structures and processes to increase relational coordination. In the following section we elaborate on care management and RC, describing the various dimensions of these broad constructs.

Theory/Conceptual Framework

Care Management

Care management is an evolving concept that refers to a number of evidence-based, integrated clinical care activities that are tailored to the individual patient and ensure each patient has his or her own coordinated plan of care (Bodenheimer & Berry-Millet, 2009; Wagner, Austin, & Von Korff, 1996; Gupta & Bodenheimer, 2013). Key components of care management include: (1) work process redesign, (2) population management, and (3) data analytics and infrastructure supports. Work process redesign refers to deliberate changes in workflows and staff responsibilities aimed at improving the delivery of healthcare services, staff productivity, and patient satisfaction. For example, some ACOs are redesigning work processes to implement same day scheduling and after-hours call lines in the hopes that these services will reduce avoidable emergency department utilization. Population management refers to an organization's ability to identify patients with specific clinical conditions or characteristics for whom the organization can focus targeted prevention and early treatment efforts (e.g., through disease registries). Successful implementation of work process redesign and population management often depends heavily on data analytics and infrastructure supports, including electronic health records and reporting systems, clinical decision support, and coordination tools such as health information exchanges and patient portals (Bodenheimer & Berry-Millet, 2009).

In addition to these practice-based capabilities, care management is enabled by a number of activities specific to an individual patient. These include assessing the patient's risks and needs; developing individualized care plans; educating the patient, family members, friends and others supporting the patient about their disease(s); coaching the patient and family members on how to respond to symptoms; tracking how the patient is doing over time; engaging the patient in his/her own care; and coordinating services across settings of care (Bodenheimer & Berry-Millet, 2009).

Overall, the existing evidence suggests that efforts to improve the effectiveness of care management in the primary care setting could improve ACO performance (Bodenheimer and Berry-Millet, 2009). However, these types of complicated organizational and practice changes require a high degree of communication and coordination among the participants involved. New ways of thinking about patient care responsibilities and roles, sites of care, and the use of organizational resources must be embedded throughout the organization, including patients, front line caregivers, the clinical leadership, and the executive leadership teams. Importantly, many of the tasks described above are interdependent in the sense that information about the performance of one task, such as achieving agreement on a plan to treat patients in the least costly appropriate site of care, creates new information for participants performing a related task, such as triaging patients in a hospital emergency room. An even more complicated example is the care management of patients with chronic conditions such as diabetes and heart disease, which depends upon identification of diabetic/heart disease patients in the ACO's defined population; implementation of new care processes and work flows by physicians, nurses, and others involved in the programs; communication and coordination of care services among members of the patient care team;

and active engagement of patients in the maintenance of their own health. Work environments with such interdependencies and time constraints are the settings in which analysts believe relational coordination is especially helpful in coordinating activities (Gittel, 2006).

Relational Coordination

Effective organizations require both formal coordinating mechanisms and more spontaneous forms of coordination known as “mutual adjustment” (Thompson, 2003; Gittell, Seidner, & Wimbush, 2010). As work processes increasingly create and feed back new information for participants performing related tasks, formal coordinating mechanisms such as supervision, routines, scheduling, pre-planning, or standardization become less effective due to their limited information processing capacity (Galbraith, 2007; Van de Ven, Delbecq, & Koenig, 1976; Tushman & Nadler 1978; Argote, 1982). Interactions and relationships among participants become increasingly important for coordinating work and, thereby, improving performance. This more spontaneous form of coordination, referred to as *relational coordination*, is defined as “a mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration” (Gittell, 2002).

The theory of RC as developed by Gittell and others proposes three specific dimensions of work relationships that are needed for effective coordination: *shared knowledge or understandings, shared goals, and mutual respect*. In addition, four dimensions of communication important to RC include the *frequency, timeliness, accuracy and problem-solving nature of communication among organizational participants*. Together these relationship and communication dimensions provide the basis for coordinated collective action (Gittell, 2006; Gittell, et al., 2010).

Shared knowledge or understandings refers to participants having a high degree of shared knowledge regarding each other’s tasks (Gittell et al., 2010). When participants understand how their tasks fit together with the tasks of others in the same work process, they have a context for knowing who will be impacted by any given change and they can promptly communicate with who needs to know about an unexpected change in the work being done.

Shared goals refer to when participants have a high level of shared goals for the work process in which they are engaged (Gittell et al., 2010). Having shared goals supports a bond among participants and makes it easier for them to comprehend the meaning of new information as it becomes available and to develop mutually acceptable responses that will enable the work being done to continue to contribute to the shared goals.

Finally, effective coordination depends upon participants having *mutual respect* for other participants in the same work process. Disrespect can cause division and a breakdown in communication among participants. When members of distinct occupations are engaged in a common work process, there is the potential for these divisive relationships to undermine coordination. In contrast, respect for the competence of others creates a strong bond among participants and supports the effective coordination of highly interdependent work (Gittell et al., 2010).

Additionally, four dimensions of communication are important for effective coordination of difficult tasks (Gittell et al., 2010). *Frequent communication* helps build relationships through the familiarity that develops as a result of frequent interaction, and these relationships support the relational dimensions discussed above. *Timely communication* is crucial in coordinating complicated work. In particular, delayed communication may result in a harmful delay in decision making or in the provision of services, or errors when services are provided in the absence of full, current information. *Accurate communication* decreases the likelihood of mistakes and delays in complicated work. Finally, *problem-solving communication* typically requires the integration of knowledge and experience from people with differing perspectives on the problem, different disciplinary backgrounds, work experiences, and organizational knowledge bases. When communication among participants is focused on solving problems, the likelihood of resolving the problem increases, and the value that members of the organization bring to the work setting is made more evident.

In this paper we are particularly interested in ACO leaders' awareness of these dimensions of RC – of both work relationships and communication – as well as their influence on care management in ACOs. Since RC may cut across units of an ACO, and even involve people working at different levels of the organization – frontline workers, clinical leadership and executive leadership, for example – efforts to understand the specific ways in which RC influences care management must take a broad organizational view.

Methods

In this paper, we perform content analysis of interviews with ACO organizational and clinical leaders who have a broad understanding of their organization to identify ways in which these leaders believe RC influences their organization's efforts to strengthen patient care management (Krippendorff, 1980). These interviews were conducted as part of the larger National Survey of Accountable Care Organizations (Colla, Lewis, Shortell, & Fisher, 2014) for the purpose of understanding ACOs' organizational structure, partner relationships, use of health information technology, patient care management, and related issues.

This research received institutional review board approval from Dartmouth College and the University of California, Berkeley.

Sample

Because of resource constraints, the analysis is limited to interviews with leaders at a cross-sectional sample of 11 ACOs. From a universe of 173 ACOs that responded to the 2012–13 National Survey of Accountable Care Organizations, we purposively selected 11 ACOs designed to insure variation across the following criteria: type of organization (hospital- or physician- led), type of payer (Medicare or commercial insurer), Medicare program type (MSSP or Pioneer ACO), size (number of covered patients/beneficiaries) and geographic location (see Table 1). These criteria were selected because they are of great interest to policymakers and providers (Larson et al., 2012; Fisher, Shortell, Kreindler, Van Citters, & Larson, 2012), and they are important dimensions upon which ACOs differ.

We identified the clinical and administrative leaders of these diverse organizations and conducted interviews with 20 leaders of the 11 ACOs in their first year of implementation. The number of people interviewed at each ACO varied with the number and availability of the members of the organization's leadership team who were knowledgeable about our research questions. Across the ACO sites, there were one to four interviewees. The interviewees held various types of leadership positions in their respective organizations, including chief executive officer; executive medical director; senior vice president, physician services; executive director, accountable care programs; vice president, managed care; and medical director, care management.

Interviews

The interviews were conducted between December 2012 and February 2013. Based on earlier formative research and discussion among the study team (Larson et al., 2012), we developed an interview guide that covers the range of topics listed in Table 2, including the ACO's development of care management policies and practices. To avoid "leading the respondent," the participants were not asked directly about RC or any of its dimensions. But, they were asked detailed questions about their care management practices and policies and the barriers and facilitators to the improvement of their ACO's care management, and their responses to these questions provided the qualitative data for our analysis. Interviews lasted between 45 and 60 minutes. With the permission of the participants, the interviews were recorded. All interviews were conducted by one of two interviewers, and one other team member took notes. Member checks on the accuracy of the information in the transcripts were performed. The transcripts were sent to the interviewees for review of factual information, and they were provided an opportunity to correct any errors.

Coding and Analysis

The interview transcripts were coded with Atlas.ti software to identify respondents' mentions of any of the seven dimensions of RC and care management. Each mention of a RC dimension in a participant's responses to these questions was coded, and a sub-code was assigned to indicate whether the dimension was mentioned in the context of frontline, clinical leadership or executive relationships and work processes. Many of the mentions involved both the clinical leadership and executive levels of the ACO, and it proved difficult to uniquely categorize them. Hence, for our analysis the clinical leadership and executive levels were combined. Similarly, codes were assigned to mentions of care management generally and to mentions of specific dimensions of care management, including care transitions, care coordination, care coordination with a navigator, care process redesign and patient engagement. Ten of the eleven interviews were coded by two members of the research team working together to code the transcripts, discussing and resolving any differences of opinion regarding the assignment of a code as the coding progressed. In spite of the consistency achieved through this two-person team approach to coding, we performed a check on the consistency of the coding by the two coders. The two coders independently coded one interview, with 81% agreement on assigned codes. The codes for this test interview were then discussed and the discrepancies were resolved.

In analyzing the data, we conducted proximity analysis, identifying text passages that contained codes representing mentions of any of the dimensions of RC and any of the dimensions of care management. We examined these co-occurrences to understand the interviewees' perceptions of how (if at all) RC influenced the ACO's efforts to improve care management, aggregating similar mentions to create clusters of commonly perceived relationships between dimensions of RC and care management, referred to below as "themes".

Copies of the interview guide, the list of codes and the code definitions may be obtained from the corresponding author. Below, we present the findings identified by our analysis and use quotes from the interviews to illustrate the perceived effects of RC on care management. We anonymized our respondent ACOs with a letter (ACO A through ACO K), and for each quote we identify the site to give the reader a sense of the diversity of evidence.

Findings

Our analysis of the co-occurrences of the dimensions of RC and care management revealed six themes that received particular comment by our respondents.

1. Shared Goals at the Clinical Leadership/Executive Level: Building Relationships and Standardizing Care

Shared goals was the only one of three dimensions related to work relationships frequently mentioned in our interviews. Respondents generally viewed shared goals as being critical to ACOs, particularly as the source of motivation for participants to collaborate. For example, many respondents indicated that their affiliated hospitals were collaborating with physicians and ACO leaders to redesign care processes in spite of the threat to hospitals' inpatient volume because they shared other ACO goals, such as improving care processes and controlling costs of care. Similarly, shared goals helped ACO leaders forge new collaborations with commercial health plan partners in case management, and to work toward a joint goal of improving patient care. One leader of an ACO that included physicians with little previous cost control experience (ACO K) described how the ACO's shared goals were used to cultivate a collaborative relationship with sub-specialist physicians: "…we are reaching out to subspecialists to say we are participating in an ACO. 'We want to partner with you in managing our patients, but we need you to understand that we're responsible for the cost of care that's delivered regardless of who or where that's provided. And if you are willing to discuss this with us and work [with] us on this goal, which is not above and beyond but is hand in hand with quality of care, then we have the basis for an ongoing relationship.'"

In a similar vein, an individual from ACO A commented: "I think one of the most important aspects of our participation in the Pioneer ACO has been bringing together the [medical] groups in a way that we haven't done before to develop these kinds of shared standards and collaborations. Prior to, frankly, this past year…there wasn't the sense that we needed to move to more of a system of care, rather than just being a group of groups, and so I would say that the whole piece around collaborative working together has really taken off exponentially in the past year and a half."

Another way of expressing the importance of shared goals to care management, was found in the comments of a couple of ACO leaders who described their ACO's goals not as ends in themselves, but rather as means to other benefits. In particular, one respondent from a provider system with experience in quality improvement programs (ACO I) commented on how their ACO's goals increased organizational activities to accelerate improvement on various measures of quality: "I think we are really focused on quality, efficiency, and our outcomes. And we were always a good organization before, but I think this has taken us to a whole other level."

From our interviews, it appears that relationship building through shared goals enhanced the ability of all types of ACOs to implement care management activities and in some cases to motivate physicians and hospital leaders to participate in existing care management programs, thereby enhancing the ACO's ability to meet its quality and cost reduction goals.

2. Frequency of Communication at the Frontline: Improving Care Transitions and Patient Engagement

Several leaders reported more frequent communication at the frontline of care after the formation of their ACO. Most comments noted that the ACO stimulated increased communication in the context of improving care transitions and patient engagement. One respondent (ACO D) noted increased communication with patients to improve post-discharge health outcomes and avoid unnecessary readmissions: "If a CHF patient is discharged, the care coordinator should call them every day for some period of time to check their weight every day to see that it's maintaining, that kind of thing. So we are doing that in terms of patient engagement. So for the patient engagement, the things that are different for us is reaching out to the patient, whereas before we mainly waited for them to reach out to us." Other respondents described in-person nurse visits at patients' homes to review medications and discharge plans. The same respondent from ACO D illustrated the use of patient portals to educate patients and alert patients to overdue health services such as health maintenance screenings: "… there are alerts in My Chart [a patient portal available in a widely used electronic health record]. If you haven't had something done, and based upon your age or whatever it appears you ought to have it, you will receive an alert in My Chart telling you that you should have it. That would be things like colonoscopies after you're 50, mammograms every two years, and those types of things. So we reach out in that way."

These examples illustrate an increase in touch points to patients, whether it is a letter, telephone call from a care coordinator, nurse home visit, or message through the electronic patient portal. These different modes of communication were proactive on the part of the ACOs and increased the frequency of communications with patients as compared to the old model of care. While still in the early phase of ACO development, our interviewees recognized the importance of frequent communication in improving care transitions and engaging patients to be partners in their own care.

3. Frequency of Communication at the Clinical Leadership/Executive Level: Sharing Information and Establishing ACO Teams

The partnerships across the ACO member organizations, particularly within provider organizations with little history of inter-organizational collaboration, were facilitated by frequent communication among clinical and executive leaders. For example, several respondents noted the value of establishing regular meetings with payer partners to share progress and identify issues. For those earlier in the ACO development process, these meetings were focused on data sharing technicalities such as data formats and quality; for those with more established working relationships, the conversations concerned clinical benchmarks and improvement activities. Communication occurred through meetings of workgroups, committees, and disease collaboratives, and often involved discussions about performance expectations and establishing a team-based approach to patient care. One respondent (ACO C) explained: "…the PCP [primary care physician] offices that we work with are across a large [geographic] area. And so we have gone out and met with all the offices, introduced what the [ACO] team does, how the team works in support of the PCP office and their staff and patients. And now it's been embraced to the point that providers, nursing staff, front office staff are sending referrals to the team regarding issues they are seeing for their patients. They are excited to have this kind of care coordination. They are embracing it. They view it as an opportunity to provide better patient care…"

4. Timeliness of Communication at the Clinical Leadership/Executive Level: Improving Coordination Across Providers

Most of the comments about timeliness of communication at the clinical leadership or executive level focused on the important role timely communication plays in improving coordination of patient care across providers. Timely information from payers and hospitals was identified as critical to having a comprehensive picture of patient care and improving coordination of care. For example, one respondent from a health system (ACO A) commented: "… with our preferred hospitals we've asked them to set up systems so that [our] patients can be identified within the hospitals by the hospital system, that they notify us when patients are seen in the emergency room, that when the patients are admitted or discharged they get discharge summaries in a timely manner." In this case, though these hospital partners are not formally involved in the ACO, processes have been set up in each hospital so that the ACO can be notified when one of its patients presents in the hospital's emergency room, allowing the ACO's physicians to provide follow up to these patients to insure that future health care services are well coordinated, possibly enabling the patient to avoid a future emergency room visit.

In our interviews timeliness of communication was not as salient at the frontline level. This may have been due to the fact that we only interviewed ACO leaders who were slightly removed from communication issues at the front line, or perhaps we asked questions that did not motivate comments at this particular level of relational coordination. Still, many respondents we spoke to underscored the need for timely access to information at higher levels in order to understand the health conditions and patterns of service utilization of their defined population and to improve coordination of care services to help patients manage better their conditions and minimize unnecessary or avoidable use of expensive care.

5. Problem-solving Communication at the Frontline: Improving Care Plans and Helping Patients Live Healthier Lifestyles

Problem-solving communication was often linked to efforts to improve care plans and to help patients achieve more healthy lifestyles, thereby reducing hospital visits or readmissions. We found striking examples of ACOs developing infrastructure in order to enhance problem-solving communication among care teams with the intention of improving patient care. One ACO (ACO E) implemented routine meetings where an entire care management team huddled in half hour sessions to identify and discuss appropriate action for high-risk patients. This delivery innovation was specifically designed for Pioneer ACO patients:

> "[Our care management team includes] a social worker, pharmacist and then potentially also consultants for intensive case management. You'd be around a table in a room, you'd have an Excel spreadsheet up on the board with a list of patients and you'd have the primary care doc actually plug their laptop in and pull up our electronic medical record, EPIC, so that they could be kind of simultaneously accessing the patient's record and saying 'ok, you're saying the patient's high risk. I want to see when was the last time I saw them' … and then the next one's like 'oh look, they haven't been in for more than a year and they need checkups in the following areas. Let's have the care coordinator call them and get them scheduled for an appointment'… So it was really critical in those meetings not only to have the whole team around the table but to have that sort of physician coach who knew the score, who knew what we were trying to do, what we were trying to accomplish that could kind of lead the primary care physician through it."

This ACO understood that the care pathways for its most complex patients were often not obvious nor straightforward and required input from several care providers. It used cross-functional meetings to communicate with all members of the care team, try to understand patient needs, and devise a plan for care. Another ACO leader (ACO I) described their use of case managers to improve care for high-risk patients. Their approach is characterized by enhanced relationships and problem solving interactions between case managers and physicians:

> "We have 109 embedded case managers… And so what the care managers are doing is sitting down with the physicians, identifying these higher acuity patients. A good example: diabetic, congestive heart failure, chronic illness type of patients. And working with the physician and the office staff to say, 'if you could introduce me the next time this patient comes in, I'll sit down with this patient, and I will be an extra set of eyes and ears, and I will work to make sure this patient continues to follow the direction doctor that you have provided.'"

Finally, one ACO leader (ACO C) described problem-solving communications that occurred directly with patients: "We also work with [patients] in identifying what those barriers are. So it could be housing. It could be power. It could be food. It could be transportation. And we find those resources that we can tap, then work with the patient. So if they need gas for their car, we'll give them a gas card. Or maybe we'll give them a bus ticket. It's whatever we can. The patient identifies to us what the barrier is, and then we go and try to resolve that

barrier so that we can get them into the office to start increasing that healthy lifestyle." Understanding that sometimes very basic housing or transportation needs prevent patients from living a healthy lifestyle or receiving needed care, the clinicians at ACO C communicate directly with patients to overcome such barriers.

6. Problem-solving Communication at the Clinical Leadership/Executive Level: Leveraging Resources and Data to Identify High-Utilizing Patients

The individuals we interviewed also spoke of problem-solving communication at higher levels of their ACO organizations. Several respondents discussed working with a payer to identify high-risk patients and develop effective care management strategies for specific patients. For example, one respondent (ACO C) describes how their ACO communicates with their health plan partners to identify high utilizing patients and develop collaborative efforts to improve the health of these patients:

> "We have regular monthly meetings with our health plans that we participate on ACOs. And part of those conversations we recognize that they have some pretty extensive resources in place for identifying higher risk members and some intervention on those members. They have case managers, RNs, reports. They have information about these members visiting other EDs, information about care that's happening that's outside of our system. And we had just recently recognized the need to have additional direct meetings specific to UM [Utilization Management] case management and [are] starting to talk. And so essentially [we] get our UM manager in contact with their UM people and start discussing … specific members that need intervention and how we can utilize each other's resources so that we're not duplicating each other's resources."

In this instance, problem-solving communication between a payer and an ACO included discussions of reducing utilization of services by developing activities that improve the health of high utilizing patients, and developing these activities in a coordinated way in order to avoid duplication of effort. While the comments mostly reflected awareness of increased problem-solving communication between providers and health plans since the development of the ACO, in one instance (ACO J) one frustrated interviewee reminds us that not all ACOs have an appropriate level of problem-solving communication with their health plan: "So analytically, you would expect we're a provider, they are a plan. They have much more in the way of analytics, actuarials. We would expect detailed analytics of quality dashboards. We just got our first quarter results, and there are irregularities in the results, things that we would want to know about. We have to notice them, ask them to drill into those. Tell us what's going on, and that will take them weeks to figure that out. I've designed all the utilization dashboards for this program. None of that came from the payer. It's just really lacking in terms of hey guys, we're admonishing you… we've noticed this, we've looked into it. Here's the drill down. Here's some actionable analytics that you could use to structure your medical programs. None of that happens." Here the respondent is clearly calling for more problem-solving communication from the ACO's health plan, particularly in the form of shared analyses to identify utilization patterns and analytics to assess quality of care.

The findings presented above are summarized in Table 3, which reveals that ACO leaders expressed four of seven dimensions of RC – shared goals, frequency of communication, timeliness of communication, and problem-solving communication – as positively influencing their efforts to develop or expand patient care management activities. Some of these perceived effects were nuanced depending on whether a particular dimension was being considered at the frontline or clinical leadership/executive level of the organization. Three dimensions of RC – shared knowledge of team members' tasks, mutual respect, and accuracy of communication - were not mentioned frequently in relation to care management.

Discussion

With respect to our first research purpose, identifying the extent to which ACO managerial and clinical leaders are aware of the dimensions of RC , we found that RC , while intuitive in many ways, is not yet a widespread management strategy. Not all of the seven RC dimensions were "top of mind" among ACO leaders. Table 3 reveals that in the context of care management the ACO leaders we interviewed only mentioned four of the seven dimensions of RC : shared goals, frequency of communication, timeliness of communication, and problem solving communication. At this level of the organization, shared knowledge of team members' tasks, mutual respect, and accuracy of communication seem to be of little salience with respect to care management.

We also found that the number of dimensions of RC mentioned differed depending on whether the ACO leader was focusing on the clinical leadership/executive or frontline level of care management work. At the clinical leadership/executive level, our interviewees mentioned all four of the dimensions of RC identified above, while the interviewees only mentioned two RC dimensions, frequency of communication and problem solving communication, at the frontline level of care management work. The broad scope of care management tasks at the clinical leadership/executive level, which includes activities to coordinate with partner organizations as well as to provide patient care, may explain this greater awareness of shared goals and timeliness of communication at this level.

With respect to our second research purpose, identifying the ways that ACO leaders believe the RC dimensions influenced care management practices in their organization, we found that ACO leaders identified one or more specific care management activities that they believed were influenced by each of the four dimensions of. As indicated in Table 3, ACO leaders believed that having shared goals was important to building positive relationships among the hospital, physician, and payer partners, and these relationships, in turn, facilitated patient care coordination. ACO leaders also believed that increased frequency of communication helped improve the sharing of information and the development of performance standards across ACO workgroups; increased timeliness of communication improved coordination through information sharing, particularly across different providers; and problem-solving communication was used to also improve coordination of care and to leverage partner organizational resources such as data bases and outreach capabilities. They noted that a greater frequency of communication was used by physicians, nurses and others to improve care transitions and to get patients more engaged in their own care, and problem-solving communication was cited as central to the development and on-going modification

of patient care plans. Although RC theory assumes the mutually reinforcing effects of all seven relational coordination dimensions must be present for relational coordination to influence organizational performance, these findings suggest a hypothesis indicating that certain dimensions of RC also have beneficial effects on care management: the greater leaders' belief in the importance of shared goals, frequency of communication, timeliness of communication, and problem solving communication, the greater the degree of care management processes that are implemented.

As one might expect, there were also differences in leaders' perceptions of the nature of the influence of RC on care management depending on whether the ACO was formed by a health system with a good deal of experience in risk-based contracts, health information systems and care management activities. In health systems with considerable experience in these areas RC was often noted as contributing to the improvement and expansion of existing care management activities, while in less experienced health systems some dimensions of RC, shared goals and frequency of communication at the clinical and executive leadership level in particular, were noted as helpful in establishing cooperative working relationships that enabled the creation and dissemination of care management programs. These findings suggest a second hypothesis: the relationship between RC dimensions and care management processes will be mediated by the organization's prior experience with risk-based contracting and related payment models.

Practice Implications

Leaders' awareness of organizational dynamics is crucial to their ability to influence those dynamics. Our findings suggest that if RC is to have a beneficial influence on ACO performance, organizational leaders must become more aware of RC and its various dimensions and become cognizant of the influence (or lack thereof) of RC on care management in their ACO. Although traditional leadership training programs, executive development, and other educational experiences can play important roles in creating awareness of RC , there are some specific resources and policy proposals to speed this process. Relational coordination learning collaboratives provide opportunities to learn about the theory and its underlying concepts, tools to assess the strength of RC within organizations, and opportunities for organizations to share learnings from their efforts to improve RC. Further, assessments of leaders' activities to enhance RC could be built into the ACO's human resources policies and practices in regard to initial hiring, job orientation and ongoing performance appraisal. Additionally, financial incentives have been proposed as a way to focus ACO leaders on coordination, and by extension on the development of RC. Korda and Eldridge (2011), for example, suggest including all members of the ACO's interdisciplinary care team in the distribution of shared savings and other rewards achieved by meeting quality and cost targets. This suggestion emphasizes the importance of involving not just leaders and other boundary spanner roles, but all clinical and managerial roles in developing RC . Too much reliance on boundary spanners to achieve coordination may, in fact, hinder the development of relational coordination among other members of the team.

We believe that multifaceted efforts to build RC may well be important to the future success of ACOs. Even the most mature ACOs, such as the Pioneer ACOs, are working hard to

address the challenges of improving the quality of care and improving population health while reducing costs. It is sobering to note that while meeting quality targets only 13 of the initial 32 Pioneer ACOs reduced costs sufficiently in their first performance assessment year to share in savings with CMS. Clearly, one year's results should not be seen as a definitive test of such a complicated policy initiative, but these results suggest that ACOs have a lot of work to do to change the way patient care is organized and delivered and invite further discussion and practice-based research focused on assessing the positive effects RC may have on efforts to improve care management.

Study Limitations

There are a number of limitations to our study. Our sample of sites was restricted to 11 ACOs, so the findings cannot be generalized to the broader population of ACOs. However, our findings do provide some foundational knowledge about relational coordination in ACOs. We purposely selected a sample diverse across many characteristics, and the ACO leaders we interviewed reported that several RC dimensions facilitated the development or expansion of care management infrastructure, relationships, and capabilities. Our sample of interviewees at each organization did not include members at middle management or frontline levels. Relational coordination within an ACO occurs at multiple organizational levels and may often cut across levels, which we do not fully account for through our interviews at the senior management level. The salience of relational coordination to leaders may reflect their role within the organization as well as other aspects of their organization's model and culture. Finally, we intentionally did not ask our respondents directly about relational coordination within their organizations. As a result of not directly asking about relational coordination, respondents may not have been cued to discuss all aspects or domains of relational coordination within their organization. However, we also consider this a strength of the study; we are able to identify and report on dimensions of relational coordination as an emergent property while respondents discussed various aspects of ACOs and their development.

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Table 1

Organizational Characteristics of Study Accountable Care Organizations (ACOs)

Name	Organization Type	Payer (Approx. Lives Covered)	Medicare ACO Type	Geographic Location
Park Nicollet Health Services	Integrated delivery system	Medicare (16,000) and additional risk-based commercial payer contract	Pioneer	Minneapolis, MN
Triad Healthcare Network	Clinically integrated network of physicians affiliated with Cone Health	Medicare (38,000) with plans for contracts with commercial payers	Medicare Shared Savings Program	Greensboro, NC
District Medical Group	Medical group affiliated with the University of Arizona College of Medicine - Phoenix	No formal ACO contract signed but targeting Medicaid and commercial payers (contracts signed in 2014)		Phoenix, AZ
John Muir Health	Integrated delivery system	Blue Shield (16,000) and Medicare (7,000)	Medicare Shared Savings Program	Walnut Creek, CA
Atrius Health	Alliance of six medical groups	Medicare (25,000) and Blue Cross Blue Shield Alternative Quality Contract (106,000)	Pioneer	Boston, MA
Carilion Clinic	Integrated delivery system	Aetna (50,000) and Medicare (not started at time of interview)	Medicare Shared Savings Program	Roanoke, VA
Methodist Patient Centered ACO	Hospital system with primary care clinics	Medicare (13,000)	Medicare Shared Savings Program	Dallas, TX
Multicare Health System	Integrated delivery system	Medicaid managed care (20,000); contracts with Blue Cross planned		Tacoma, WA
Brown and Toland	Independent practice association	Blue Shield (21,000); Cigna (1,500); Aetna (1,500); Medicare (18,000)	Pioneer	San Francisco, CA
Coastal Medical	Medical group	Blue Cross Blue Shield of Rhode Island (33,000); Medicare (8,000); two other commercial contracts planned	Medicare Shared Savings Program	Providence, RI
Advocate Health Care	Nine physician hospital organizations	Blue Cross Blue Shield (250,000) and Medicare (114,000)	Medicare Shared Savings Program	Oak Brook, IL

Table 2

Examples of Interview Questions

Topic	Question Example
Governance	Could you briefly describe the governing body of your accountable care organization in terms of size, membership, and the major decisions that it makes?
Relationships – Health Plans	Can you describe the accountable care organization's relationship with the primary payer or health plan supporting the accountable care organization ?
Relationships – Hospitals	How has the hospital changed its business model to adapt to accountable care organization participation?
Relationships – Physicians	Can you describe the strategies that you have used to engage clinicians in discussions and decision-making?
Relationships – Patients	Can you describe the strategies that you have used to engage patients in accountable care organization programs designed to promote health and prevent disease?
Health Information Technology	Does your accountable care organization use health information technology for disease management? *If so*, how is this done? Which specific diseases is your accountable care organization focused on currently?
Care Management/ Quality and Process Improvement	Can you describe the ways your accountable care organization has sought to increase coordination of patient care?
Multiple Payer Contracts	What, if any, additions in infrastructure are needed to pursue a multi-payer accountable care organization ?
General	What are your biggest concerns for the accountable care organization ?

Table 3

Examples of Care Management Activities Related to Relational Coordination Dimensions

	Frontline	**Clinical Leadership/Executive**
Shared Knowledge of Team Members' Tasks	No or infrequent mention	No or infrequent mention
Shared Goals	No or infrequent mention	• Care process redesign activities undergone with hospital partners to jointly improve care processes and control costs • New collaborations with payer partners in case management in order to improve care • Development of collaborative relationships with sub-specialist physician groups in the community • Medical groups acting as a single system of care, including shared standards
Mutual Respect	No or infrequent mention	No or infrequent mention
Frequency of Communication	• Increased communication with patients to improve post-discharge processes and outcomes • In-person nurse visits to patient homes to review medications and discharge plans • Use of electronic patient portals to educate and alert patients to overdue health services	• Regular meetings with payer partners to share progress and identify issues with data sharing or develop clinical benchmarks • Meetings through newly formed accountable care organization infrastructure including workgroups, committees, disease collaboratives • Interaction between central accountable care organization team and physician offices in order to collaborate on quality improvement
Accuracy of Communication	No or infrequent mention	No or infrequent mention
Timeliness of Communication	No or infrequent mention	• Information from payers and hospitals, critical to form a comprehensive picture of patient care and improve care coordination
Problem Solving Communication	• Routine meetings within cross-functional care team to discuss individual care plans for high-risk patients • Increased interactions between physicians and case managers to help high-risk patients manage their care • Direct patient outreach to identify barriers to a healthier lifestyle	• Identification of high-utilizing patients and coordination of intervention activities with payer partner