

Relational coordination is associated with productivity in general practice: a survey and register based study

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Abstract. In this paper we investigate the association between relational coordination among the practice team in general practice and number of consultations performed in a general practice per staff, i.e. a proxy of productivity. We measured relational coordination using the Relational Coordination Survey and combined the results with register data. We found that relational coordination was statistically significant associated with number of consultation per staff per year. We later divided consultations in to three types: Face-to-face, Email and phone consultations. We found a statistically significant associating between relational coordination and with number of face-to-face consultation per staff per year.

Keywords. Relational Coordination, Productivity and General Practice

1. Introduction

General practices are faced with a series of growing demands – from the changing needs of an aging population, to the increasing demands for comprehensively managing and coordination patients' care. For general practice to overcome these demands, the key issues is not necessarily the personal knowledge or vision of the individual physician, but rather the teamwork in the practice group, including professional and administrative staff (Chesluk & Holmboe, 2010). Chesluk og Holmboe (2010) found a lack of teamwork in primary care practices and when the entire practice team did come together, it was around physicians and facilitating their schedules, rather than around patients and their experience. To meet the growing demands the practice team must collaborate in new ways that involve sharing both tasks and an underlying cultural framework (Chesluk & Holmboe, 2010).

One approach for fostering collaboration in an organization is relational coordination, which involves coordination work through relationships of shared goals, shared knowledge and mutual respect (J. H Gittell, 2005). It is measured as a network of communication and relationships ties among workgroups engaged in a common work process. Higher levels of relational coordination produces higher levels of quality and efficiency performance, fewer dropped balls and less wasted effort (Jody Hoffer Gittell, Godfrey, & Thistlethwaite, 2013). Relational coordination also improves job satisfaction by allowing team members to effectively perform their jobs and by providing the social support they need (J. H Gittell, 2009).

Research has indicated that a group with better teamwork tends to perform better than

a group lacking teamwork (Grumbach & Bodenheimer, 2004). This paper investigates the association between relational coordination among the practice team and number of consultations performed in a general practice per staff. The purpose of the paper is to explore if relational coordination have an effect on productivity in a general practice, when productivity is defined as number of consultation per staff.

2. Methods

2.1 Study Design

A national questionnaire survey was carried out among general practices in Denmark from June to September 2011 and combined with a register-based data on consultations per year in each practice in 2011 and on list populations gender and age. The questionnaire was designed to measure relational coordination by using the seven questions from the Relational Coordination Survey (J. H Gittel, 2005), see Table 1. The questions were translated from English to Danish via a cross-cultural adaption process (Guillemin, Bombardier, & Beaton, 1993). First it was forward-translated by the first author and discussed within a multidisciplinary research group. Secondly a professional translator subsequently made a back-translation. Thirdly Jody Hoffer Gittel, the developer of the Relational Coordination Survey, then evaluated the back-translated survey with emphasis on conceptual and cultural equivalence, rather than on linguistic equivalence. All questions were answered on a 5-point Likert-scale.

Table 1: The Relational Coordination Questions

Dimension	Question
Frequent communication	How frequently do people in each of these groups communicate with you about patients with chronic diseases?
Timely communication	Do people in these groups communicate with you in a timely way about patients with chronic diseases?
Accurate communication	Do people in these groups communicate with you accurately about patients with chronic diseases?
Problem solving communication	When problems occur with patients with chronic diseases do the people in these groups blame others or work with you to solve the problem?
Shared goal	How much do people in these groups share your goals regarding patients with chronic diseases?
Shared knowledge	How much do people in each of these groups know about the work you do with patients with chronic diseases?
Mutual respect	How much do people in these groups respect the work you do with patients with chronic diseases?

2.2 Register Data

The register data was obtained from two different national databases:

- Danish Quality Unit of General Practice administrates Danish General Practice Database (DAMD) where from data on gender, age and size of list populations were provided.
- Danish Regions provided data on number of individuals seen in each practice and number of consultations per practice in 2011 divided into face-to-face consultations in practice, phone consultations and E-mail consultations.

2.3 Study Population

706 general practices responding to the Relational Coordination Survey. Data were combined with the register data. Practices with less than 100 patients and practices where data on consultations; patients' age and gender were not available were eliminated from the study, leaving 520 practices for the analyses.

2.4 Statistical Analysis

Relational coordination was calculated as a mean of the seven dimensions. To analyse consultation variables association with relational coordination, mean differences with 95% confidence intervals (CIs) and P-values were calculated by use of univariate and multiple linear regression models. As explanatory variable gender, age and size of list populations were included. Relational coordination was analysed at a practice level.

All analyses were performed using Stata Release 11.2 (StataCorp, Callege Station, TX, USA). A p-value <0.05 was considered statistically significant.

2.5 Ethical Approval

The study was conducted with approval from the Multi Practice Committee under the Danish College of General Practitioners (Multipraksisudvalget), and the Danish Data Protection Agency

3. Results

The average relational coordination for the 520 participating general practices was 4.05 (SD 0.3) on a scale from one to five.

Table 2 shows a statistically significant association between number of consultation per staff and relational coordination. A one-point increase in relational coordination is associated with an increase of 441.11 consultations per staff per year. Consultations were dividing in to three types: Face-to-face, Email and Phone. Table 2 shows a statistically significant association between number of face-to-face consultation per staff and relational coordination, where a one-point increase in relational coordination is associated with an increase of 199.92 consultations per staff per year.

*Table 2: Association between relational coordination and number of consultations per year. The coefficients indicate the change of number of consultation per one-point change in relational coordination. Level of significant at *P<0.05*

	Coefficient	95% Confidints interval
Consultations pr. physician pr. year	68.5	[-884.11; 1021.1]
Consultations pr. staff pr. year	441.11	[19.18; 803.04]*
Face-to-face consultations pr. physician pr. year	-11.33	[-518.69; 496.03]
Face-to-face consultations pr. staff pr. year	199.92	[13.48; 386.37]*
Email consultations pr. physician pr. year	49.06	[-136.6; 234.71]
Email consultations pr. staff pr. year	34.57	[-47.26; 116.39]
Phone consultations pr. physician pr. year	-37.22	[-409.43; 483.87]
Phone consultations pr. staff pr. year	179.37	[-23.60; 382.33]

Number of consultations per physicians per year was not statistically significant associated with relational coordination. Neither was number of Email and phone consultations per staff.

4. Discussion and Conclusion

The results showed a positive association between number of consultation per staff per year in a general practice and relational coordination when adjusting for age and gender of the list population. Relational coordination builds on the idea that coordination is essential for all work and that coordination happens through communication, which is shaped by relationships. A general practice with high relational coordination has strong communication and relationships' ties as well as possesses a great ability to utilize the qualifications among the different healthcare personal. This could explain why we only find an association between relational coordination and number of consultation per staff per year and not an association with number of consultations per physicians.

Furthermore the results showed a positive association between number of face-to-face consultations per staff and relational coordination, but no association between E-mail or phone consultations and relational coordination were found. An explanation can be that E-mail and phone consultations are primarily carried out by the physician and do not require coordination or communication with the other staff members. Where on the contrary face-to-face consultation requires coordination and collaboration between the staff members and either a physician, nurse or another healthcare professional, can carry out a face-to-face consultation.

The study shows that relational coordination is associated with high productivity in a general practice, where productivity is defined as number of consultations per staff. Furthermore, the study implicates that relational coordination could be an approach to get higher productivity in general practice. Future studies should investigate if relational coordination can be increased in general practice and how relational coordination can be influenced.

References

Journal

- Chesluk, B. J., & Holmboe, E. S. (2010). How Teams Work—Or Don't—In Primary Care: A Field Study On Internal Medicine Practices. *Health Affairs*, 29(5), 874–879.
- Gittell, J. H., Godfrey, M., & Thistlethwaite, J. (2013). Interprofessional collaborative practice and relational coordination: Improving healthcare through relationships. *Journal of Interprofessional Care*, 27(3), 210–213.
- Grumbach, K., & Bodenheimer, T. (2004). Can health care teams improve primary care practice? *JAMA: the journal of the American Medical Association*, 291(10), 1246.
- Guillemin, F., Bombardier, C., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *Journal of clinical epidemiology*, 46(12), 1417–1432.

Book

- Gittell, J. H. (2005). *The Southwest Airlines way: Using the power of relationships to achieve high performance*. New York: McGraw-Hill.
- Gittell, J. H. (2009). *High performance healthcare: Using the power of relationships to achieve quality, efficiency and resilience*. New York: McGraw Hill.