"What is Found There"¹: Qualitative Analysis of Physician–Nurse Collaboration Stories

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BACKGROUND: Effective physician–nurse collaboration is an important, but incompletely understood determinant of patient and nurse satisfaction, and patient safety. Its impact on physicians has not been described. This study was undertaken to develop a fuller understanding of the collaboration experience and its outcomes.

METHODS: Twenty-five medical residents, 32 staff nurses, 5 physician and 5 nurse faculty wrote narratives about successful collaboration; the narratives were then qualitatively analyzed. Narrative analysis was the initial qualitative method iteratively employed to identify themes. A phenomenological approach was subsequently used to develop a framework for collaborative competence.

RESULTS: Collaboration triggers, facilitative behaviors, outcomes and collaborative competence were the themes identified. Affect was identified in the triggers leading to collaboration and in its outcomes. Practitioners typically entered a care episode feeling worried, uncertain or inadequate and finished the interaction feeling satisfied, understood and grateful to their colleagues. The frequency of affective experience was not altered by gender, profession, or ethnicity. These experiences were particularly powerful for novice practitioners of both disciplines and appear to have both formative and transformative potential. Collaborative competence was characterized by a series of graduated skills in clinical and relational domains. Many stories took place in the ICU and afterhours settings.

CONCLUSIONS: Despite the prevailing wisdom that nursing and medicine are qualitatively different, the stories from this study illuminate surprising commonalities in the collaboration experience, regardless of gender, age, experience, or profession. Collaborative competence can be defined and its component skills identified. Contexts of care can be identified that offer particularly rich opportunities to foster interprofessional collaboration.

KEY WORDS: collaboration; competency; relationship-centered practice; teamwork.

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INTRODUCTION

Physician–nurse interactions in the acute care setting are a powerful force, capable of shaping clinical, educational and professional outcomes for patients,^{2–4} nurses⁵ and physicians. In the context of a critical and growing nurse shortage, it is important to note that when the collaborative dyad is functioning well, nurse satisfaction and retention are improved,^{5,6} as are patient and family satisfaction.⁷ Little comparable data exist regarding the impact of successful collaboration on physician satisfaction, but there is evidence that negative interactions significantly affect both nurses and physicians.^{5,8,9} Patient safety experts also advocate optimizing the function of the nurse–physician unit to reduce error and harm.^{10–12}

Recognizing the centrality of effective physician–nurse relationships, the Accreditation Council for Graduate Medical Education designated team functioning as a competency area to be addressed by residency programs.¹³ However, research addressing this relationship has appeared primarily in nursing journals, with occasional physician co-authors. Little on this subject has appeared in journals routinely accessed by physicians or medical educators.

Work fundamental to understanding physician–nurse collaboration was initially undertaken in the 1990s.⁶ Subsequently, behaviors and attitudes that facilitate physician–nurse collaboration were studied using ethnographic observations in the ICU,¹⁴ resulting in a validated collaboration assessment survey.¹⁵ This early work focused on observable behaviors: “sharing responsibility,” joint problem solving and “making plans” together for patient care. More recent studies suggest that differences between physicians and nurses outweigh shared experience.^{16–18} It is not surprising, then, that much of the existing literature supports the notion that physicians and nurses have irreconcilable differences in attitudes towards collaboration and that these attitudinal and behavioral differences are reinforced across gender and nationality.^{16–19}

Various models of the nurse–physician relationship have appeared in the literature. For example, one writer referred to

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the nurse–physician relationship as a “game,”²⁰ wherein the nurse must take care to understand and “work around” the doctor in order to get the orders that she or he feels necessary for patient care, the dominance-deference model of “collaboration.” More recently, the relationship has been characterized as a “trading of commodities,” i.e., “if I get/do this for you, what will you give me in return,” or an updated, *quid pro quo*, version of the “game.”²¹ Others have referred to empathy as “emotional labor,” conceptualizing it as a commodity and not a quality of character and self.²² Game theory and emotional labor focus on a zero sum world view in which one party wins, one loses, one succeeds and one fails. What may be lost in these conceptualizations is shared experience and meaning.

The current study, part of a larger effort to improve physician–nurse interactions in a community-based teaching hospital, was undertaken to develop a fuller understanding of successful physician–nurse collaboration from written narratives about collaboration. The goal of this study was to analyze and describe the experience of nurses and physicians using qualitative analysis of collaboration narratives. Since this is also one of the few studies to examine the collaborative experience of medical residents and nurses, an additional goal is to provide program directors and educators with insights useful in designing programmatic interventions.

METHOD

A workshop focusing on successful physician–nurse collaboration was developed for, and attended by, medical residents and hospital-based nurses at a community teaching hospital.

The workshop, a “participatory inquiry” exercise,²³ utilized an appreciative inquiry (AI) format.^{24–26} AI is an organizational change technique that uses narrative to focus on what is working, effective and good in an organization. Knowledge generated from AI is then used to build on identified strengths and to promote change.

Central to the exercise was the opportunity to write a narrative as follows:

“Think of a time when you experienced nurse–physician collaboration at its best, resulting in either better care, greater satisfaction on your part or an unexpected good result. It could be an experience you had personally or one you observed. It could have occurred in the clinical, administrative, research or teaching arenas.”

All participants submitted their narratives and consented to their use for research purposes. The study was approved by the hospital’s institutional review board. Narratives were analyzed and coded by four researchers, all female: two physician clinician-educators, a clinical nurse specialist and a nurse administrator, all with previous and ongoing programmatic, educational and/or research interests in appreciative inquiry, collaboration and/or doctor–patient communication.

Data Analysis

Narrative analysis²⁷ was the primary approach for the interpretation of the written stories. Phenomenology^{28–31} was used

as a complementary method to view each narrative, and the entire body of narratives as a whole, employing an inductive, discovery-oriented approach to examine the collaborative interaction in its entirety. Phenomenology concerns itself with the lived experience of the people involved in the question or issue being studied and involves introspection and an empathic mind to move into the mind of the other.^{30,31}

Applying an inductive approach, members of the research team used consensus to develop the initial coding scheme from five nurse–physician collaboration narratives, subsequently revising the scheme in an iterative manner.³² Codes were developed in the following categories: location, triggers, behaviors facilitative of collaboration and outcomes. Coding development continued until saturation was reached. With each revision, all previously coded narratives were recoded and checked by a minimum of two researchers on the team. Differences in coding were brought to the larger group and resolved by consensus.³² Utilizing a phenomenological approach, the narratives were re-examined for key words and phrases that influenced the form and quality of the collaboration. Levels of collaboration (Table 1) and domains facilitative of collaboration (Table 2) were identified, and the narratives were re-coded for both.

Final versions of the coding were aggregated, generating frequency tables for analysis. These tables summarized the total number of responses (9 codes, 75 sub-codes) for each coded behavior by all nurses and physicians.

Trustworthiness of the analysis was ascertained by triangulation.³³ First, following completion of the coding, themes identified by the researchers were compared with those identified by participants at the time of the workshop. Second, ten representative narratives were selected, presented and discussed with internal medicine residents at a noon conference. Last, the same materials were presented at a hospital leadership nurse council meeting. Coding and saturation were confirmed, and there were no additions or deletions.

Table 1. Elements and Levels of Collaboration

Level of collaboration	Elements encountered
0. Unconscious incompetence	Doesn't know what collaboration is Doesn't know that he/she doesn't know
I. Low level collaboration	Jobs done in complementary ways on parallel tracks Little or no interaction Smooth hand-offs Use of protocol or pathway Little affective component
II. Mid level	Give and take interactions Use of other's abilities to jointly problem solve Active listening regarding patient care issues Satisfaction with job well-done Some appreciation of “the other”
III. High level (high order) collaboration	Fluid, repetitive interactions Flexible use of one another's' abilities and talents On-the-spot collaborative problem solving Intuitive appreciation of others' needs and use of that knowledge Potential for high level affective outcomes

Table 2. Domains Contributing to Collaboration

Domains	Elements
Clinical expertise	Technical or biomedical knowledge or expertise Interpersonal and relationship building behaviors and skills with respect to the patient Knowledge of the system and how to make it work in the care of the patient
Relational skills	Relationship building behaviors and skills between professionals
Systemic	Existing structures or work processes that increased the likelihood of collaboration
Structural	Components of an interaction that occurred as a function of the individuals involved, but that, if intentionally replicated by an institution, could increase the likelihood of collaboration
Mentoring	Trans-disciplinary* teaching, modeling or fostering of knowledge or behaviors in the clinical or relational domains

*Trans-disciplinary applies to the ability of professionals to bridge disciplines and to teach and operate, in the clinical and/or relational domains of the other

RESULTS

Demographics

Characteristics of the 67 participants are detailed in Table 3; most residents were international medical graduates, while most nurses were US born and educated.

Narrative Context

Despite the fact that no specific directions were given regarding the setting for the narratives, 15 of 30 resident stories occurred in the ICU. Most of the nurse stories occurred on medical or surgical floors outside the ICU, with a few occurring in operating rooms, the emergency department or outpatient setting. For both groups, a significant number of stories occurred during evening, night and weekend shifts.

Collaboration Triggers

Two types of triggers initiated collaborative cascades: patient care crises and affective crises. A patient care crisis was defined as an acute change in a patient's status for which

Table 3. Participant Demographics

Writer's profession (no. stories)	Average age	% US graduate	% Female	Years in practice, range
Residents (25)	29	13*	48	1–3
Nurses (32)	46	97	82	0.6–28
MD faculty (5)	50	100	60	25–30
Nurse faculty (5)	Unknown	100	80	Unknown

*Of non-US graduates, 52% from India or Pakistan, the majority of the remainder from Eastern Europe and the Middle East

next steps in care were not clear, or a change perceived by the nurse or physician as life-threatening or with high potential for a bad outcome. An affective crisis was defined as the experience of an emotion on the part of the professional with the common underlying theme being one of worry and/or vulnerability. Affective triggers for nurses and physicians were different. Nurses experienced worry, anxiety or concern about a patient's progress. The following fragment of a nurse narrative illustrates:

“When I first started last year on the Hematology/Oncology floor, I was nervous. One of my first days I had a patient with leukemia. They had their initial fever spike and I had to call the MD on call...” (RN 1).

By contrast, physicians most often experienced a sense of inadequacy, uncertainty or feelings of being overwhelmed, all of which were self-directed. The text fragment below illustrates:

“It was the beginning of my second year in the ICU and I was supposed to take care of my patient. My first ICU rotation and my first code in ICU goes off. Patient goes into recurrent V tach and we were coding him. I was well prepared for leading a code, but in real life I just stood there not knowing what to do...” (MD 1).

Affective trigger themes are summarized in Table 4. Despite differences in emphasis, nurses and physicians both experienced affective triggers often (80% of the stories). There was no difference in frequency of affective triggers by gender, regardless of profession.

Facilitative Behaviors

In these stories, a physician who was perceived as collaborative displayed the following qualities or behaviors: trusts and respects his/her nurse colleague; responds quickly, is physi-

Table 4. Affective Triggers

Affective triggers (AT)	MD	RN
	N=30 (%)	N=37 (%)
Inadequate to task, ineffective, unable to meet needs, confused, uncertain, vulnerable	4 (16)	3 (8)
Overwhelmed, overextended	6 (20)	1 (2)
Anxious, concerned, worried, nervous, tense	7 (23)	15 (40)
Other	6 (20)	6 (16)
Sense of responsibility/burden/urgency/frustration	4	6
Hopeless	2	
Total with AT (one or more themes)	MD 25 (87%)	RN 27 (73%)

*AT present in 64% of male MD stories

cally present and intellectually available; takes time; teaches; and is perceptive, flexible, supportive and kind. For instance:

“We started when the MD and PA called me to discuss his patient’s care and asked for suggestions....[The patient] had an unusually large abdomen wound.... We examined the patient together, the MD described what we were seeing in the wound...and I identified potential strategies for wound healing.... The MD/PA team acknowledged my expertise and came to me for assistance to assist the patient” (RN 2).

“The MD called back promptly....He stated that he would be up to see the patient... He was not in a rush and took the time to come and sit with me to explain everything and its importance because it was all so new. He also took the time to talk with the patient about everything that would be happening. He explained why there was going to be a lot of commotion and to try not to worry. At the end of the night, I had learned a lot and the patient was relaxed” (RN 1).

Facilitative nursing qualities partially overlapped with physicians’, but included more complex behaviors requiring multiple, simultaneous interfaces and tasks. These included: coordinating care; and advocating for, and supporting, patients, families and their physician colleagues. The facilitative nurse was perceived as knowledgeable, experienced, responsive and gentle; and also as taking initiative, teaching and respecting their physician colleague; and taking time. An example of the latter follows:

“[She] asked me gently if we have to give him magnesium....It struck me that he could have electrolyte abnormalities.... I liked the way she approached me gently and the way she put the words. It made me comfortable rather than ridiculing me that I didn’t know what to do” (MD 1).

Impact on the Involved Professional

Affective outcomes for the nurses and physicians are categorized in Table 5. There were some differences in affective outcomes by profession. For example, physicians were more likely to experience other-directed sentiments, describing gratitude or respect for their nurse colleague. Nurses were more likely to experience satisfaction with a job well-done. Both groups reflected feeling respected, valued and understood. Three examples of gratitude follow.

“...This was all in a very stressful and challenging situation, and proper care would not have been possible without the help and understanding of the nurse. I thank her whole heartedly for helping out and coordinating care effectively” (MD 2).

“I was very appreciative that the resident came in and explained to me what was going on and then brought me in to see the patient so together, we could figure out the best outcome for the patient” (RN 3).

Table 5. Affective Outcomes

Affective outcomes (AO)	MD	RN
	N=30 (%)	N=37 (%)
Gratitude for/appreciation of MD		4 (11)
Thanks, respect, appreciation, admiration for RN	13 (43)	
Job well-done, pride, capable, sense of accomplishment	8 (27)	16 (43)
Felt understood, respected, valued, like a partner	6 (20)	7 (19)
Relief	5 (17)	4 (11)
Other	9 (30)	2 (5)
Creative		2 (5)
Pleased	3	
Wonder, awe	2	
Trust	2	
Total with AO (one or more themes)	58	73%

*AO present in 78% of male MD stories

“...The DKA resolved well within a few hours, we didn’t miss a single order, and the patient was out of the unit by the time of morning rounds. And all of us lived happily ever after” (MD 3).

Collaborative Competence

Twenty-five of the 67 narratives were categorized as high-level collaboration. When the demographic characteristics of their authors were assessed (Table 6), the likelihood of a story being rated as high order, or high level, collaboration was unrelated to age, years in practice, gender or profession.

Four stories were excluded from the analysis of collaboration level as they involved single discipline interaction only. Two stories were rated as 0. Despite the presence of both doctors and nurses in the narrative, these stories contained no interaction that could be assigned a collaboration value.

In some high level collaboration stories, clinical expertise was the primary determinant; in some, the inter-professional relationship dominated; and in yet others, both components were present. High level collaborative behaviors could be identified in both nurse and physician or in only one individual of the dyad. Equality of experience, expertise or knowledge was not a precondition for successful, high order collaboration.

Structural and/or systemic components (Table 2) also contributed to high order collaboration. These included: physical proximity of nurse and physician (both members of the collaborating pair were physically in the same place, i.e., “the physician came”); geographic clustering of nurses and physicians in one unit, i.e., the ICU; continuity and stability of nurses and physicians, such as in the operating, recovery, emergency rooms and the outpatient department; seeing and assessing a patient together. Most of these elements were not a result of deliberate institutional planning, but occurred fortuitously.

Mentoring (Table 2) occurred when a nurse or physician helped an individual of the other discipline acquire knowledge or skill in relational or clinical domains. This type of collaborative interaction could occur between an experienced nurse and a resident physician or vice versa. In some of the mentor narratives, both professionals were novice practitioners. For

Table 6. Demographics of High Level Collaboration Narratives

	RN N=9	MD N=16
M/F	1:8	7:9
Age		
20–29	2	8
30–39	0	4
40–49	6	1
50–59	1	3
Years in practice		
0.5–3	2	11
4–6	1	0
7–19	0	0
20–29	4	2
30 or more	0	1

Seventy-five percent of MD stories were from residents

several nurse writers, mentoring stories had occurred many years before in their early professional lives.

MD 1, a story quoted earlier as an example of Facilitative Behavior, involves a nurse mentoring a physician in the relational domain, while the following is an example of bidirectional mentoring. In this case, the nurse may have been modeling relational skills (intellectual curiosity and respect for the colleague's knowledge) at the same time the resident was teaching the nurse in the clinical arena:

"A 45-year-old female with ORSA bacteremia. Nurse enthusiastically worked on patient management. Was very curious and kept on asking provoking questions and kept the team updated about the progress. That made the entire process very satisfying for us, as well as the patient, discussing the treatment plan and prognosis with nursing staff really helps. Later I made it a practice.....(MD 4).

DISCUSSION

The literature on physician–nurse collaboration often laments the poor relationship between the professions, emphasizing anger, conflict,^{20,35,36} and differences in attitudes towards collaboration.^{16–19,37–40} By contrast, this study focused on successful physician–nurse interactions, illuminating the synergistic, positive, affective dimensions of successful collaboration.

The power of affect seen in these narratives suggests two concepts. First, successful collaboration may have transformative potential, especially for early collaborators. An episode that begins with the professional entering a patient care situation feeling worried, insecure or inadequate is transformed, ending with the professional feeling gratitude, often combined with relief and pleasure, for a job well-done.

Second, some narratives recalled events from training and early practice that continued to affect current practice, suggesting that early collaboration experiences may be formative, producing life-long collaboration expectations, attitudes and behaviors.

The nurses who participated in this study were predominantly US born and educated, and had years of experience,

while the physicians were primarily international medical graduates in residency training. The differences in worldview that one might have expected from these discrepancies in age, experience, gender, ethnicity and profession^{16–19} make this study's discovery of overlapping affective themes surprising, as many qualities of the affective experience were actually shared across the professions. What might account for this finding?

First, the results of any study are shaped by the methods chosen for exploration. Many studies of collaboration have used pre-determined surveys, while others have used ethnographic approaches. By virtue of their design, they may be more likely to amplify differences or uncover areas of conflict. Conversely, this study using Appreciative Inquiry solicited only success stories, making negative or discrepant experiences less likely to surface.

Second, although there were some differences in the narratives, many writers reported strong affective experiences, with uncertainty and vulnerability as central themes. Given an open-ended opportunity to share these experiences, it is not so surprising that physicians and nurses, entering into an interaction with similar feelings, would, on reflection, produce narrative coherence in terms of created and shared meaning.

Most importantly, based on gender and professional stereotypes and preconceptions, one might anticipate that affective experiences would be more common among the nurses than the physicians, but this was not the case. Despite the fact that the residents were 50% male and nearly 100% IMGs, the affective component was apparent more often in their narratives than in those of nurses, 98% of whom were female. The affective trigger for the residents was most often a sense of vulnerability and inadequacy. This theme of vulnerability and fear of making mistakes with dire personal consequences also appeared in a previous qualitative study involving IMGs, and it may be an implicit theme common in their early professional lives in the US.⁴¹

One might also expect that affective dimensions of collaboration would differ between seasoned professionals and novices of either profession, with affect diminishing as experience grows. In this study group, nurses could be categorized more often than residents as "seasoned." However, the most important components influencing the affective dimensions of collaboration were not found in the age, gender, profession or ethnicity of the participants. Instead, they resided in the individual's personal sense of competence and confidence or, conversely, uncertainty and vulnerability, and the extent to which a professional identity had been formed. Taken together, these two factors may account for the convergence in the experiences described.

Another aspect of the affective dimension of collaboration may have stemmed from the narrative setting most common in the residents' stories, the ICU. The literature on physician–nurse collaboration in the ICU is one of inter-professional conflicts.^{37–40} Yet 60% of resident stories about successful collaboration took place in the ICU setting, paradoxically suggesting that the tensions particular to the ICU may represent fertile ground for teaching and modeling effective, successful collaboration. Evening and night duty for nurses, and night float experiences for residents may be of similar importance.

The formative nature of early collaboration coupled with the settings most often cited in the narratives (ICU and off-hour shifts) have educational and practice implications. Since high

stress, high stakes environments appear to offer unique opportunities for cross-disciplinary support, education and cooperation, interventions could be profitably focused in those arenas. Combined ICU nurse–physician patient care rounds could create opportunities to teach and model collaboration, and to do both formative and summative evaluations of these skills for physicians and nurses. Creating the systemic expectation that nurses be included in ICU family meetings could facilitate development of collaboration skills. Routinely integrating physicians and MD–RN collaboration assessment into near-miss conferences, root cause analyses and case conferences could create opportunities to operationalize the principles of collaboration and to review and improve team functioning. Integrated MD–RN evening and night sign-out rounds could represent another high-yield opportunity.

Lastly, gratitude or thanks for the collaborating colleague appears in many of the narratives. Experience would suggest that gratitude is rarely expressed. Based on the findings of this study and the intensity of this dimension of the affective experience, encouragement of its expression would be appropriate.

Collaborative competence was another critical theme identified in our analysis. Collaboration has been defined as “nurses and physicians cooperatively working together, sharing responsibilities for solving problems, and making decisions to formulate and carry out plans for patient care.”¹⁵ Elsewhere in the nursing literature, collaboration, coordination, cooperation and mentoring are all considered as separate behaviors. Our analysis suggests that these might be best recognized as collaborative behaviors along a developmental continuum. Viewing collaboration in this way, relational skills between professionals play a seminal role and can, at times, trump clinical skills, placing an interaction into the “high order” collaboration category. Conceptualizing high level collaboration as “high order” characterizes the interaction in the language of energy and kinetics, in this instance, with fluidity, flexibility, synchronicity and intuition simultaneously operative on both clinical and relational levels.

Collaboration can be conceptualized as a series of graduated skills on a developmental continuum, which also suggests the notion of collaborative competence. Our data suggest that collaboration is not the exclusive province of the seasoned professional who is clinically sophisticated, but also happens at the novice level. Collaboration is not specifically addressed by most curricula. Instead nurse–physician collaboration attitudes and skills are deeply imbedded in the hidden curriculum of medical education and practice.⁴⁹

If the concept of collaborative competence were generally accepted, the educational focus would shift from high level clinical skills to include equally important relational skills.^{42,43} This comes at a time when the relationship-centered care model^{44,45} and Watson’s “caring theory”⁴⁶ are gaining increasing recognition in medicine and nursing. Extending the focus on relationship to the nurse–physician dyad suggests a parallel process⁴⁷ between successful collegial relationships and successful patient care.

We propose, as have others,⁴⁸ that collaboration be considered a competency area, with attendant implications for nursing, medical education and staff development. We have observed that collaboration takes place in two principal domains, clinical and relational, which are known to be teachable and learnable. Given the fact that ours was a small study in an unrepresentative sample, additional confirmatory

research will be needed to make this concept viable on a wider scale.

LIMITATIONS

This study was largely confined to the medical services of a community hospital and the physicians involved were predominantly international medical residents. As a result, our findings may not be generalizable to university settings or other services within the hospital, and may not reflect the collaboration experience of attending physicians. As a qualitative study of a relatively small group, differences in the affective experiences of residents and nurses may not be discernable. Additionally, participants knew before they wrote their stories that they would be sharing them with a colleague and the content may have been influenced by that knowledge. Lastly, the analysis was done by four females, and the results may have been influenced by gender.

CONCLUSION

This study, the first we are aware of describing successful resident–nurse collaboration, highlights the role of affect in initiating the collaborative cascade and the positive affective outcomes observed. The collaborative dyadic relationship, important in patient, family and nurse satisfaction, also seems to be powerful in the lives of medical residents. Collaborative competence is situated in a complex educational and institutional milieu, and the ability and opportunity to collaborate can be confounded by variables beyond the control of individual professionals. Time, proximity, and organizational and educational values are key in determining whether we are professionally prepared and enabled to apply “caring” and “relationship-centered care” principles in our relationships with one another.

There is a compelling need to move collaboration out of the hidden curriculum⁴⁹ and to actively define what it is, and how to teach, model and evaluate this essential skill.

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