ORIGINAL ARTICLE

The power of interdisciplinary collaboration in hospice

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The purpose of this study was to identify collaborative communication and extend the theoretical framework of interdisciplinary collaboration in a hospice setting. Ethnographic observations and the Modified Index of Collaboration were used to identify and analyse perceived interdisciplinary collaboration and observed collaborative communication. Taken together, both qualitative and quantitative findings suggest that interdisciplinary collaboration also occurs outside of hospice, namely with primary care doctors and nursing home staff. Future research should explore collaborative communication between hospice interdisciplinary team members and non-hospice staff.

Keywords: Interdisciplinary collaboration, teamwork, hospice

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It is estimated that, in 20 years, 70% of all cancers will occur in persons aged 65 years and older (1). While increasing rates of cancer are being reported among the elderly, the need for adequate end-of-life care has never been so salient (2). Older cancer patients also face multiple health problems that need to be addressed in addition to their terminal diagnosis (3). It has been suggested that the medical community neglects the elderly cancer patient because providers are not yet accustomed to meeting the unique needs of the elderly or how to manage multiple conditions at once (1,3).

Hospice is one plan of care that attempts to meet all the needs of older cancer patients at the end-of-life. The National Hospice and Palliative Care Organization reported that 63% of hospice patients in 2003 were patients aged 75 years or older, and cancer diagnosis accounted for almost half of all hospice admissions (4). Hospice care is grounded in a holistic healthcare approach, taking into consideration and providing services that address the patient's biological, psychological, and social needs (5). Hospice relies on an interdisciplinary approach to healthcare that includes psychosocial dimensions to care services (6). This approach in healthcare serves as an exemplar for other geriatric healthcare teams. Recently, the American Geriatric Society issued a position statement supporting interdisciplinary care, arguing that interdisciplinary care improves healthcare processes, benefits the healthcare system and caregivers, and adequately prepares healthcare providers for better care of older adults (7).

Hospice interdisciplinary teams (IDTs) work together on a patient's plan of care, including developing and carrying out the plan of care as a collaborative effort. Effective IDTs are characterised by a positive organisational climate, a shared language among staff from different disciplines, and team leadership that is provided by different disciplines to help ensure that interdisciplinary collaboration is taking place (8). However, many barriers exist in establishing IDT collaboration and little is known about how team members communicate (9). More research is needed to understand successful collaboration in the hospice interdisciplinary format (6).

Preliminary research has been undertaken to develop a way of measuring interdisciplinary collaboration. Interdisciplinary collaboration is defined as an interpersonal process leading to the attainment of specific goals that are not achievable by any one team member alone (10). Early work in this area has resulted in the creation of the Index of Interdisciplinary Collaboration (IIC) as a way of measuring perceived collaboration (11,12). The IIC has since been used to measure interdisciplinary collaboration in hospice settings and been modified to its present form to measure perceptions of interdisciplinary collaboration by all hospice disciplines (13,14). Together, these studies have found positive perceptions of interdisciplinary collaboration in hospice, although there are variances between hospice programmes (13,14).

Previous research on team functioning and development within hospice interdisciplinary teams has involved the study of high-functioning teams and job satisfaction. High-functioning teams are characterised by clearly understood goals, a positive interpersonal climate that allows for trust, the ability to learn from mistakes, and technical and emotional support (6). Additionally, job satisfaction has been found to be significantly correlated with team functioning (15). Team members who reported fewer instances of conflicting roles and an increased sense of team functioning also reported high job satisfaction (15).

However, not all interdisciplinary care teams are able to achieve interdisciplinary collaboration and it has been suggested that variations in interdisciplinary collaboration are due to aspects of the team environment (6,16). Within hospice agencies, IDT meetings are held to facilitate interdisciplinary collaboration and holistic plans of care for patients and family members. Common problems in IDT meetings include interpersonal conflicts and 'turfdom' wherein team members become protective of their discipline and their contributions based on their expertise (17). Research on information sharing practices in IDT meetings revealed that tensions between team members result from a primary emphasis on biomedical information sharing (18). Overall, an ineffective IDT meeting can leave team members feeling incompetent, less important when compared to other team members, and in a degrading role within the IDT care process (8). A greater understanding of the process of collaboration within hospice is warranted (13). Specifically, the purpose of this study is to: (i) identify the communicative aspects of interdisciplinary collaboration as they occur among team members; and (ii) extend the theoretical framework of interdisciplinary collaboration.

The conceptual framework for this study relies on the work of Bronstein who developed the Index of Interdisciplinary Collaboration (IIC) as an instrument to measure the perception of interdisciplinary collaboration among social workers (12). Through the integration of a multidisciplinary theory of collaboration, services integration, role theory, and ecological systems theory, Bronstein's model was developed to represent successful

collaboration (11,12), namely: (i) interdependence and flexibility; (ii) newly created professional activities; (iii) collective ownership of goals; and (iv) the reflective process emerge via interpersonal communication to produce collaborative acts.

Collaborative acts occur as a result of interdependence between team members. Within hospice, interdependence occurs as individuals deviate from discipline specific boundaries. That is, flexibility of specific job responsibilities afford individuals the opportunity to work together interdependently. As a consequence, newly created professional activities emerge that are not possible without collaboration. Such newly created professional activities expand an individual's specific job responsibilities as a result of collaboration. This is characterised by a collective ownership of goals as individuals share responsibilities for all aspects of decision-making as well as work together to implement the decision (12). Finally, collaboration is sustained through the reflective process which allows the team to evaluate the outcomes of their efforts (12).

METHODS

This study used mixed methods with qualitative observation and quantitative information to assess the validity of the theoretical model of collaboration and the corresponding scale developed from the model. By juxtapositioning observed collaborative communication with team member's perceived collaboration nuances of the theoretical framework and instrument were exposed. A triangulated approach was, therefore, used to uncover evidencebased examples of collaborative communication in order to capture an accurate representation of reality (19).

Ethnographic fieldwork of five interdisciplinary team (IDT) meetings at a hospice in the western US was conducted by the first author in the Spring of 2005. IDT meetings were held once a week at the large, urban, freestanding hospice agency and were about 1.5 h in duration. IDT meetings allow for open communication so that all team members are cognisant of the patient's status, including patient transfers, deaths, on-call nurse communication, new admissions, and any problems that need immediate attention (20). IDT meetings at this hospice had an average of 8 people in attendance and the medical director, team leader, and pharmacist always sat in the same location at the table.

Due to the size of the hospice under study, teams were divided into geographic location (*i.e.* east team, west, *etc.*) as well as patient location (*i.e.* nursing home or home care). Observations were made of both the nursing home and home care team meetings for two particular geographic locations. Both teams focused on care for a mixed patient population. A team leader (who had a nursing background) and a medical director facilitated the meetings.

Fieldwork from this study resulted in full field-notes, which included mental notes and jotted notes (21). Specifically, the field-notes consisted of a chronological log of what was happening to and in the setting (21). Such notes included a detailed description of conversations in the IDT meetings as well as things overheard. The theoretical framework of interdisciplinary collaboration was applied to observation field notes. In this manner, evidence of interdisciplinary collaborative communication, as described by the model, was identified after several reads of the data. The unit of analysis was the discussion of a patient's case. In some instances, collaborative communication was not observed, such as when a case manager reported no changes for the patient under review. Consequently, these cases were not included in the research field notes. Each unit of analysis was initially coded, which involves defining the data, into one of the four theoretical aspects of collaboration (22). Through the process of comparison, ideas about patterns and meanings in the data developed into memos or written out elaborations of the codes (21). Finally, memos were sorted and explanations of connections and relationships among memos resulted in the analytical analysis, which was framed by Bronstein's model (21).

Participating hospice staff also completed the Modified Index of Interdisciplinary Collaboration (MIIC; 14). The MIIC is based on the same conceptual framework as the original instrument, Index for Interdisciplinary Collaboration and thus it is assumed to hold the same face validity (11). The internal consistency of the MIIC is strong with a Chronbach-aaa of 0.935. The subscales also reveal moderate consistency with Chronbach-aaa reliability scores of 0.867 for interdependence and flexibility, 0.767 for newly created activities, 0.795 for collective ownership of goals, and 0.791 for reflection on process. As expected, these are comparable with the original instrument. This study was approved by the University Institutional Review Board of the supporting university.

RESULTS

Observations of IDT meetings in this study suggest that interdisciplinary collaboration among IDT members are sustained through one of four types of collaborative communication: (i) interdependence and flexibility of job; (ii) newly created professional activities; (iii) collective ownership of goals; and (iv) reflective process. These communicative acts do not function in sequence, but rather as separate interpersonal communication transactions.

Interdependence and flexibility

Previous research has illustrated that primary information sharing in IDT meetings comes from case managers (18). Observations from this study further support these findings as case managers were most actively involved in collaborative communication. Specifically, it was observed that case managers actually have two roles in the collaborative information sharing process. That is, they provide reports on patient cases that they directly oversee as well as share information obtained while they were on-call. In this manner, the flexibility of their job role allows them to work together interdependently with other IDT members.

Moreover, the ability to share information from multiple perspectives contributes to the interdependent nature of hospice care. For example, a case manager was observed to request the re-writing of an order for a different classification of a diagnosis for a patient. She explained to the medical director that it would make it easier for the nursing home staff to be able to administer the prescribed medicine (her background in nursing home care prompted the request). The medical director was quick to oblige, noting that he was glad that her background was making a difference for hospice nursing home patients. This interaction illustrates interdisciplinary collaboration as the case manager deviates from information sharing by taking the initiative to make a request. The interdependence between the case manager and the medical director is illustrated as they share the task of deciding the classification of a patient diagnosis. Likewise, this interaction produces collaborative communication.

More importantly, observations of IDT meetings suggest that interdependence and flexibility are actually collaborative acts that take place among IDT members and non-hospice staff. Namely, these include nursing home staff, caregivers, the patient's family, the patient, and collaboration with the patient's primary doctor. There were continual requests for case managers to facilitate communication between the medical director and the patient's primary doctor. Thus, interdisciplinary collaboration in hospice also includes crossing the boundaries of medicine; that is, collaborative communication is also required to unify the patient's primary doctor and the hospice medical director. For example, a case manager explained that a patient was receiving additional medicine by the group home where he was staying and that the patient was feeling fine. The case manager requested that the prescription be changed to reflect the increase in medication. The medical director advised her to call the primary doctor's nurse to get the order correct. In this instance, the case manager's role becomes flexible, as she now must facilitate the interdependence between the primary care doctor and the hospice medical director. Collaborative communication thus takes place outside of hospice, but was produced within the IDT meeting.

Overall, our observations reveal that the flexibility of the case manager role facilitates the interdependent nature between the patient's primary care doctor and the hospice medical director that is necessary in an interdisciplinary collaborative approach to patient care. Throughout these observations, we came to the understanding that the role of the primary care doctor is ambiguous in the hospice care process. Moreover, the flexibility of the case manager's role provides for the management of this ambiguity thereby sustaining interdisciplinary collaboration.

A poignant example of this was revealed when a case manager and medical director made the decision to increase medication for a patient. Upon ordering the change, the medical director told the case manager: 'Make sure you call Dr X and let him know'. The case manager informed the medical director that the primary doctor told her: 'Tell your doctors to control the pain'. At this point, the case manager's role becomes undefined as she must now negotiate collaborative communication with the primary care doctor. We observed the case manager explain to the IDT team that the primary care doctor told her to give the patient more morphine. However, the case manager told him that morphine was not right because the patient's pain was in her hand and bones. She explained: 'I didn't want to embarrass the doctor but he just didn't know. It's not his expertise.' Although the case manager's role was to relay communication between the hospice medical director and the primary care doctor, the flexibility of her role allowed her to 'speak' on behalf of the medical director without any repercussions for doing so.

Newly created professional activities

Bronstein concludes that interdisciplinary collaboration ultimately results in the creation of new professional activities (12). Observations of IDT meetings in this study suggest that new activities that evolve through interdisciplinary collaboration include: (i) information sharing to educate others; and (ii) additional tasks.

Sharing information to educate others was the most common type of collaborative communication that represented new activities. We understood from our observations that there was an underlying assumption among IDT members that new information regarding drugs and treatment options should be shared with the team. Such sharing took place during a discussion of a patient well known by the hospice staff as she had been on hospice for 2.5 years. The case manager reported that the patient had problems with constipation and that she used aloe vera juice to remedy the problem. This information sharing triggered a discussion about the use of aloe vera and it was reported that the chaplain purchased the aloe vera juice for the patient because the patient could not afford it.

Collaborative communication also resulted in the creation of new tasks. For example, we heard a case manager report that a patient's daughter was continually calling because the patient had diarrhoea for 2 weeks. Another case manager was on-call last night and explained that the

evening staff at the nursing home over-reacted to the patient's situation and called the hospice thereby causing the patient's daughter to panic. This new information for the case manager meant that, along with continuing to investigate the patient's problem, she must also devote some time to educating the nursing home staff. In fact, we observed many discussions about patient care in nursing homes and the team's recognition of the need to educate nursing home staff.

Collective ownership of goals

Interdisciplinary collaboration also involves a commitment to common goals that takes multiple team members (10). Collaboration evolves out of shared decision-making and collective implementation of decisions (12). The discussion of 'special cases' illustrated a collective ownership of goals in IDT meetings. From our observations, special cases are cases that are unique in the eyes of the IDT staff, typically because of the patient's family dynamics, age of the patient, or the patient's medical history and diagnosis. Such cases warrant additional information sharing (18).

Potential problems with caretakers were considered special cases that warranted lengthy discussion and thus the need for collaborative communication. We observed that IDT staff recognised the need for everyone to be knowledgeable about the situation so that all staff members were able to communicate the same message to the parties involved. For example, a case manager reported that a long-term hospice patient that many of the staff knew quite well was moving out of state and was thus no longer going to be a patient. Much of the staff chimed in with stories, recalling the numerous problems they have had with this patient's son, the primary caretaker. For instance, the patient's son continually demanded that the certified nursing assistants do extra work like laundry.

In this patient's case, the case manager reported that the son was refusing to give up the wheelchair that was provided by hospice for the patient. She requested that the team agree on the specific discharge date for this patient so that she could begin the process of retrieving the wheelchair. This example of such clear communication is important, as many IDT members would likely come into contact with the patient's son and the case manager knew that it was important that they all reported the same termination date. In this manner, all team members were aware of the situation and collectively agreed on the termination date and to the termination process. This scenario illustrates the collective process of decision-making as encouraged by the case manager.

Reflective process

The reflective process allows team members to evaluate outcomes collectively and internally assess their own collaborative efforts (12). Overall, we observed that the reflective process was revealed through collaborative communication about: (i) procedural issues; (ii) reviews of deaths; and (iii) the sharing of workplace stress.

During meetings, we observed that staff members were able to evaluate their collective goals by analysing hospice procedures. For instance, a case manager reported during one patient review that the nursing home staff was not aware that the patient was on hospice. With much frustration, she initiated a discussion about the need to 'flag' hospice papers in a patient's file. During the next week's meeting, a social worker brought up the topic again arguing that the same thing happened to her with a patient at the Veterans Hospital. The social worker argued that patient charts need to be audited to determine who is on hospice. She commented: 'Veterans shouldn't be refused hospice care'. The team leader decided to investigate the paperwork process further, particularly for nursing home and veteran patients.

The social worker's final comment demonstrates the group's collective goal (and that of hospice in general) that everyone has the right to a 'good' death. A good death consists of proper pain management as well as psychological and spiritual assistance in the final days of life. It takes every member of the team to provide holistic endof-life care that affords patients and families 'good deaths'. Her comment reminded the team about the many barriers that keep patients and families from hospice care. By sharing this with the team, she was able to initiate potential changes to the enrolment process, one aspect of the care process that she has the ability to influence. The social worker uses the reflective process as a means to evaluate not only her own work but the work of the group as a whole. In this manner, the reflective process creates collaborative communication that demonstrates barriers to achieving these collective goals.

Likewise, the reflective process of reviewing patient deaths provides the team with a way to evaluate their goals (18). In our observations, it was found that team meetings began with a review of patient deaths, which were referred to as 'expirations'. Typically, the patient death was reported by the social worker or, if appropriate, the on-call case manager, and the report consisted of the location of the death, the role of hospice in the final hours, and bereavement information. However, we recognised that exemplars of 'good deaths' were afforded much more time and more information sharing. We surmised that these 'good deaths' mainly involved supportive and accepting family dynamics, a special patient, or a particularly excellent job on behalf of the team. These opportunities allowed the team to reflect on good experiences, a reflective process that appeared to promote self-care as well as lessons learned that could be applied to future cases.

Lastly, we observed that an essential part to the reflective process in hospice interdisciplinary collaboration includes communication about workplace stress. Workplace narratives

Table 1. Summary of disciplines of participants

Discipline	n (%)		
Unknown	2 (11.1)		
Nurse	8 (44.4)		
Social worker	3 (16.7)		
Other clinical	2 (11.1)		
Chaplain	2 (11.1)		
Administrative	1 (5.6)		
Total	18		

that allow staff to vent about stress and care issues emerge from individual reflective processes yet foster a close interpersonal climate, an aspect that has been found to be important in sustaining collaboration (15). Before the beginning of one meeting, for example, we observed the chaplain tell the volunteer co-ordinator: 'Thanks for yesterday. I just really needed to unload about all of this.' We heard other comments such as these among staff and often heard team members sharing concerns and dilemmas with others. Typically, this type of communication occurred before or after IDT meetings. The sharing of emotion about the work they do facilitates interpersonal closeness on the team and contributes to the collaborative process.

In addition to ethnographic observations of meetings, participating IDT members completed the Modified Index of Interdisciplinary Collaboration (MIIC). The frequency of participation by individuals from various disciplines is illustrated in Table 1. A total of 18 hospice staff persons completed the MIIC, representing 6 individual disciplines – nurse, social worker, chaplain, other clinical, administrative, and unknown. The majority of respondents (8) were nurses who serve as case managers. The response rate is unknown as the total number of employees at the hospice was not provided to the research team.

The MIIC measures four dimensions of collaboration: (i) interdependence and flexibility; (ii) newly created professional activities; (iii) collective ownership of goals; and (iv) the reflective process (12). Descriptive statistics for the four subscales are summarised in Table 2. The overall mean for the entire instrument was 1.91, with 1.0 being the highest perception of collaboration and 5.0 being the lowest possible perception. Thus, the observed team ranked high on perceived interdisciplinary collaboration. Additionally, the most positive mean perception of collaboration was in the subset scale of interdependence and flexibility (1.77). The next positive mean perception of collaboration was newly created activities (1.86), followed by collective ownership of goals (1.77) and reflection on process (2.23).

Overall means for individual questions found the most positive response related to question 1. 'I utilize other professionals in different disciplines for their particular expertise'

Table 2. Summary statistics for subscales and individual MIIC questions (n = 18)

Individual questions	Mean	Range	SD
Total scale	1.91	(1.26–3.21)	(0.48)
Subscale: Interdependence and flexibility	1.77	(1.22-3.94)	(0.62)
Subscale: Newly created professional activities	1.86	(1.0-3.17)	(0.67)
Subscale: Collective ownership of goals	1.88	(1.0-2.75)	(0.56)
Subscale: Reflection on process	2.23	(1.0–3.10)	(0.57)

had a mean score of 1.22 and a standard deviation of 0.73. The second most positive response was with question 4 (inversely worded, recoded), 'Teamwork with professionals from other disciplines is not important in my ability to help clients' which had a mean score of 1.28 and a standard deviation of 0.95.

The most negative mean response was to question 13 (inversely worded, recoded and normally distributed): 'My colleagues from other disciplines believe that they could not do their job as well without my professional discipline' computing a mean of 2.78 and a standard deviation of 1.35. Question 42 'I discuss with professionals from other disciplines the degree to which each of us should be involved in a particular case' with a mean value of 2.72 and a standard deviation of 1.37.

DISCUSSION

Taken together, both qualitative and quantitative findings suggest that interdisciplinary collaboration also occurs outside of hospice, namely with primary care doctors and nursing home staff. This is a particularly important finding as many elderly are placed in nursing homes where they eventually die (23). Research on nursing home deaths has found that patients dying in nursing homes had the worst ratings in physical, emotional, role, cognitive, and social functioning compared to patients who died in a hospital or at home (23). The healthcare team approach in hospice is one possible intervention in preventing these scenarios and this project extends our understanding of interdisciplinary collaboration to include collaboration between these healthcare teams. Future research should explore this dimension of interdisciplinary collaboration, focusing on collaborative efforts that take place outside of hospice.

Given the qualitative findings regarding interdisciplinary collaboration, several changes are recommended for the theoretical framework and the MIIC instrument. First, collaborative communication takes place within and outside of the interdisciplinary team environment. It appears that scale items in the MIIC most likely represent communication outside of the team and modification is necessary to ensure a delineation between the two dimensions of collaboration. Second, this study expands the theoretical framework to include differences in individual

and group reflective processes. In this study, the reflection process on the MIIC instrument was the lowest perception of collaboration. While both processes contribute to successful collaboration, individual processes of reflection and the sharing of these reflections are what create a positive interpersonal climate among the team, thereby sustaining interdisciplinary collaboration (15). The reflective process extends beyond evaluation of group efforts and includes individual job recognition and informal dyadic staff communication about workplace stress. Adding these two aspects to the MIIC would likely increase the mean for that subset scale.

The qualitative analysis of observed collaborative communication among this team complements the quantitative finding that interdependence and flexibility were the most positive perception of collaboration. Half of the respondents to complete this measurement classified themselves as nurses; nurses that serve as case managers. Likewise, the qualitative analysis suggests that case managers would most likely be high on interdependence and flexibility because they take on many roles in the collaborative process. Additionally, the qualitative analysis revealed that hospice interdisciplinary collaboration includes flexible work roles that allow IDT members to collaborate with non-hospice staff outside of IDT.

Overall, the data provide empirical examples of the power of interdisciplinary collaboration in hospice. Findings from this study characterise the fluid and interactive process of collaborative communication as separate interpersonal communication transactions that are facilitated through the IDT meeting. The power of IDT collaboration is thus maintained within the IDT meeting and is sustained by a high-functioning team environment. Hospice IDT meetings can be a powerful source in fostering learning by breaking down traditional discipline specific boundaries. More importantly, this study suggests that the power of hospice interdisciplinary team collaboration exceeds patient and family care and includes selfcare for team members. Lastly, this study found that the power of the hospice IDT concept dissipates outside of the IDT meeting. While it is important for hospice agencies to foster high-functioning teams characterised by interdisciplinary collaboration, it is equally important to develop interdisciplinary collaboration with others outside of hospice. An interesting starting point would be to examine communication that takes place outside of hospice IDT meetings, namely between hospice staff and primary care physicians and nursing home staff.

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