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Evaluation of interprofessional relational coordination and patients' perception of care in outpatient oncology teams

Jose M. Azar[1,2], **Cynthia S. Johnson**[3], **Amie M. Frame**[4], **Susan M. Perkins**[3], **Ann H. Cottingham**[1], and **Debra K. Litzelman**[1,2,5]

[1]Department of Medicine, Indiana University School of Medicine, Indianapolis, Indiana, USA

[2]Indiana University Health, Indiana University School of Medicine, Indianapolis, Indiana, USA

[3]Department of Biostatistics, Health Information and Translational Sciences, Indiana University School of Medicine, Indianapolis, Indiana, USA

[4]Indiana University Center for Aging Research, Regenstrief Institute, Inc., Indianapolis, Indiana, USA

[5]Health Services Research, Regenstrief Institute, Inc., Indianapolis, Indiana, USA

Abstract

This pilot study was designed to measure teamwork and the relationship of teamwork to patient perceptions of care among sixty-three members of twelve oncology teams at a Cancer Center in the Midwest. Lack of teamwork in cancer care can result in serious clinical errors, fragmentation of care, and poor quality of care. Many oncology team members, highly skilled in clinical care, are not trained to work effectively as members of a care team. The research team administered the Relational Coordination survey to core oncology team members--medical oncologists, nurse coordinators, and clinical secretaries--to measure seven dimensions of team skills (four relating to communication [frequency, timeliness, accuracy, and problem solving] and three relating to relationship [shared goals, shared knowledge and mutual respect]) averaged to create a Relational Coordination Index. Results indicated that among the team member roles, nurse coordinator relational coordination indices were the strongest and most positively correlated with patient perception of care. Statistically significant correlations were intra-nurse coordinator relational coordination indices and two patient perception of care factors (information and education and patient's preferences). All other nurse coordinator intra-role as well as inter-role correlations were also positively correlated, although not statistically significant.

Keywords

Interprofessional practice; patients' perception of care; relational coordination; teamwork

CONTACT Debra Litzelman, MA, MD dklitzel@iu.edu Indiana University School of Medicine, Regenstrief Institute, Inc., 1101 West 10th Street, Indianapolis, IN 46202, USA.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

Introduction

Interprofessional teamwork and collaboration is critical in cancer care, where the number of providers and professions interacting to care for any one patient is extensive. Oncology team members highly skilled in clinical care may be ill-prepared to work effectively as members of a care team, frequently having little or no training in capacities that foster team development (Lanham, 2009). Lack of effective interprofessional teamwork can result in serious clinical errors, fragmentation of care, and poor quality of care (Kvarnstrom, 2008; Zwarenstein, 2009).

Relational coordination (RC) is a construct developed to measure teamwork and collaboration between different health professions. Previous research has found associations between team RC and improved patient outcomes (Gittell, et al., 2000) and patients' perception of care (Mickan, 2005). We report a pilot study that measured perceived RC among core members of twelve oncology teams at a Cancer Center in the Midwest of the United States and compared team RC with the team's patient perception of care scores.

Methods

Study design

This was an observational case study.

Data collection

Medical Oncology Team Survey—Team members from twelve disease-focused medical oncology teams [(N=63 total unique team members; 3–10 per team) that include medical oncologists (ON) (N=30; 1–5 per team), nurse coordinators (NC) (N=21; 1–3 per team) and clinical secretaries (CS) (N=12; 1–4 per team)] were invited to participate in the study. Study participation involved completing an electronic version of the Relational Coordination Survey that takes approximately 10 minutes. Since several team members served on more than one team, these individuals received a survey assessing the relational coordination of each team for **which they were members**. The survey was sent to a total of 79 team members (35 oncologists, 24 nurse coordinators and 20 clinical secretaries, see Table 1) through five weekly email waves over September and October 2012. Team members who did not respond to one of the five survey waves were excluded from study analysis.

Relational Coordination—The RC Survey is a measure derived from the relational coordination construct and is comprised of seven questions, four relating to communication (frequency, timeliness, accuracy and problem-solving) and three relating to relationships (shared goals, shared knowledge and mutual respect) (Gittell, 2011). Responses are recorded on a scale of 1 (lowest) to 5 (highest) and are averaged to produce a RC Index that provides evaluation of teamwork within a specific role (intra-role) and teamwork across roles (inter-role). For this pilot we measured, the intra- and inter-role teamwork among the core roles: ON, NC and CS, per oncology team. The RC Research Collaborative was used to administer and aggregate survey results (Gittell, 2011).

Patient Perception of Care Measures—Patient perception of care was measured through the National Research Corporation (NRC) Picker survey service (www.nationalresearch.com), which administers a standardized patient survey evaluating the clinic visit experience. The survey is sent to a predetermined proportion of patients visiting the oncology clinic. NRC Picker randomly selects the patients who receive the survey based on clinic encounters, independently from the clinic administration and the study team. The same proportion of patients are sent surveys from each oncologist clinic. NRC Picker follows a standardized survey process and data collection that is used for all their customers, and then reports the data per oncologist back to the oncology clinic administration in a standard monthly report. The survey evaluates eight dimensions of patient centered care. This project focused on the four dimensions that were considered most likely to be influenced by relational coordination: *coordination of care*, *information and education*, *emotional support*, and *patient preferences*. The *coordination of care dimension* includes questions such as: scheduling of tests and procedures, making referrals, and sharing patient information across the continuum of care. The *information and education* dimension questions inquire about the quality of test results communication, procedure information, and treatment education. The *emotional support* dimension assesses the way the healthcare team addressed the patient's anxieties, fears and psycho-socio-economic concerns. The *patient preferences* dimension inquires about respect for patients' values, preferences and expressed needs as well as focusing on the care team's respect of patient's dignity and autonomy, and involvement of the patient in their own medical decisions.

Each oncologist receives a monthly summary with a score reported as a percentage of positive answers and benchmarked against the national average. Patient perception of care was measured using NCR Picker 12-months average preceding the first wave of RC surveys. This was considered the composite team score used for the correlative analysis.

Data analysis

Pearson correlations between the RC index and NRC Picker scores were calculated. All p-values < 0.05 were considered statistically significant.

Ethical considerations

As a quality improvement project, this study was classified as *exempt* by the institutional review board (IRB00000221).

Results

Medical Oncology Team Survey

The overall response rate was 72.2% (57/79); 77.1% of ON (27/35), 66.7% of NC (16/24) and 70% of CS (14/20) responded.

Patient Survey—During the study period, 1713 NRC Picker patient satisfaction survey responses were received and included in the final reports to the outpatient oncology clinic administration. The mean number of patient surveys per oncology team was 142.8 (range 32–271; Table 1).

All nurse coordinators' intra-role correlations were > 0.6 (*information and education* and *patient's preference* reached statistical significance) and all inter-role correlations ≥ 0.4 (Table 2). Clerical secretaries' intra-role correlation with *information and education* was r = 0.39 and inter-role correlation with *emotional support* was r = 0.40. Oncologists' and clerical secretaries' correlations were not significant. Six of 8 oncologists' correlations were negative.

Discussion

This study was conducted to measure perceptions of RC among members of multiple disease-focused oncology teams and to explore whether the RC Index measured between (inter) team roles (e.g. ON and NC roles) and/or within (intra) team roles (NC role only) correlated with the team patient perception of care scores. Results indicated that the nurse coordinator RC scores were the strongest and most positively correlated with patients' perception of care. Statistically significant correlations were the intra-nurse coordinator RC indices and two patient perception of care factors (*information and education* and *patient's preferences*). All other nurse coordinator intra-role as well as inter-role correlations were also positively correlated, although not statistically significant.

It seems plausible that NCs who are able to communicate effectively with and respect their colleagues would also be able to communicate effectively with patients, both by sharing information with patients in a clear and understandable way, and by respecting patients' preferences for care. In addition the nurse coordinator's role can be considered a boundary spanner, which is a role that crosses multiple professional boundaries to better bridge communication and integrate team functioning across roles (Gittell, 2011). The nurse coordinators can be considered boundary spanners as the coordinators of care for the patient, which places them in a critical position to positively impact the team internal dynamics as well as the team's relationship with the patient. Even though the physician-patient relationship is critical in decision-making regarding therapy, the decision making process is only the initial step in the care delivered. The NC coordinates a range of providers to facilitate implementation of care, including: (1) schedulers, (2) oncologists, (3) pharmacist, (4) infusion area nurses, (5) outpatient pharmacy, and (6) consulting physician practices. In addition to the complex coordination of care, the NC's role is to triage patient calls, address patient concerns that are within the NC's scope of practice, connect with the ON to determine the course of action regarding medical problems and then directing the patient to the right level of care to address the problem (diagnostic tests, outpatient prescriptions, urgent care clinic, emergency department or direct admission; Nutt, 2010). The central role of the NC in coordinating care and communicating with patients in order to ensure the adequate delivery of care may provide an explanation of our findings that the highest correlation is between the NC's relational coordination skills and the patient satisfaction with the care provided (Brown, 2009).

Interestingly, both intra- and inter- RC indices for the ON had either very low or negative correlations with patient perception of care measures; however these correlations did not reach statistical significance. These low or negative correlations may reflect the tendency for oncologists to take a medical-disease focused approach to patient care whereas as nursing

professionals model a broader bio-psycho-social patient-centered approach in this setting. Given these observations, it is possible that oncologists may benefit from more training in relational team-based care practices (Thomas, 2011; Reeves, 2008). This theory is being tested by the study team on a separate grant in the inpatient oncology setting. The study team is evaluating an educational and structural intervention to enhance physician and inpatient nurse team dynamic and inter-professional relational coordination.

Firm conclusions cannot be drawn from the results due to the low sample size. In addition, the patient satisfaction surveys from NRC Picker were a limitation to the data analysis and interpretation because the survey process, data collection and analysis were outside of the research team influence, which prevented more in depth analysis of the data.

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Table 1

Number of oncologist, nurse coordinators, clinical secretaries, and patient surveys completed for each of 12 oncology teams.

Team	Number of oncologists	Number of nurse coordinators	Number of clinical secretaries	Number of patients completing surveys
1. Breast Cancer	5	3	1	235
2. Lung Cancer	3	2	1	157
3. GI Cancers	3	1	2	136
4. GU Cancers	4	3	2	271
5. GYN Oncology	4	2	4	211
6. Melanoma	3	2	1	196
7. Neuro Oncology	2	2	2	53
8. H&N Cancers	1	1	1	32
9. Sarcoma	2	2	2	70
10. Leukemia	2	1	1	90
11. Melanoma	3	3	1	169
12. Benign Hematology	3	2	2	93
Totals[1]	35	24	20	1713

[1]Some team members served on more than one team, so the sum of the numbers of oncologists, nurse coordinators, and clinical secretaries in Table 1 are greater than the total number of unique interprofessional team members on the oncology teams.

Table 2

Correlations between National Research Corporation (NCR) Patient Perception of Care Subscale measures and Relational Coordination (RC) Indices among members of 12 oncology teams.

		NCR Picker-Patient Perception of Care Subscale Measures							
RC index		***Coordination of Care***		***Information and Education***		***Emotional Support***		***Patient's Preference***	
	Provider Role	R [1]	p-value [4]	r	p-value	r	p-value	r	p-value
Intra-role [2]	Oncologist	−0.04	0.908	−0.09	0.815	−0.05	0.891	−0.08	0.829
	Nurse Coordinator	0.74	0.091	**0.83**	**0.040**	0.61	0.199	**0.81**	**0.049**
	Clerical Secretary	0.07	0.916	0.39	0.512	−0.05	0.937	0.12	0.845
Inter-role [3]	Oncologist	−0.03	0.920	0.18	0.573	0.09	0.788	−0.06	0.847
	Nurse Coordinator	0.43	0.167	0.54	0.071	0.47	0.119	0.40	0.200
	Clerical Secretary	0.17	0.625	0.08	0.810	0.40	0.220	0.16	0.636

[1] Pearson Correlations of NRC Picker Survey Subscale Measures with Relational Coordination Index.

[2] Intra-role RCI =team members with same role rate one another on 7 RC dimensions; average of scores is the RCI.

[3] Inter-role RCI =team members rate members in roles other than their own on 7 RC dimensions; average of scores is the RCI.

[4] The probability (p-value) level for statistical significance < 0.05.