2018

Methods to Improve Interprofessional Collaboration in Administrative Dyads

Julie Lee Hudson
University of Kentucky, julielhudson@gmail.com

DNP Final Project Report

Methods to Improve Interprofessional Collaboration in Administrative Dyads

Julie Lee Hudson, MSN, RN

University of Kentucky

College of Nursing

Fall 2018

Dr. Debra Hampton, PhD, MSN, RN, CNEP, FACHE—Committee Chair

Dr. Karen Stefaniak, PhD, RN—Committee Member

Dr. Colleen Swartz, DNP, MBA, RN, NEA-BC and Dr. Philip K. Chang, MD, MBA—Clinical Mentors

Dedication

I would like to dedicate this work to my family. To my children who have known their mother doing nothing but work and school for their entire lives. Aimee, Aric, Brett, Bethany and Christopher, your mother is finally finished with her formal education.

To my mother, sister and brother, who have always stood behind my endeavors solidly, even when they did not understand them. Their defense is absolute.

To my husband, Jonathan, whose support has been unwavering. It has lifted me time and again.

A special dedication to a special mentor, the late Karen Sexton, PhD, RN; without her insistence, I never would have taken the step.

Acknowledgements

I would like to acknowledge the support of Dr. Debra Hampton, my advisor and mentor throughout my DNP journey. Her humor and empathy made the difference in my efforts to balance work demands and scholarly endeavors.

The support of Dr. Amanda Wiggins was integral to data analysis and results.

The support of my committee—Drs. Karen Stefaniak, Colleen Swartz and Philip Chang—was much appreciated. I value their input and feedback greatly. Additional appreciation should be noted for UK Healthcare in its support of my DNP education was invaluable.

Finally, my team of perioperative colleagues at UKHC deserve special recognition as well. I have appreciated their support beyond measure.

Table of Contents

Abstract

PURPOSE: The primary objective of this project was to determine if specific interventions, to include education, rounding, and regular meetings, improved collaboration and communication for nurse/physician dyads working in acute care hospital administrative roles.

METHODS: The study employed a prospective pre-test and post-test comparison of participants' scores on a validated survey tool. This tool (JeffSATIC) measured perception of collaboration between nurses and physicians. The objective was to evaluate the differences in these scores in participants before and after an intervention.

RESULTS: This study sought to discover if specific interventions impacted scores on a tool measuring collaboration among dyad pairs. The findings did not support the concept that specific interventions (education, rounding, regular meetings) improved scores on the JeffSATIC collaboration tool in this study cohort.

CONCLUSION: Interprofessional collaboration is an important part of the infrastructure that supports quality improvement in healthcare delivery. The literature supports the concept that improved collaboration and communication improve the quality of care (Thistlewaite, 2012). While the intervention failed to result in statistically significant changes in the JeffSATIC, it may have played a role in the improvement in scores. Relationship development may have been a plausible contribution to the limited measurable change. Addition of a qualitative element to the study design may have yielded a greater understanding of the experience.

Methods to Improve Interprofessional Collaboration in Administrative Dyads

Introduction

Healthcare organizations are working diligently to identify and operationalize methods to support success in the transition from volume based reimbursement models to value-based care. Because healthcare organizations are reimbursed for outcomes of care, there is much at risk. Within a value based care model, each and every process must yield value to the patient or the organization (Sanford & Moore, 2015). Different approaches to care delivery along with new methods to achieve operational objectives may be called for. Critical success measures for value-based care may rest in the successful integration of clinical and business outcomes.

Shared formal leadership or dyad models, as noted by Sanford & Moore (2015), represent efforts to bring the clinical and business operations of hospitals together in order to improve care and ultimately patient outcomes. Dyad leadership can be described as teams consisting of two people who work and learn together to lead a clinical service line, project or division (Sanford & Moore, 2015). Generally, these teams consist of a physician and a nurse or sometimes a hospital administrator. This leadership approach is growing in popularity as healthcare organizations seek methods to improve care processes at the bedside by affecting culture (Kim, King, Stein, Robinson et al., 2014). While the value of inter professional education is well documented related to clinical care (Thistlewaite, 2012), little has been written regarding the application of inter professional relationship development and leadership growth to management and leadership in healthcare organizations.

Background

Much of the information found in the literature was focused on nurse/physician interaction at the bedside or at the level of the individual patient care unit. Several of the studies were

qualitative and ethnographic (Rice, Zwarenstein, Conn, Kenaszchuk et al., 2010). Ethnographic studies offer rich descriptions of interactions, but provide little evidence of statistically measured changes. However, trends which have been identified in these studies suggest that a lack of interpersonal relationship development is a contributor to dissatisfaction.

The literature revealed some studies in which limited changes in perceptions of collaboration or increased communication were found (Rice et al., 2010; Zwarenstein., Rice, Gotlib-Conn, Kenaszchuk et al., 2013). This improvement in collaboration, along with identification and description of qualitative themes, suggest that there may be identifiable methods which could enhance or detract from effective communication, and therefore collaboration.

The Jefferson Scale of Attitudes toward Physician-Nurse Collaboration (JeffSATIC), which was developed by Hojat, Ward, Spandorfer, Arenson et al., in 1999, is one instrument that can be used to validate and measure communication and collaboration (Garber, Madigan, Click & Fitzpatrick, 2009). The JeffSATIC includes four scales supporting collaboration: shared education, caring rather than curing, nurse's autonomy, and physician's authority. The tool is deemed reliable as a Cronbach's alpha range of 0.84–0.90 was reported with samples from many different practice environments (Garber, 2009). There have been reported collaboration findings with JeffSATIC related to physician perception. Garber et al.'s study (2009) suggested that physician's attitudes toward physician authority were more positive than nurse's attitudes toward physician authority.

One qualitative study (Zwarenstein et al., 2013) employed communication as a proxy for collaboration. Data were collected by video recording of observation sessions of nurses and physicians communicating. The assumption is that communication was intent to collaborate. The study assumed that the intent of the communication is good patient care. Additionally, these

communication formats were in the form of scheduled daily rounds. These rounds offered the only regular opportunity for communications between professionals regarding the care of the patients. Inherently, these communications were often from physicians to nurses. Inputs from nursing and allied health were often given only when prompted (Zwarenstein et al., 2013). Outside of the scheduled rounds, interactions of any type were an uncommon feature. Nurse to nurse communications were valuable in content and were a two-way discussion, while physician communication was noted to be brief and unidirectional.

A study by Garber et al. (2009), suggests that physicians generally tend not to view collaboration with nurses as necessary to their ability to provide care to their patients. The study suggested that nurses readily accept the role as a servant or in service to that patient. This is often not the case with physicians (Garber et al., 2009). Physician disengagement from meaningful interactions regarding patient care can be disadvantageous to patients with regard to patient centered care and safety. This disengagement can also affect care coordination (Zwarenstein et al., 2013). Themes of persistent inter professional hierarchies were also noted in the studies. In a 2010 study by Rice et al., these hierarchical themes were evidenced by physicians stating that they are accustomed to having their orders carried out with no dialog or feedback from nurses.

The literature supports a need for more studies employing reliable, statistically valid measurement tools, inclusion of all subjects of interest, and a longitudinal design. There also exists a need for more contemporary studies in order to capture current communication dynamics. Additionally, clinical outcomes and patient satisfaction could be meaningful measures of nurse/physician collaboration. However, these studies are difficult to design and can be quite expensive. For practical purposes, more readily collected data may need to be employed to proxy inter professional collaboration outcomes.

Within the nursing and healthcare leadership literature, there are well-supported processes and evidence based methods to improve work environments for staff nurses. These methods focus on such activities as promoting a Healthy Work Environment (HWE) and creation of a present and interactive leadership structure (Blake, Leach, Robbins, Pike et al., 2013). There are also studies that describe strategies to improve the work environment of the nurse manager (Warshawsky & Havens, 2014). With the expansion of dyad teams leading hospitals and service lines within organizations, little study has been dedicated to improving and sustaining work environments for these teams. Lack of teamwork and gaps in inter professional relationships have been associated with poor outcomes and poor patient care (Thistlewaite, 2012).

Purpose

The primary objective of this project was to determine if specific interventions, to include education, rounding, and regular meetings, improve scores on an instrument which reflects collaboration and communication for nurse/physician dyads working in acute care hospital administrative roles.

Theoretical Framework

Kotter & Cohen's model of change, developed in 1998, asserts that change in behavior occurs when individual's feelings are influenced. Central to this model is the concept of the "see-feel-change" process (Kotter & Cohen, 2012). Helping people to see how change can be effective creates emotion. These emotionally charged ideas change behavior or reinforce newly changed behavior. The dyad project's metrics are based in the subject's feedback on surveys which are considered a reflection on their feelings about their work environment. Additionally, the selected strategies of rounding and one to one meetings are based in human interaction and relationship building which further supports the choice of this change theory.

Methods

Project Description and Setting

The study employed a prospective pretest and post-test comparison of subject's scores on the JeffSATIC tool which measured perception of collaboration between nurses and physicians. The objective was to evaluate the differences in participant's scores before and after the educational and rounding activity interventions. A pre-intervention assessment was completed. The intervention was implemented over a two-month period, and a post-intervention assessment was done using the same instrument.

The setting for the study was the University of Kentucky (UK) HealthCare. The UK Healthcare enterprise consists of the hospitals and clinics of the University of Kentucky. The mission of UK Healthcare is grounded in a commitment to the pillars of academic health care-research, education, and clinical care. Dedicated to the people of the Commonwealth, it provides the most advanced patient care and serves as an information resource for the state and the region. UK Healthcare is a level 1 trauma center, includes 968 licensed hospital beds, and employs over 9,000 people dedicated to its mission.

The executive leadership team (Chief Operating Officer, Chief Nursing Officer and Chief Medical Officer) were key stakeholders in the project. Their support allowed for the recruitment of subjects and the resources needed to complete the project. At the time of the study, the enterprise employed many leaders (nurses, physicians, administrators) who functioned in various stages of dyadic leadership. The executive leadership team was beginning the process of a formalized program to confirm key dyad relationships and construct an infrastructure to support delivery of key clinical and financial outcomes. This dynamic adds to the interest and relevance of the study, for the organization as well as the body of leadership knowledge.

Sample

The sample consisted of registered nurses and physicians in leadership roles acting as administrative dyad pairs in a level one trauma university hospital administration team. Not all of these dyad pairs were officially established as such at the time of the study. Many functioned informally in the role and not all had a 1:1 relationship. For example, one nurse may have had two physician partners due to the hierarchical organizational structure. However, all subjects had a direct reporting relationship to either the Chief Medical Officer, Chief Nursing Officer, or Chief Clinical Officer. These leaders represented all areas of the clinical operations- inpatient, outpatient, ambulatory clinic as well as procedural areas. All members of the cohort remained in either active full time employment or full medical staff credentialing for the duration of the study. These leaders also have completed the activities described in the intervention.

Procedures

Approval for the study was granted from the University of Kentucky Institutional Review Board (IRB) prior to data collection. A list of 39 potential study participants was received from the office of the Chief Nurse via email as well as permission to use the UK email system. Those leaders included in the list were contacted via email by the primary investigator (See Appendix A and Appendix B). The email included an outline of the activities required by the study. Also included in the email was a link to the survey tool and a list of meeting dates for the one-hour educational sessions. The participants were asked to complete the on line survey prior to attending the educational session.

Demographic data were collected from the participants as well as scores from the collaboration survey. The demographic data were analyzed through use of descriptive statistics to better understand the cohort. The demographic data included age in years, gender, and

profession. The collaboration survey was administered prior to the educational session and two month's post intervention.

The educational intervention session was a thirty-minute PowerPoint presentation followed by opportunity for questions, answers and discussion of the topic. These educational sessions were designed and facilitated by the study author. The educational intervention was made available four different times in order to be convenient for the subjects. The education session was held in a conference room near the dining area of the main hospital also for the convenience of the participants. Topics covered in the session included a description of the study requirements and design, information about the definition of dyads, education supporting the value of collaboration, communication, and rounding activities. As part of the study participation, subject dyads committed verbally to completing at least 80% of biweekly meetings and rounding activities during the study period of two months. Completion of these activities was confirmed by a response to an email from the investigator at the end of the intervention period.

Perceptions of attitudes regarding inter professional collaboration on the JeffSATIC were measured on a 5 point Likert scale with a range from 1 = strongly disagree to 5 = strongly agree. A middle neutral option was included. The range of scores on the scale is 20–140.

Data Analysis

Data from the surveys and the demographics were analyzed using SPSS, version 23. Independent sample t-tests were used to determine differences in-group demographics. Means of the collaboration survey scores pre intervention and post intervention were compared using independent sample t tests. However, the sample scores were not normally distributed; therefore,

non-parametric tests were applied. Chi-square tests were employed to test for differences in survey scores pre- and post-intervention.

Results

Demographics

The pre-intervention survey was sent by email to 39 potential independent participants along with an invitation to the educational session. All 39 of the participants attended the educational session. However, only 23 completed the survey, for a response rate of 59%. The survey was open from June 21 through July 18, 2018.

The post-intervention survey was open to participants from September 28 through October 12, 2018. Fourteen study subjects completed the survey and indicated that they fulfilled the required rounding and meeting activities. This response rate was 60%.

The demographics of each group are outlined in Table 1. Participants ranged in age from 37 to 65. Approximately 36% were male and 64% were female. Participants were in positions such as medical director, associate chief medical officer, nursing director, and assistant chief nurse.

Findings

Initial analysis of the pre and post survey samples using Fisher's Exact Test resulted in a p value of 0.7130. Analysis revealed the samples to be non-parametric in nature. Therefore, use of the t test was not appropriate. Additionally, one subject's scores were markedly different from the cohort. The researcher felt that this could be a testing error in the survey. Therefore, this subject was dropped from the data analysis. The mean JeffSATIC score for the pre-intervention group was 126.2 with a Standard Deviation (SD) of 13.12. The mean score for the post intervention group was 127.2 with a SD of 17.92. See Table 2 for results of scores.

Discussion

This study sought to discover if specific interventions influenced scores on a tool measuring collaboration among dyad pairs. The findings did not support the concept that the specific interventions (education, rounding, regular meetings) improved scores on the JeffSATIC collaboration tool in this study cohort during the two-month timeframe. Of those participants who indicated they had met the rounding and meeting commitment, no significant difference in JeffSATIC scores was found.

Interestingly, the JeffSATIC scores for participants in this study were high, as compared to scores of participants of studies reported in the literature. In a study by Hojat et al., (2015), mean scores for a group of American and Australian subjects ranged from 114.2 to 119.4. These subjects were students in different health profession programs. Filho, Costa, Magnago & Forster (2018) examined the attitudes toward inter professional collaboration of health professionals practicing in a nationalized health system. The mean score among all studied was 121 compared to mean scores of 126.2 (pre-intervention) and 127.2 (post-intervention) in this study. Filho et al. (2018) also found that nurses had a significantly higher mean score.

These higher scores could indicate that the group already placed value on inter professional collaboration prior to initiation of the study intervention. If this assertion is true, then an hour long education session and two months of rounding may have had limited impact on their collaborative tendencies. There was little difference in nurse and physician scores in the pre intervention survey. However, it was observed that the nurses in this study had a higher mean (132.6) than did physicians (109.9) in the post intervention survey. While this difference was not statistically significant, the trend was consistent with the findings in Filho et al.'s 2018 study.

A key element driving this study is discovering methods which enable healthcare organizations to quickly achieve strategic changes and improve outcomes in the face of a rapidly changing environment. Kotter further expounded on his change theory in 2014, describing eight accelerators to support the original eight steps. These steps are processes which enable a complementary strategy network. Kotter describes the limits of conventional institutional hierarchy to react to rapid change. In order to rapidly adjust to the changing contexts of current business demands, a two structure, one organization approach is advocated. This dual operating structure is a traditional hierarchy and a strategy network operating in concert. The strategy network favors relationships over hierarchy and is driven by vision, inspired action and celebration. The hierarchy is less encumbered by big strategy and change initiatives; therefore, it is able to maintain stable processes while making incremental changes to further improve efficiency. A dyad structure as described is most definitely outside of the traditional organizational structure of a hospital. Therefore, it could be well positioned to form the foundation of a complementary strategy network.

An area for further study may include targeting nurses and physicians who have not yet been involved in a dyadic relationship or role. Additionally, more demographic information such as time in profession or time with the organization could be beneficial. A greater understanding of the construct of the cohort would contribute to a more meaningful analysis of health care team's attitudes toward inter professional collaboration.

Limitations

There are several limitations to the study. A response bias could have been at play in that those voluntarily participating were already highly engaged and collaborative in their roles within the organization.

Environmental issues may have impacted the results. At the time of study recruitment, there were at least two other programs under development. The organization was in the process of constructing academic service lines to be led by dyad pairs. Also in formative stages was a program for identification and education of dyad pairs at the inpatient and procedural unit levels. This activity could have influenced the scores. Finally, some dyad pairs were able to attend the educational presentation, but were not able to dedicate time to the rounding and meeting activities. Therefore, these subjects did not complete the post-intervention survey. The rounding and meeting activities may have provided the greatest opportunity for developing and practicing a collaborative relationship.

Limitations of the study design included the inability to link responses in the pre-intervention and post-intervention surveys. The survey tool was not designed in a manner which supported this process. The small sample size may have limited the ability to test adequately for differences as well.

Finally, the two-month time frame may have been inadequate to measure change. A longer time frame may have allowed for a greater assimilation of the knowledge into practice to support sustainable change. The short time frame for the intervention activities themselves (meetings and rounding) may not have provided adequate time for the pairs to adjust schedules to accommodate the activities.

Conclusion

This study adds updated information about attitudes of physicians and nurses toward inter professional collaboration. It also adds new information about collaborative attitudes among administrative dyad pairs. Dyads offer a model of shared decision-making and collaboration. The

possibility exists for this style of communication to replace historical hierarchical and hegemonious patterns.

Interprofessional collaboration is an important part of the infrastructure which supports quality improvement in healthcare delivery. Improved quality and efficiency are also essential as healthcare moves away from transactional or volume based reimbursement to a transformational or outcomes based reimbursement. The literature supports the concept that better collaboration and communication improves the quality of care (Thistlewaite, 2012). While there was not significant difference in the JeffSATIC scores pre and post-intervention, the intervention may have contributed to the improvement that was seen in the scores. The education session and planned rounding also may have improved interpersonal relationships among the pairs. Another consideration is that these dyadic relationships may serve as scaffold for development of a dual operating system as described by Kotter (2014). Such a system provides a scalable approach which can grow over time, offer opportunity for leadership growth, provide a dynamic and energetic labor source, and support the creativity and agility required for success in a rapidly changing environment.

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Table 1. Demographic characteristics of the study sample

	Pre-intervention (*n* = 23) *Means* (SD) or *n* (%)	Post-intervention (*n* = 14) *Means* (SD) or *n* (%)	*p*
Age	54.1 (7.26)	53.2 (5.9)	
Gender Male Female	 6 (26%) 17 (73.9%)	 5 (35.7%) 9 (64.2%)	0.53
Specialty Medicine Nursing	 11 (47.8%) 12 (52.2%)	 7 (50%) 7 (50%)	0.89

Table 2. JeffSATIC Scores

	Pre-intervention (n=23)	Post-intervention (n=13)	*P*
			0.858
Means (SD)	126.2 (13.12)	127.2 (17.92)	
Range	75-140	69-140	

Appendix A

HealthCare

Hospital Administration
800 Rose Street, N100
Lexington, KY 40536
P: 859-323-5211
F: 859-323-2044
ukhealthcare.uky.edu

January 31, 2018

Julie L. Hudson MS RN CNOR NEA-BC
DNP Student
University of Kentucky College of Nursing
800 Rose Street
Lexington, Kentucky 40536

Dear Ms. Hudson,

It is my pleasure to provide a letter of support for your proposed study: "Collaboration among Interprofessional Dyad Pairs in Administrative Roles". University of Kentucky Healthcare is very interested in improving collaboration in interprofessional administrative practice and the didactic model is one that may positively affect collaboration.

University of Kentucky Healthcare is happy to serve as the site for the proposed study. Given that we provide leadership for hospital administration and informatics, we are willing to support you and your research staff.

Attached you will find a list of leaders who may function in a dyadic team model. You have our permission to contact them via UK email and solicit their participation in your study. We look forward to your presenting of findings once the study concludes.

Sincerely,

Colleen Swartz, DNP, MBA, RN
Chief Nurse Executive & Chief Administrative Officer
UK HealthCare

Cecilia K Page

Cecilia Page, DNP, RN
Chief Information Officer
UK HealthCare

Appendix B

To Study Participants:

You are being invited to take part in a research study about nurse physician collaboration in hospital administrative dyads. You are being invited to take part in this research study because your role in hospital administration functions within a dyadic structure. Dyad leadership can be described as teams consisting of two people who work together to lead a clinical service line, project or division. Generally, these teams consist of a physician and a nurse or sometimes a hospital administrator.

The study includes:

- *initial on line survey regarding perceptions about inter-professional collaboration*
- *a one hour educational session on dyad roles and inter-professional rounding*
- *bi-weekly rounding or 1:1 meetings with dyad partner*
- *follow up on line survey*

Although you will not get personal benefit from taking part in this research study, your responses may help us understand more about specific methods improve nurse physician collaboration in administrative dyads.

We hope to receive completed questionnaires from about 16 people, so your answers are important to us. Of course, you have a choice about whether or not to complete the survey/questionnaire. If you do participate, you are free to skip any questions or discontinue at any time.

The survey/questionnaire will take about 30 minutes to complete and there are no known risks to participating in this study.

Your response to the survey will be kept confidential to the extent allowed by law. When we write about the study, you will not be identified.

If you have questions about the study, please feel free to ask; my contact information is provided below. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Thank you in advance for your assistance with this important project.

To ensure your responses/opinions will be included in the study, please respond to this email by (two weeks after date of email). At that time, you will receive a link to the survey.

Sincerely,

Julie L. Hudson, MS(N) RN CNOR NEA-BC
College of Nursing, University of Kentucky
PHONE: 859-383-4896
E-MAIL: Julie.hudson@uky.edu