Interventional uses of relational coordination: early evidence from four countries

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Abstract. Originally developed for observational research purposes, relational coordination principles and metrics have been adopted more recently for a different purpose - to inform interventions for organizational change. This paper examines data that were collected systematically through a standardized reporting form that elicits both narrative information and quantitative results from intervention leaders. Our analysis represents a synthesis of the first fifteen reports submitted. We present an overview of the data collection approach, explore variation in the interventional uses of relational coordination and conclude with recommendations for this work.

Keywords: relational coordination, measurement, intervention, organizational change

1. Introduction

Relational coordination (RC) is a mutually reinforcing process of communicating and relating for the purpose of task integration, and is expected to drive performance when work is highly interdependent, uncertain and time constrained (Gittell, Seidner, & Wimbush, 2010). RC is measured using a validated seven item network survey - frequent, timely, accurate, problem-solving communication; shared goals, shared knowledge and mutual respect (Gittell, Beswick, Wallack, & Goldmann, forthcoming). Research over the years has established fairly consistent positive associations between relational coordination and a wide range of risk-adjusted outcomes, including quality, efficiency and worker outcomes (Gittell & Logan, 2014).

Recently practitioners have begun using RC principles and metrics for the purpose of organizational change. In this paper we explain the structured data collection approach we developed to assess diverse interventions to improve relational coordination and we demonstrate the kinds of cross-cutting analysis and lessons that can be gleaned from implementing the RC intervention database.

2. Methods

A reporting template was developed in 2012 by the Research Advisory Committee of the Relational Coordination Research Collaborative (RCRC) at Brandeis University, under the guidance of Kathryn McDonald (Stanford Health Policy) and Gareth Parry (Institute for Healthcare Improvement). The template was designed to elicit detailed information from

intervention leaders about relational coordination interventions they were engaged in. Questions included: intervention context, logic model, objectives, implementation design and methods, relational coordination measures, outcomes, and other learnings. Researchers and practitioners who want to use relational coordination principles and metrics in their work contact the RCRC about using the RC Survey and designing their interventions. As intervention projects are completed, RCRC staff conduct interviews with intervention leaders to complete the reporting template. Each report was approved by the intervention leader prior to being finalized.

The overarching research aim is to establish the viability of this systematic approach to embedding RC research into practice: how can we cumulate knowledge about relational coordination as a collaborative community of researchers and practitioners? All fifteen intervention reports with baseline and follow-up data completed as of May 2014 were incorporated into a tabular analysis to provide preliminary data to answer the following three guiding research questions of interest to the RCRC and the field of organizational change:

1) What interventions are underway to influence RC, based on what logic models for translating interventions into effects?
2) How was RC effected, and did interveners observe changes in processes and outcomes concurrent with any RC changes?
3) What challenges and enablers did interveners experience, and how did these influence implementation choices and effects?

These projects represent a variety of the challenges that RC interventions are designed to address, and a variety of methodologies used in conjunction with RC. The context, objectives, intervention and outcomes categories (partial table shown as Table 2; complete table available upon request from authors) reflect the intervention database template. Key information from the intervention database was carried directly into the tables, with one exception. Going beyond the current template, the intervention column was broken down into three columns to capture the three specific types of interventions - relational, work process and structural - found in the Relational Model of Change.

Our analyses were carried out inductively, with reference to relational coordination theory and the relational model of change. As project reports were reviewed, themes that recurred across projects were listed in order to aggregate and synthesize the learning to this point.

3.   Findings

1) What interventions are underway to influence RC, based on what logic models for translating interventions into effects?

All fifteen projects used relational interventions, twelve used structural interventions and nine used work process interventions. Three of the fifteen projects employed only one or two types of intervention and nine projects used all three types. Table 1 presents a cumulative list of the interventions employed by the 15 projects by type of intervention (i.e., relational, work process and structural).

Table 1: List of Interventions by Type

Relational Intervention	Work Process Intervention	Structural Intervention
- RC Survey feedback and discussion - Team coaching retreat for team building and to practice communication skills - Experiential education across settings including shadowing, using RC principles. - Retreat to review interview themes - Appreciative Inquiry - Narrative Story telling - Dual process theory of cognition - Matrix conversations to increase understanding of roles and respect - Retreat based on matrix principles such as peer to peer connections, impact, intention and differentiating skills - Dialogic coaching model - Team intervention model - Leadership positioning model - RC questions incorporated for discussion into coaching - Retreat to discuss results and have a structured and self-reflective dialog about interpretations of the data - Learn about and practice new ways to be respectful - Interviews with each other to understand others work and deliverables - Follow up coaching phone calls	- Rapid cycle improvement - Foxon's transfer of training - Impact mapping - Lean process to problem solve delayed C-section starts - Lean process to address physical structure and work flow - SBAR	- Designed new behavioral standards - Designed individual plans to meet behavioral standards - Designed electronic discharge instructions with medications automatically included from electronic medical record - Changed job design – assign only nurses to conduct discharge phone calls - Use specific script to conduct discharge phone calls - Nurses have discharge paperwork in front of them to ensure no errors occur - Information flow from nurses to top leadership through regular reports - Design buddy system for nurses to share work load in order to get breaks - Daily rounds - Multidisciplinary huddles - Bedside handovers that include the patient - Tested a phone-based pre-admission visit to take histories - Design teaching pamphlets on process and methods of induction - Developed pre-admit check list - Developed standard message to address patients with a need to cancel induction - Standardized protocol for number of scheduled inductions at clinic per day. - Peer recognition strategies such as PEP talks and Awesome Cards - Instituted "treat bags" with tidbits about what you want others to know about your job, including funny stories, to be given at holidays - Implemented SBAR/CHAT tool for problem-solving communication - changed the structure of agendas to refocus in anticipation of business cycle needs - Instituted more regular debriefings in meetings - Instituted more regular meetings - Allocate time in each meeting to discuss relational dynamics and give feedback - Agreement on messages to be shared outside regular meetings - 30 day check in meetings to ensure strategies for change are on track

Through inductive analysis, several common themes emerged. In answering the

question about their logic models, 13 intervention leaders reported that RC was included because it "made sense" for the project. In general, intervention leaders cited the fit of relational coordination principles and metrics with 1) their theory of change [13], 2) their desire to elucidate specific dimensions of relationships and communication [12], 3) other intervention methods they were using [11], and 4) performance outcomes their clients were seeking to achieve [10]. Twelve intervention leaders reported that having survey data on the dimensions of relational coordination facilitated their diagnosis and discussion of challenges and solutions with participants.

The analysis suggests that RC interventions were conducted to address four main challenges listed in descending order of frequency: to repair or improve working relationships [11]; to address and facilitate organizational or team restructuring [6]; to improve a work process [4] and to better understand how relationships and communication impact work [2]. Many interventions addressed more than one of these challenges, and challenge #1, to repair or improve working relationships often went together with challenge #2, to address and facilitate organizational or team restructuring. Almost all of the interventions began with a flexible agenda, learning about problem areas from participants, then designing the intervention to address those problem areas with specific relational, work process improvement and structural interventions. This is the feature that RC researchers and change leaders sometimes refer to as "action research." RC principles and metrics help to make visible important but hidden dynamics of work.

2) How was RC effected, and did interveners observe changes in processes and outcomes concurrent with any RC changes?

The interventions discussed in this analysis were each conducted based on a research or process improvement agenda that was determined independently of the RCRC. Therefore, while the RCRC collects this information in order to synthesize the learning, approaches and methods are not standardized across projects. Interventions generally did have an impact on RC. Impacts on RC ranged from statistically significant improvements to less than statistically significant improvements, and some RC projects showed no improvements on some RC dimensions. Almost every project implemented either process or structural changes in order to improve outcomes. Each project reported that at least some of the desired outcomes were achieved, but success levels varied across projects. Table 2 provides two examples of the kind of information that was reported. (Please contact the authors for a complete table).

Table 2: Case Examples

Case	Context & Objectives	Relational Intervention	Work Process Intervention	Structural Intervention	Outcomes
Leadership Team Development (Southwestern US)	Senior management team wanted to improve its performance when implementing new strategies and correcting operational issues. Seeking to develop and promote the necessary skills and strategies for reaching this goal.	RC survey feedback and discussion Team coaching retreat for team building, practice communication skills	Rapid cycle improvement Foxon's transfer of training Impact mapping	Design buddy break system for nurses to share work load in order to get breaks Program leaders conduct daily rounds	Overall team RC score increased from 3.77 to 4.17. All but two individuals showed improved RC scores. Perceptions of the team changed and new processes were developed.
Improving the Discharge Process at a Children's Hospital (Midwestern US)	Desire to improve the discharge process in two units involving hospitalists and complex care patients.	RC survey feedback and discussion	Rapid cycle Improvement (PDSA) Foxon's transfer of training Impact mapping	Tested a phone-based pre-admission visit to take histories Design teaching pamphlets on process and methods of induction Developed pre-admit check list Developed standard message to address patients with a need to cancel induction Standardized protocol for number of scheduled inductions at clinic per day.	RC scores at baseline ranged from 3.29 (timely communication) to 4.22 (frequent communication), There was a significant improvement in discharge related care failures. The rate went from 25% to 10%. There was no difference in the readmission rate and no significant improvement in patient satisfaction. Many processes were improved.

3) What challenges and enablers did interveners experience, and how did these influence implementation choices and effects?

Challenges were reported and some are highlighted here. Four intervention leaders found it difficult to engage participants and reported that achieving a good survey response rate was challenging when doctors, nurses and others were hard pressed for time. However, three of them also reported that once participants were convened and given a chance to understand the principles, they tended to become invested because they understood the value and the relevance for their daily work. This reported phenomenon suggests the usefulness of introducing the principles to participants prior to measurement. A few intervention leaders reported that, once participants were introduced to the seven dimensions of relational coordination, whether through discussion or through the survey,

some responded by engaging in behavior changes spontaneously before any interventions were formally introduced.

An important enabler in the successful use of RC interventions may be attaining buy-in at the level of top leadership. Eight intervention leaders have commented that this was pivotal in the success of their project. Leadership has the capacity not only to provide credibility and support for the changes sought, but, if they are talented leaders, can also provide mentoring.　Buy-in at the level of frontline workers is equally critical.　The narrative data indicate that frontline workers tend to resonate with RC interventions, perhaps because these interventions tend to be highly egalitarian in that they require that everyone engaged in an interdependent work process have a voice and that all roles be understood and respected. However, it can be challenging to change an entrenched culture. For example, if the goal is to have nurses participate in and contribute to daily rounds alongside physicians, both the nurses and the physicians might hold a view that nurses are not supposed to have a role or speak up in daily rounds. This kind of cultural challenge is typical in RC interventions.

4. Discussion and Implications

More study is needed of how RC interventions may be used in interactive interventions. This analysis shows that RC interventions combine research with the impetus for change.　By directly involving individuals, teams and organizations as contributors to the process, practice improvement becomes part of the research and those whose behavior and performance the research seeks to influence are themselves the agents promoting those changes. This interactive process challenges traditional scientific norms, but it informs and engages the very people it is targeted to help (Parry et al, 2013). As the RC intervention database grows, we will continue our analysis of this process with the goal of contributing to the emerging science of intentional change (cf. Wilson, et al., 2013). This study demonstrates the viability of engaging researchers and practitioners in a systematic approach to cumulate knowledge in this area.

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