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The Use of Videophones for Patient and Family Participation in Hospice Interdisciplinary Team Meetings: A Promising Approach

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Abstract

Inclusion of patients and caregivers in decisions related to the delivery of care is inherent in the hospice philosophy. Telemedicine technologies offer a potential solution to the challenges presented by the geographic distance between team meetings and the home environment. While inclusion requires additional coordination by the hospice team, it also offers an important opportunity to improve communication between the team and the patient and family. A modified conceptual model based on two previous frameworks is outlined to support patient and family involvement in hospice team meetings. Further research is suggested to determine the structural feasibility of patient and family involvement via videophone as well as the structural and procedural changes resulting from this inclusion. Finally, clinical outcomes and family evaluation of the inclusion experience need to be thoroughly researched before final conclusions may be reached.

Keywords

Hospice; Interdisciplinary Teams; Patient and Family Involvement

Background

Hospice patients have identified communication problems with providers, structural problems in the health care system (difficulty obtaining medications), fears related to addiction, and personal attitudes, beliefs, and values as barriers to effective pain management (Austin *et al.*, 1986). Likewise, health care providers have indicated that patient adherence with pain medications is problematic (Abbas and Abbas, 2003). Caregiver age, fears, beliefs, lack of assessment skills, burden and strain are barriers to family caregiver ability to adequately manage cancer pain (Berry and Ward, 1995, Letizia *et al.*, 2004, Keefe *et al.*, 2003, McMillan and Moody, 2003). Given the deteriorating condition of terminal patients, it is often necessary to use family caregivers as proxies for clinical decision making (Kapo and Casarett, 2004). The importance of the caregiver as proxy decision maker and advocate for the patient supports

the hospice commitment to treat the entire family, rather than just the patient. This “unit of care” approach is nested in the philosophy that supports the hospice model of care.

Hospice in the United States is largely a home based service with 74.1% of services delivered in the patients home environment (National Hospice and Palliative Care Organization, 2008). Currently, the majority of these US hospice patients/families are not able to participate actively in the interdisciplinary team discussions during which a care plan is agreed upon, a plan which patients/families, paradoxically, are advocated to control (Parker Oliver *et al.*, 2005). Because hospice considers the patient and family a unit of care, patient/family inclusion in care planning is conceptually very appropriate. In fact, many researchers have suggested the importance of involving patients and family members in interdisciplinary team activities (Macdonald *et al.*, 2002, Saltz and Schaefer, 1996, Fischer *et al.*, 1999, Broughton, 2003, Schacht *et al.*, 1996, Andrews *et al.*, 1998) and theorise that such inclusion will improve satisfaction, coordination of care (Vuokila-Oikkonen *et al.*, 2002), communication, and access to specialists (Axford *et al.*, 2002, Andrews *et al.*, 1998). Despite the literature suggesting this involvement, no empirical evidence in hospice was found to support these claims and few United States hospices have actively sought to overcome the challenges related to involving patients and family in their team meetings (Parker Oliver *et al.*, 2005).

Numerous barriers have been reported which prevent patients/families from attending hospice interdisciplinary team meetings in which they would represent their experiences, values, and concerns. These barriers include the fact the team meetings usually occur at the hospice office location, requiring patient/family to travel significant distances, especially in rural areas, to participate in person. The symptoms and stresses associated with dying and caregiving are barriers to travelling to attend interdisciplinary team care plan meetings. Physical limitations prevent the patient from travelling and require the family to remain in the home and attend to the patient's physical and psychosocial support needs. Moreover, should these hurdles be overcome, usually only a few minutes can be spent on any single case, making the journey less than efficient from the perspective of patients and family. Hospice patients/families, therefore, are not able to participate in the discussions developing the plan of care they have advocated to control, and participation is not routine (Parker Oliver *et al.*, 2005).

This paper argues that inclusion of the patient/family unit in hospice interdisciplinary team meetings has the potential to improve communication between the team and patient/family, offering the opportunity to work together on a patient/family driven plan of care, improving emotional supports and caregiver concerns related to pain management. The purpose of this paper is to suggest videophone technology as a tool to overcome the current challenges to patient and family involvement as a potential way to solve many of the barriers currently preventing participation. This innovative strategy to involve patients and family members has been named ACTive for Assessment of Caregivers for Team intervention through videophone encounters.

The Use of Telemedicine Technologies in Hospice

Telemedicine technologies offer a possible solution to patient/family inclusion in the interdisciplinary team meeting, removing the need to travel as they bridge geographic distances. While still relatively new, the research on the use of these technologies makes a strong case for their effectiveness as an important tool. Telemedicine is defined as the use of advanced telecommunication technologies, to bridge geographic distance and enhance health care delivery and education (Demiris *et al.*, 2004). The success of telemedicine technologies in home care provides an argument that the use of similar technologies may be beneficial for hospice care as well. The use of telemedicine in home care, also known as telehomecare, is defined as the use of advanced technologies such as the Internet, monitoring devices and

videoconferencing technologies, to enable patients and families at home to interact with health care providers at a clinical site. Such an interaction over the TV, monitor or videophone is called a *virtual visit*.

Many studies (Jerant *et al.*, 2001, Riegel *et al.*, 2002, Poon *et al.*, 2001, Dansky *et al.*, 2001, De Lusignan *et al.*, 2001, Dansky and Bowles, 2002, Johnston *et al.*, 2000) have demonstrated the positive impact of telehomecare on health care outcomes, such as decrease of hospitalization readmission rates and visits to the emergency room. Visual contact has been found to be important to communication and the transmission of video can assist by providing the professional 1) cognitive cues used to determine understanding (Clark and Brennan, 1991, Clark and Schaefer, 1989, Kahneman, 1973), 2) turn-taking cues afforded by head turning, posture and eye gaze (Argyle *et al.*, 1968, Duncan, 1972) and 3) social or affective cues that reveal the participants' emotional state or interpersonal attitudes which are manifested in facial express, posture or eye gaze (Ekman and Friesen, 1975, Mehrabian, 1971, Reid, 1977).

The use of telemedicine in palliative care also has been reported. Studies in the United Kingdom (Regnard, 2000), and South Australia (Else and McIntyre, 1996) have explored the use of telemedicine for videoconferencing with palliative care patients. Although these studies yielded positive results, they did not focus on involving patient/families, measuring patient care outcomes, or specifically utilizing videophone technology for the intervention. In the United States, researchers worked with two hospices in Michigan and Kansas (Doolittle, 2000). Hospice workers assessed patients through videophones located in their homes. A cost-analysis study compared the cost of an actual and a “virtual” visit for this setting, and found a “virtual” visit to cost less. Both providers (Cook *et al.*, 2001) and patients (Whitten *et al.*, 2004) have accepted these visits and reported satisfaction with them.

This team has successfully used reliable and valid instruments to measure the outcome of videophone technology with hospice patients and family members. Using the Caregiver Quality of Life-Revised form and the S-Anxiety measures, Demiris *et al.* (2007) found that videophones were not only accepted by patients and family members (Parker Oliver *et al.*, 2006) but also were found to be potential tools to improve caregiver quality of life and lower caregiver anxiety. The study utilised low-cost commercially available videophones that operate over regular phone lines, are found to be usable by older adults, and can be easily installed in private homes. Preliminary work has led these authors to conceptualize the potential of using such videophone technology as a tool to overcome the geographic barriers that serve as obstacles for hospice patients and family members to attend team meetings.

This team is exploring the use of a specific videophone which would allow patients and family member to participate in the hospice team meeting. This equipment (Figure 1) is made by Vialta and allows point to point communication over plain old telephone (POTS) lines between two parties. This videophone is widely available in the United States for under \$150 per unit. We propose to use a single unit in the home, it is called a Beamer. This unit has a 4 inch screen and attaches directly to the home telephone. Phone numbers and volume controls on set on the phone do not have to be interrupted. Vialta makes a larger version which is compatible and connects with a television monitor. We propose using the television model in the hospice office to allow hospice staff a larger image for the group setting. Finally, the television model allows for a split screen so the staff can not only see the patient/family but also see the images they themselves are sending. This commercially available, easy to install, inexpensive technology can bridge the gap and address the barriers related to the geographic distance between the home and interdisciplinary meeting. While the television model could also be used in the home, it requires a phone line next to the television, and not all homes have such a line.

The use of this technology has challenges. It is not compatible with Voice over Internet Protocols or cell phone technologies. Individuals with these technologies might be better served with computer technology, such as a webcam, assuming they have high speed computer access. The proposed videophones only allow point-to-point contact, preventing three parties from being involved. Additionally, the lens of the camera on the TV unit in the hospice office is not a wide angle lens which would allow the patient and family member to see the entire hospice team with one glance, rather it will be necessary for someone to point the camera to the individual speaking. The POTS based technology is not fast and the transmission has a delay factor. Finally, this technology is not always stable and can be disrupted with a thunderstorm. However, the availability, cost, and ease of installation make it an attractive option.

The use of such technology overcomes geographic and caregiving burdens preventing participation in interdisciplinary team meetings and enhances care in the home, especially in isolated rural areas. This innovative approach creates an opportunity to redefine a role for the patient and family in home hospice care. As a result, this paper proposes a new theoretical model which integrates the use of technology in hospice, allowing for patient and family participation to become standard practice, and changing the nature of the interdisciplinary collaborative practice and outcomes of care.

Theoretical Framework for Patient/Family Inclusion

The hospice interdisciplinary team comprises a core group of members working together consistently (nurses, social workers, and chaplains), supported by other team members (physicians, volunteers, dietitians, bereavement counselors, pharmacists, and therapists) who regularly participate as specialists or consultants and who do not always visit the home. The interdisciplinary collaboration that occurs within the team is an interpersonal process leading to attainment of specific goals that are not achievable by any individual team member (Bruner, 1991). The model of interdisciplinary collaboration underpinning this paper draws on the work of Saltz and Schaefer (1996) who developed a model for interdisciplinary team collaboration that includes families, and Bronstein (2003) who identifies important components to the team process which impact successful collaboration. Figure 2 illustrates the integration of the two models and the role of videophone technology in the framework.

Saltz and Schaefer (1996) identify four components of an interdisciplinary team model inclusive of family: context, structure, process and outcomes. The organisation **context**, influences team **structure**, which in turn impacts team **processes**, which ultimately determine how teams evaluate **outcomes**. The model is described as non-linear, with feedback loops between all components. The context of organisational factors may encourage or discourage family involvement in teams. Team structures determine whether family members are viewed as “lay” team members (without detailed knowledge), or “specialists” (with a tremendous amount of knowledge regarding the patient). Saltz and Schaefer suggest that certain process elements of team functioning can be influenced by family involvement, especially assessment, care planning, and implementation of plans. This model maintains that lack of family input into problem-solving or decision making negatively impacts care plans due to incorrect assumptions about the patient/family perspectives that influence the process. Finally, families influence team outcomes by providing feedback about the team as a whole (Saltz and Schaefer, 1996).

The interdisciplinary process, as discussed by Bronstein (2003), provides an outline for successful collaboration between hospice staff. The framework identifies five components to interdisciplinary collaboration processes: 1) interdependence; 2) newly created professional activities; 3) flexibility; 4) collective ownership of goals; and 5) reflection on process. Bronstein's (2003) model further advocates that the synergy which defines successful

collaboration begins with the team members' reliance on interactions among each other in order to be successful with necessary tasks. The model intersects these components by stating that the *interdependence* (created by the synergy needed to complete necessary tasks) is combined with *newly created professional activities* or collaborative acts, programmes, and structures, allowing for accomplishment that would not be possible without the other members. The success of interdependence and these newly created professional activities requires *flexibility* in traditional roles, leading team members to deliberately, yet appropriately blur roles, based on their team identity and knowledge. Additionally, this collaborative process requires *collective ownership of the goals* of the team including shared responsibility for the design, definition, development, and achievement of goals. Finally, integral to successful collaboration is a *reflection on the collaborative process* by the team members, focusing on the process of their work together, as well as the outcomes of their efforts (Bronstein, 2003).

This model is easily adapted to include patients and families. Bronstein's model for interdisciplinary collaboration when combined with the work of Saltz and Schaefer (1996) supports inclusion of patients and family as the team will become *interdependent* with patient/family goals, and will *create new activities and roles* for patients/families within the team, requiring *flexibility* among individual members' role definitions. The patient/family involvement will require *collective ownership of all goals* by all team members, and the care outcomes will be evaluated through a *reflection on the team process*, again including feedback from patients/families. The combination of Saltz and Shafer with Bronstein provides a comprehensive model that includes family members in the sacred interdisciplinary collaboration of hospice teams.

The Promise of Technology as a Support for Patient/Family Inclusion

The promise of videophone technology to support patient/family inclusion in bi-weekly hospice interdisciplinary team meetings relies on integrating patients/family into the team model developed by Saltz and Schaefer (1996), focusing on the organisation context, team structure, team process, and outcomes that support and allow for their participation. As illustrated in Figure 2, principles inherent within the hospice philosophy provide the organisational context for participation and a supportive structure that acknowledges patient/family feedback as valuable. The videophone provides a logistical way to include family in that structure, providing in this context team membership. Patients/families can be viewed as "specialists," with important information and knowledge required for assessment, care planning, and evaluation. The interdisciplinary process as discussed earlier by Bronstein (2003), would expect the team will become *interdependent* with patient/family goals, and will *create new activities and roles* for patients/families within the team, requiring *flexibility* among individual members' role definitions. The patient/family involvement would require *collective ownership of all goals* by all team members, and the care outcomes will be evaluated through a *reflection on the team process*, again including feedback from patients/families.

Implication for Practice and Research

The inclusion of patients and family members in hospice interdisciplinary team meetings using videophone technology holds numerous implications for hospice care. It can be imagined that the team meeting would be changed as these "temporary specialists" come into the meeting. The usual "backstage" behaviour and communication between hospice team members become "front-stage" as patients and family participate. This would most likely change the informal nature of these meetings, requiring staff to be prepared and organized. Additionally, "invisible" team members, those not usually visiting the home, such as the Medical Director, would become known faces and share in the interaction with patients and family. These otherwise invisible members are actively involved in the care of patients (writing prescriptions and orders

for example) without ever seeing the patient. Critical to the success of this effort would be the creation of a new role within the team for one member to communicate and coordinate with the patient and family a time when their case would be discussed in the meeting and assure that patients and family actively participate in the discussion. Given the social work role of coordination of services and focus on the family it is suggested that this role might be embraced by hospice social workers.

The active participation of hospice patients and family members in team care planning has been hypothesized to improve satisfaction, coordination of care (Vuokila-Oikkonen *et al.*, 2002), communication, and access to specialists (Axford *et al.*, 2002, Andrews *et al.*, 1998). Active collaboration between the caregivers, patients, physicians, nurses, social workers, and spiritual advisors offers an opportunity for coordinated assessment, open communication, and education related to caregiver and patient concerns and staff intervention. For example, without the presence of a family member, a team may discuss the problem of patients not receiving their pain medication and conclude that it is a one of non-compliance. Involving the family member in the team discussion it may be revealed as an issue of caregiver fear to administer the medication or a misunderstanding due to mixed messages on the part of a caregiver. Patients and caregivers, when given an opportunity to ask questions of physicians and nurses at the same time, may clear up some of their concerns. Likewise, the physician or nurse, while focusing on the words of a question may not hear the hesitation in how the words are spoken or observe the facial expression that can be noted by the social worker or the chaplain. Thus, an interaction with caregivers and the hospice team may result in a new assessment and a new intervention, based on the feedback from the family. With this new information the team can then develop an important educational or supportive intervention.

A cost benefit analysis of this proposed intervention is also appropriate. While the technology cost is low (less than \$150 per unit), the cost in terms of human resources needs to be assessed. How much longer will the interdisciplinary team meeting be if patients and family members are involved? Is it appropriate and beneficial for all hospice patients and family members to participate, or is it more beneficial for particular families? Does the inclusion result in improved coordination and does it lower costs related to visits and after hour calls? These and many other questions still remain unanswered.

While this paper proposes one type of technology it is acknowledged that this is not the only one available. The Beamer product is designed for the telephone infrastructure in the United States however, similar technologies exist world wide. The true implication of this paper is to challenge hospice professionals in all countries to think of various telehealth technologies as tools to expand and enhance their care, rather than threats to replace their personal touch. Regardless if the technology is a POTS based videophone, a web based videoconferencing system, or a simple audio discussion over a speakerphone, the inclusion of the patient and family in the team and in the decision making related to their care is essential and can be made available, in spite of geographic barriers and caregiving burdens.

Conclusion

Inclusion of patients and caregivers in decisions related to the delivery of care is inherent in the hospice philosophy. Telemedicine technologies offer a potential solution to the challenges presented by the geographic distance between team meetings and the home environment. While inclusion requires additional coordination by the hospice team, it also offers an important opportunity to improve communication. Further research can determine the structural feasibility of patient and family involvement via videophone as well as the structural and procedural changes resulting from this inclusion. As technology advances, other applications that support video-mediated communication may support this model. Finally, the clinical

outcomes and family evaluation of the experience of inclusion need to be thoroughly researched before final conclusions may be reached.

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Figure 1.

The videophone that was used by caregivers is the Beamer Videophone Station (Vialta, Inc., CA) which operates over regular telephone lines (depicted on the left side). Hospice teams used the Beamer TV Videophone Station to display the image on a large TV screen (depicted on the right side).

Figure 2.
ACTive Conceptual Framework 254×190mm (96 × 96 DPI)